APPENDIX A

NOTICE OF PREPARATION (NOP)
AND COMMENT LETTERS

THE CITY OF SAN DIEGO

DEVELOPMENT SERVICES DEPARTMENT
Date of Notice: December 20, 2013

PUBLIC NOTICE
OF THE PREPARATION OF A PROGRAM ENVIRONMENTAL IMPACT REPORT
AND
SCOPING MEETING

SAP No. 21002330

PUBLIC NOTICE: The City of San Diego as the Lead Agency has determined that the project described below will require the preparation of a Program Environmental Impact Report (PEIR) in compliance with the California Environmental Quality Act (CEQA). This Notice of Preparation of a PEIR and Scoping Meeting was publicly noticed and distributed on December 20, 2013. This notice was published in the SAN DIEGO DAILY TRANSCRIPT and placed on the City of San Diego website at, http://sandiego.gov/city-clerk/officialdocs/notices/. The document will be posted under the subheading **CEQA Notices and Documents**.

SCOPING MEETING: A public scoping meeting will be held by the City of San Diego's Development Services Department on Thursday**, January 16, 2014 beginning at 6:00 PM and running no later than 8:00 PM at the Teen Challenge Center located at 5450 Lea Street, San Diego, CA 92105**. **Please note that depending on the number of attendees, the meeting could end earlier than 8:00 PM.** Verbal and written comments regarding the scope and alternatives of the proposed PEIR will be accepted at the meeting.

Please send in written comments to the following address**: A. McPherson, AICP, Environmental Planner, City of San Diego Development Services Center, 1222 First Avenue, MS 501, San Diego, CA 92101 or e-mail your comments to DSDEAS@sandiego.gov with the Project Name** in the subject line within 30 days of the receipt of this notice/date of the Public Notice above. Responsible agencies are requested to indicate their statutory responsibilities in connection with this project when responding. A PEIR incorporating public input will then be prepared and distributed for the public to review and comment.

PROJECT NAME: **Chollas Triangle Community Plan Amendment and Rezone**

SCH No.: Pending

COMMUNITY AREA: Mid-City Eastern Area

COUNCIL DISTRICT: 9 (Emerald) 4 (Cole)

PROJECT DESCRIPTION:
The project is to amend the Mid-City Communities Plan – Eastern Area to redesignate approximately 12.5 acres of Commercial Mixed Use and approximately 3.4 acres of Industrial to Neighborhood Village in an approximately 36 acre area between University Avenue to the north, Chollas Creek and Chollas Parkway to the south and east, and 54th street to the west. The Neighborhood Village land use designation would allow for the development of multi-family housing in a mixed-use setting and convenience shopping and services. The amendment would also

revise the Future Recommended Street Network to vacate the approximately 11.4 acre Chollas Parkway and designate approximately 5.4 acres as population-based park land, with the remaining land being designated as open space. The proposed project would add a two lane collector at the location of Lea Street, extending north to intersect with University Avenue. The proposed project would also include a rezone of the current CC-5-3 and IL-3-1 zones to zones consistent with the new land use designations as recommended in the General Plan. The proposed project zones would include CC-3-5 with the adoption of the Community Plan Implementation Overlay Zone (CPIOZ Type B) to limit the total square footage of non-residential development to no more than 130,000 square feet of commercial; and OP-2-1 consistent with the Park land use designation. At build out the project area could produce approximately 486 dwelling units of multi-family housing, and approximately 130,000 square feet of non-residential development that could include a mixture of retail, office, and other commercial uses.

The Mid-City Eastern Area Community Plan would also be amended as follows:

The Natural and Cultural Resources Element would be amended to include goals and recommendations that address the increased park and open space system adjacent to Chollas Creek. Recommendations would address uses allowed adjacent to, and within, the open space network. Specific uses envisioned to be located within the active park area may include picnic areas, multi-purpose turf areas, walkways and landscaping. Uses envisioned for the park would be consistent with the General Plan Parks Guidelines for Neighborhood Parks. Additionally, the Plan would address recommendations to daylight Chollas Creek and restore native habitat.

The Urban Design Element would add new and amend existing recommendations that guide the bulk and scale of development within the project area. Recommendations addressing building heights and setbacks along University Avenue would be revised to encourage medium-density mixed-use development.

The Land Use Element would be amended to add and refine the General Plan land use designation of Neighborhood Village with site specific policies.

The Land Use and Economic Development Elements would be amended to remove most of the industrial land uses from the project area and discuss the types of economic activities to be encouraged and allowed on site.

The Public Facilities and Services Element revisions would address the additional park space within the community planning area as well as public utilities, specifically the SDG&E substation located within the project area.

The Transportation Element would be amended to reflect a revised street and bicycle network as well as improvements to the pedestrian network.

The Community Plan Implementation Overlay Zone (CPIOZ) ‘Type B’ would provide supplemental development standards that are tailored to the specific site. The intent of the CPIOZ is to ensure that future development proposals are reviewed for consistency with the use and development criteria that have been adopted for the site as part of the community plan amendment process.

Applicant: City of San Diego Planning, Neighborhood and Economic Development Department

Recommended Finding: Pursuant to Section 15060(d) of the CEQA Guidelines, it appears that the proposed project may potentially result in environmental impacts in the following areas: **Land Use, Transportation/Circulation and Parking, Biological Resources, Air Quality, Greenhouse Gas Emissions, Historical Resources – Archeology, Hydrology/Water Quality, Geology, Paleontological Resources, Public Services and Facilities, Visual Effects/Neighborhood Character, and Cumulative Effects.**

Availability in Alternative Format: To request the this Notice or the City's letter to the applicant detailing the required scope of work (PEIR Scoping Letter) in alternative format, call the Development Services Department at (619) 446-5460 (800) 735-2929 (TEXT TELEPHONE).

Additional Information: For environmental review information, contact Anna L. McPherson at (619) 446-5276. The Scoping Letter and supporting documents may be reviewed, or purchased for the cost of reproduction, at the Fifth floor of the Development Services Department. For information regarding public meetings/hearings on this project, contact the Project Manager, Michael Prinz, at (619) 533-5931. This notice was published in the SAN DIEGO DAILY TRANSCRIPT and distributed on Friday, December 20, 2013.

Cathy Winterrowd
Deputy Director
Planning, Neighborhood, and
Economic Development Department

From: Jung & Ming Tom (Work) [mailto:jtom1@san.rr.com]
Sent: Monday, January 13, 2014 5:25 PM
To: Prinz, Michael
Cc: DSD EAS; Ming
Subject: Chollas Triangle Community Plan Amendment

We received a notice regarding the scoping Meeting to be held on January 16th. Currently my father and I are recovering from surgeries and will do our best to attend the meeting. We reviewed the documentation in the letter and have a major concern about it. On the proposed land use designations, you have already carved out the area where the proposed road is going to be, which goes right through our land. We feel this represents that the area is already designated for the road, with out any confirmation from the land owner that we approve this, especially at this stage. We have discussed that the plan is to put the road there, but in consideration of that, it was represented to us that we would be compensated for the land taken away for the road, but providing additional land as a replacement. Showing this road without any assurance to us that this will happen puts us in a position where we could lose it with no guarantee of the fair compensation.

We feel that it is more accurate to show the current parcels as is with the new zoning designations, and show the road at a later time if an agreement is met. Please feel free to contact me regarding this matter. Thank you.

Ming Tom
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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

January 15, 2014

Anna L. McPherson, AICP, Environmental Planner
City of San Diego Development Services Center
1222 First Avenue, Mail Station 501
San Diego, California 92101
DSDEAS@sandiego.gov

Subject: Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Chollas Triangle Community Plan Amendment and Rezone (SCH # 2013121057)

Dear Ms. McPherson:

The Department of Fish and Wildlife (Department) has reviewed the above-referenced Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for Chollas Triangle Community Plan Amendment and Rezone in the City of San Diego, County of San Diego. The City of San Diego's Multiple Species Conservation Program (MSCP) is an approved Subarea Plan (SAP) under the State's Natural Community Conservation Planning (NCCP) program. The DEIR for the proposed project must ensure and verify that all requirements and conditions of the MSCP/SAP and Implementing Agreement (IA) are met. The DEIR should also address biological issues that are not addressed in the MSCP/SAP and IA, such as specific impacts to and mitigation requirements for wetlands or sensitive species that are not covered by the SAP and IA. This should include potential impacts to roosting sensitive bat species and impacts to nesting birds as covered under the federal Migratory Bird Treaty Act of 1918 (16 U.S.C. 703 et seq.) and California Fish and Game code sections 3503/3503.5.

Issue areas in the DEIR that may be influenced by the SAP and IA include "Land Use," "Landform Alteration/Visual Quality," "Traffic/Circulation," "Biological Resources," "Drainage/Urban Runoff/Water Quality," "Noise," and "Cumulative Effects." In addition, the environmental document should describe why the proposed project, irrespective of other alternatives to the project, is consistent with and appropriate in the context of the SAP.

Thank you for the opportunity to comment. Please contact Eric Hollenbeck at (858) 467-2720 if you would like to discuss this response to the NOP.

Sincerely,

Gail Sevrens
Environmental Program Manager
South Coast Region

cc: State Clearinghouse, Sacramento
U.S. Fish and Wildlife Service, Carlsbad

SDGE
A Sempra Energy utility®

Debbie Collins
Senior Environmental
Specialist
8315 Century Park Court
Mailstop: CP21E
San Diego, CA 92123
858-654-1239 (desk)

January 27, 2014

SENT VIA EMAIL

Anna McPherson, AICP
Environmental Planner
City of San Diego
Development Services Center
1222 First Avenue, MS 501
San Diego, CA 92101

Subject: SDG&E Comments on the Notice of Preparation for the PEIR – Chollas Triangle CPA & Rezone

Dear Anna:

San Diego Gas & Electric Company (SDG&E) appreciates the opportunity to comment on the Notice of Preparation of a Program Environmental Impact Report (PEIR) for the Chollas Triangle Community Plan Amendment and Rezone.

SDG&E is a utility regulated by the California Public Utilities Commission (CPUC) and, as such, the CPUC mandates that SDG&E maintain its utility infrastructure. SDG&E owns and operates the Streamview Substation located on approximately 0.78-acres south of Lea Street and east of 54th Street within the proposed project area. The existing Streamview Substation was originally put into operation in 1959. The substation will be expanded to meet the increasing electrical needs of the general vicinity.

SDG&E is currently studying our land needs to accommodate the future expansion/rebuild of the existing substation to determine if the area designated for industrial use in the Chollas Triangle CPA and Rezone is sufficient to accommodate SDG&E's future substation needs. SDG&E is coordinating with City staff to schedule a meeting to discuss our substation needs in relation to proposed land use plan.

The Chollas Triangle CPA and the PEIR will need to address the future expansion of the Streamview Substation. To facilitate the CPUC's use of the PEIR in reviewing the future expansion of the Streamview Substation, SDG&E requests that the PEIR include a subheading for "SDG&E Substation" in each of the environmental analysis sections to clearly document the impacts of the future substation expansion in the PEIR.

SDG&E appreciates the opportunity to comment on this NOP. Please feel free to contact me at 858-654-1239 or DCollins@semprautilities.com if you have any questions.

Sincerely,

Debbie Collins

Debbie Collins, AICP
Senior Environmental Specialist
SDG&E Environmental Programs

Cc:

Lynn Trexel, Project Manager, SDG&E
Patty Glass, Real Estate & Planning, SDG&E
Ellis Jones, Distribution Engineering
Ed Reese, Substation Engineering, SDG&E
Henry Ureh, Substation Engineering, SDG&E
Christian Seavello, Substation Engineering, SDG&E
Tom Acuna, Land Planning, SDG&E
Claudia Valenzuela, Regional Public Affairs, SDG&E

APPENDIX B

MID-CITY COMMUNITIES PLAN – CHOLLAS TRIANGLE AND CPIOZ

Chollas Triangle Section of the Eastern Area Neighborhoods Element

Chollas Triangle is an approximately 36-acre site within the Eastern Area and is bounded by 54th Street to the west, Chollas Creek to the south and east, and University Avenue to the north. The area has been studied as part of a Smart Growth Incentive Program Grant funded by the San Diego Association of Governments to provide specific land use, mobility, and urban design recommendations to encourage a mixed-use transit-oriented village supported by public/civic/park space, open space, and creek enhancements within the Chollas Triangle Site. Chollas Triangle is envisioned as a vibrant, mixed-use neighborhood center that celebrates Chollas Creek and promotes the use of multimodal transit along University Avenue and 54th Street. The site has the potential to serve as a major destination for surrounding neighborhood residents. The Community Plan has been amended to help implement the goals and recommendations developed through the process. This section below provides additional recommendations for implementation.

Goal

- To create an active neighborhood village with an integrated mixture of residential, commercial, and recreational uses.
- To create an open space system and development pattern that connects adjacent neighborhoods to and through Chollas Triangle.

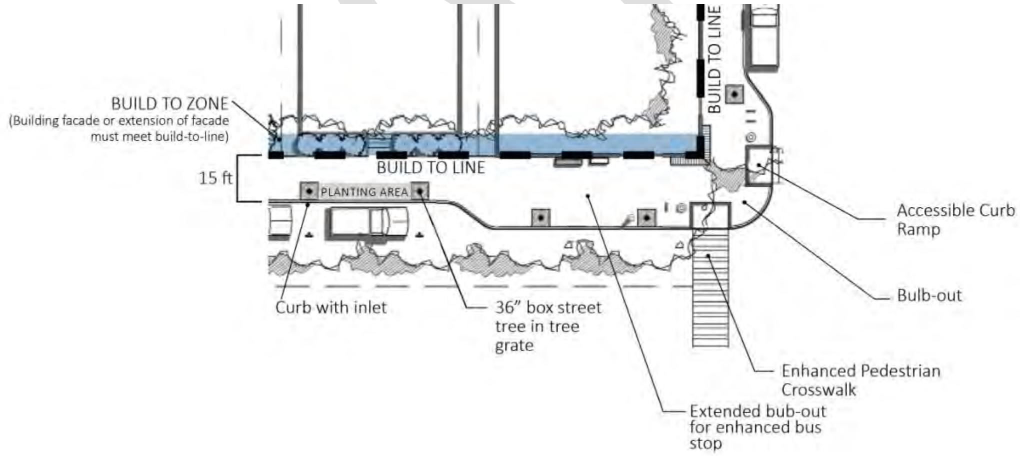
The landscape character of the community is defined by its hills, canyons and bluffs. While these features create a beautiful and dramatic urban pattern, they often create barriers between neighborhoods. A primary goal of this plan is to acknowledge these features and design a harmonious open space system and development pattern that connect adjacent neighborhoods to and through Chollas Triangle.

Chollas Triangle CPIOZ

The Community Plan Implementation Overlay Zone (CPIOZ), Type-B applies to the Chollas Triangle Site (Figure 12.1). CPIOZ Type-B applies to the Chollas Triangle site to refine and help implement the policies of the Community Plan and the CC-3-5 zone applied to lands designated Neighborhood Village. Development shall conform to the use and development regulations of the CC-3-5 zone except where superseded by this CPIOZ.

Development proposals on parcels identified as CPIOZ Type B require discretionary review to determine if the development proposal is consistent with the community plan and these supplemental regulations. Development proposals on any parcel identified as CPIOZ Type-B shall be required to obtain discretionary approval processed as a Site Development Permit, in accordance with the Municipal Code. Applications for development on CPIOZ Type-B parcels shall meet the purpose and intent of these supplemental development regulations. Exceptions from these regulations for development that is minor, temporary, or incidental and is consistent with the intent of this CPIOZ may be granted by the City Manager in accordance with the procedures of the Community Plan Implementation Overlay Zone within the Municipal Code Section 132.1403. Applications for development on a parcel located in CPIOZ Type-B will require a Process three Site Development Permit and shall address the design and compatibility of the project in relation to surrounding development, including conformance with the following regulations.

1. Allow for a maximum of 130,000 square feet of non-residential development within lands designated as Neighborhood Village.
2. Building heights shall not exceed 65 feet.
3. Residential use and residential parking are allowed anywhere on the ground floor except along University Avenue where the ground floor street wall shall be a commercial use.
4. A minimum of 70% of the ground floor street wall shall be developed with commercial uses along University Avenue.
5. Build-to-lines are established on all street frontages to encourage a consistent building edge.



   a. Along University Avenue and 54th Street, the building edges shall be located along these lines. Recessed entries shall be restricted to maintain the continuity of the build-to-line especially on University Avenue. Exception: When a transit stop is present, the building edge may be placed a maximum of 20 feet from the curb.

6. On any drives internal to developments, all building edges, front entries, or stoops should be located facing the street. All internal drives shall create attractive pedestrian environments.
   a. Like pubic streets, drives internal to developments shall have parallel or angled parking contiguous with the sidewalk. Trees providing shade to pedestrians will

be planted every 30 feet and will be planted between the curb and the internal street wall.

7. Design commercial development to attain a 60% ground-floor transparency to highlight interior activity from the street.

8. Transfer of Development Rights - Development rights may be transferred within land uses designated as Neighborhood Village in conjunction with the Site Development Permit required for development in the CPIOZ Type-B area, restricting both the sending and receiving sites. The development intensity may not be transferred to any other land uses.

LAND USE

The Chollas Triangle site is designated Neighborhood Village to allow for housing and convenience shopping in a mixed-use setting, civic uses and services serving an approximate three mile radius. A more intensive commercial and mixed-use development pattern is identified for the street frontage along University Avenue, with uses transitioning to less intense residential development and Chollas Creek Park to the south. In order to create a vibrant neighborhood, a variety of household types, sizes and price points are encouraged including, rowhomes, condos, apartments, and lofts. The entire site allows for no more than 486 multi-family dwelling units and 130,000 square feet of non-residential square footage.

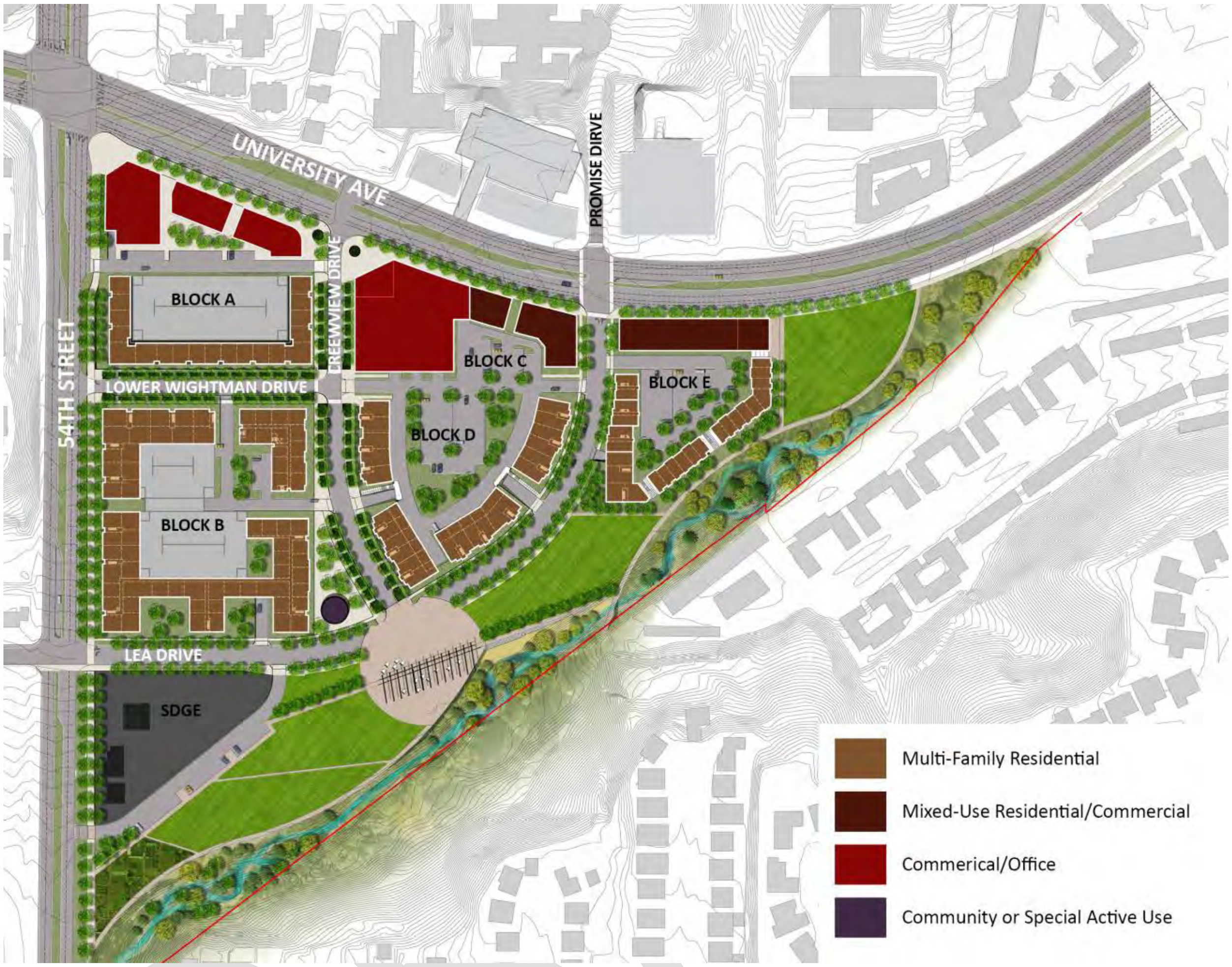
Development along University Avenue should transition from solely commercial uses near the University Avenue / 54th Street intersection to mixed-use residential further east. This pattern is intended to provide suitable sites for commercial users who desire corners at busy intersections as well as to reduce noise impacts on residential units. All commercial uses along University Avenue should have active ground floor uses and transparent facades to promote an active, pedestrian-oriented street. The land use designation allows for a large format commercial building intended to accommodate a neighborhood grocery store. Commercial uses should front the street and locate parking internally. Residential development should include entrances that front public streets, specifically 54th Street and Lea Street, as well as Chollas Creek Park as illustrated within this section. Smaller building footprints are better suited along streets with gentle slopes and curves with parking located within the interior of the site.

MP Figure 12.1 - Land Use Plan

Recommendations

- Designate parcels fronting University Avenue as Neighborhood Village to allow a mixture of multi-family housing and commercial uses along a major transportation corridor.
- Commercial uses along University Avenue should have transparent facades to promote an active, pedestrian-oriented street.
- Commercial uses should front the street and locate parking internally.
- Residential development should include entrances that front public streets, specifically 54th Street and Lea Street, as well as Chollas Creek Park.
- Encourage convenience shopping with a pedestrian orientation at the corner of 54th Street and University Avenue.
- Locate more intense uses, such as office and commercial businesses, along University Avenue.
- Allow for the ability to develop commercial anchor retail, such as a neighborhood grocery store, that fronts University Avenue.
- Provide a variety of housing types adjacent to active park uses located at the southern and eastern areas of Chollas Triangle.

MP Figure 12.2 - Illustrative Site Design*

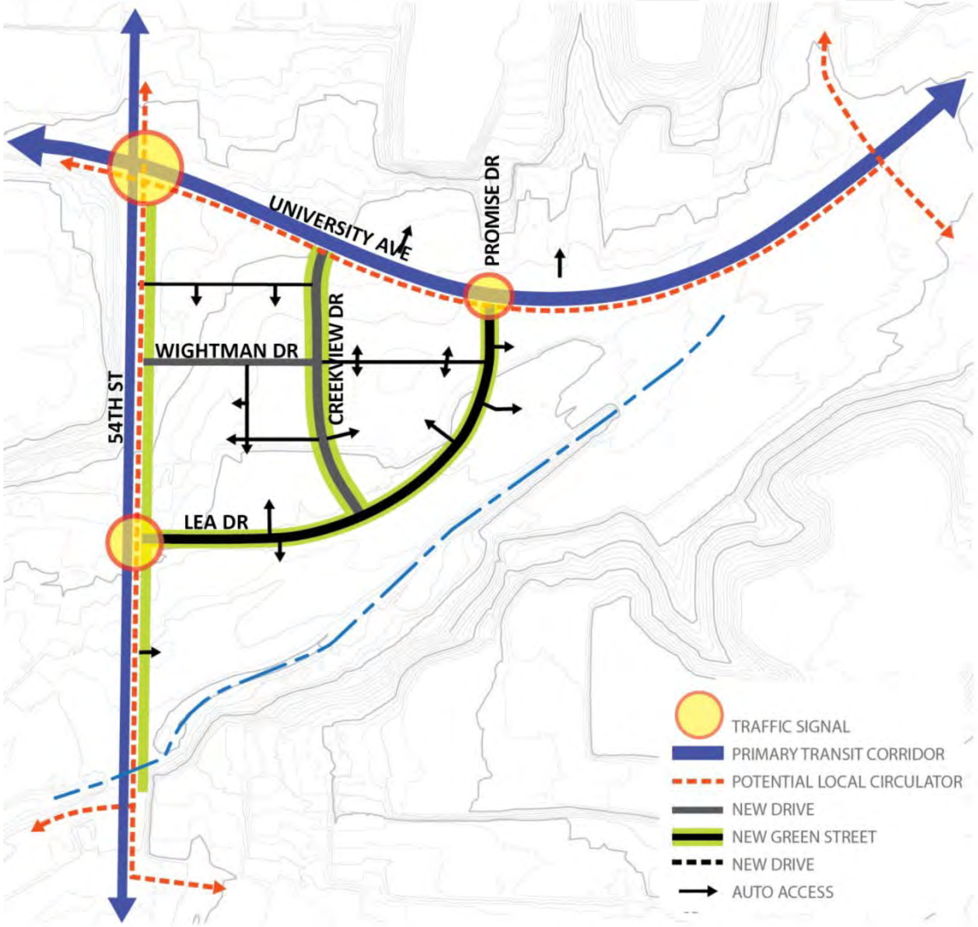


*** For illustrative purposes only – image is shown as an example of how the site could be potentially developed.**

MOBILITY

A fundamental step in achieving the community vision is to create an urban framework that encourages a more human scale, walkable development pattern. The mobility network introduces a smaller scale street and block pattern intended to function as part of the open space system. Streets are designed to enhance pedestrian connections through the site and Chollas Creek Park. Design elements include wide sidewalks, street lighting, generous landscape zones and shade trees that create safe, comfortable pedestrian connections. On-street parallel parking is identified throughout the development to calm traffic and serve as a buffer between traffic lanes and pedestrian zones. Curb extensions and striped pedestrian crosswalks should be incorporated at intersections to minimize pedestrian crossing distance where feasible.

MP Figure 12.3 - Circulation Pattern



A north-south connection, identified as Creekview Drive in the Figure 12.3, is intended to serve as a prominent connection from University Avenue to Chollas Creek Park. This is envisioned as a pedestrian priority connection with trees, pedestrian amenities and water quality planters. The Plan recommends development along the western edge maintains a north/south orientation and form. This building orientation provides views to Chollas Creek and allows for a large public plaza with the potential for a special use site at the edge of the park.

Lea Drive connects 54th Street to University Avenue at the existing Promise Drive location. This alignment forms the northern edge of the park, creating a highly visible and accessible open space. Buildings should front Lea Drive to take advantage of creek and park views and provide informal observation on the park.

Development within the site should capitalize on the regional bus connectivity, particularly at the intersection of University Avenue & 54th Street. The southeast corner of this intersection is envisioned as an enhanced transit plaza with ample room and comfortable waiting areas for transit patrons. Amenities should include, bus shelters, seating, trash cans, bicycle parking and transit information.

Improvements to the University Avenue and 54th Street intersection will enhance pedestrian safety and connect the project site to adjacent neighborhoods, businesses and open space. The University Avenue Mobility Study has identified elimination of the channelized right turns on the westbound and southbound approaches of this intersection. This will improve safety by shortening pedestrian crossing distances, improving visibility and reducing conflicts between all modes of transportation.

The vacation of Chollas Parkway and the realignment of Lea Street to a two lane collector street that connects University Avenue and 54th Street will reduce cut-through traffic, improving the pedestrian environment and overall livability for residents. A new signalized intersection will be located at University Avenue and Promise Drive, eliminating the need for the existing complicated intersection at University Avenue and Chollas Parkway.

Non-contiguous sidewalks with ample landscape zones should be provided to create a safe and pleasant pedestrian environment should be provided on all internal development streets as well as any public streets that interface with the CPIOZ area. On-street parking will provide an additional buffer between traffic lanes and pedestrians.

The Chollas Triangle design principles promote an active and pedestrian scale street environment that encourages street activity and walkability. The existing, expansive parking lots will be replaced by dispersed surface lots behind buildings, on street parking, or in parking structures. Ample bike parking should be provided near bus stops, commercial areas and multifamily development. Improved connectivity to adjacent neighborhoods will make cycling more convenient and encourage transit use. Consideration should be given to designating bicycle parking areas for short and long-term use at commercial and residential locations.

Recommendations

- Provide metered parallel parking along University Avenue
- Provide for an enhanced transit plaza at 54th Street and University Avenue through comfortable walk and wait environments for transit riders.
- Design streets that include pedestrian amenities such as non-contiguous sidewalks, street trees, and street furniture.
- Extend the public realm into the site through the incorporation of pedestrian amenities such as sidewalks and street trees.

- Minimize pedestrian / automobile conflict by creating pedestrian friendly intersections that incorporate bulb outs, pedestrian refuge areas and reduce crossing distances where appropriate.
- Create a safe, human-scale pedestrian and bicycle network.

URBAN DESIGN

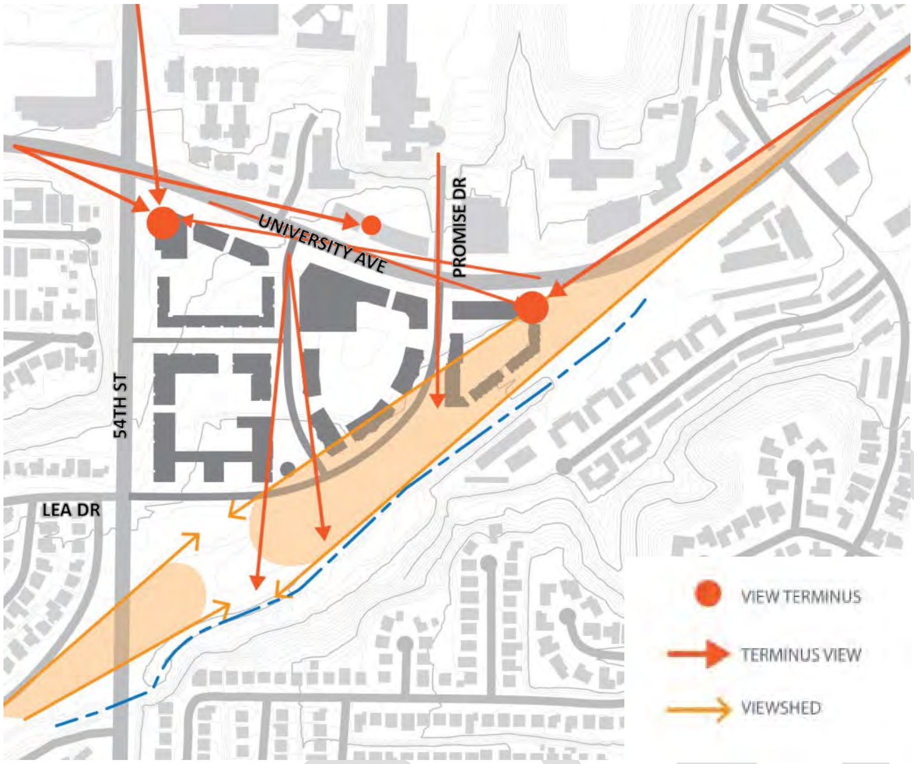
The Chollas Triangle site has the opportunity to serve as a destination and focal point within Mid-City that celebrates Chollas Creek. New development that implements this vision should include buildings that front streets with parking located behind buildings or in parking structures. Where feasible, tuck under parking, underground parking, or parking structures should be situated into the existing topography to minimize visual impact on surrounding uses. Design treatments including quality articulated façades, building step-backs, porches and stoops serve to break up the mass and form of buildings and create an interesting street edge. Residences should include front porches and balconies at upper levels, allowing private exterior space for each dwelling unit.

Significant building setbacks should be incorporated along University Avenue. A setback distance of 15 - 20 feet from the curb to building face should create a comfortable pedestrian environment along a major corridor. Street trees should be provided in a regular interval of 30-35 feet to provide continuous shading for pedestrians. Ground floor transparency should be maximized to create pedestrian level interest and a visual connection between the street and interior spaces, enabling a strong sense of community and increasing informal oversight of public areas.

MP Figure 12.4 – Urban Form

Building heights should transition from lower (1-3 stories) commercial/mixed-use buildings along University Avenue to taller (4-5 stories) residential buildings along the park. Existing grades slope to the south and east, with an existing grade difference of 25'-50' between University and Chollas Creek. Locating taller buildings at the lower site elevations minimizes both the effect of higher buildings on the surrounding neighborhoods, and the formation of a potential 'building canyon' along University Avenue.

MP Figure 12.5 – Important Views into the Site



Building location and orientation frame views into the site and to the creek. Special uses and public spaces should be located to take advantage of views to adjacent canyons and hillsides. Signature architecture and/or landscape elements are encouraged at important view termini to strengthen the identity of Chollas Triangle within the community.

Recommendations

- Encourage signature architecture at major view corridors to establish a unique identity for Chollas Triangle.
- Incorporate green infrastructure (pervious paving, flow through planters, bio-retention swales, etc.) as a means to cleanse storm water run-off prior to entering Chollas Creek.
- Minimize urban heat island affect through building design, roof design and site landscaping.
- Design lot and blocks to encourage a pedestrian-scale development pattern.
- Utilize topography to enhance views and minimize grading.
- Locate parking behind buildings or in park decks.
- Utilize topography to enhance prominent views into and out of the site.

OPEN SPACE

A primary focal point of Chollas Triangle is the creation of an approximately five-acre active use neighborhood park in the location of the vacated Chollas Parkway. The new park will provide an identity for Chollas Triangle and will include a mix of passive and active open space uses as well as restored riparian habitat along Chollas Creek.

Chollas Creek Park serves as a major community focal point, and should be designed to accommodate a variety of users. The over-arching park design concept is to create a series of independent, yet connected spaces along Chollas Creek. These spaces alternate between active/passive uses and native riparian areas. This concept helps create a string of varied experiences as users move through the park.

An open space buffer that extends 50 feet from the edge of the natural stream line of Chollas Creek to the lands designated for park use is established to serve as a transition between active and passive open space uses.

Chollas creek should be restored in a manner that balances the need for native habitat/riparian zones with opportunities for people to interact with the creek. The creek banks should be shallow to allow for creek views and access. The open space is designed as a series of ‘expansion’ and ‘compression’ areas adjacent to the creek channel. The expansion areas are broad zones that allow the creek to meander and braid during low flows and serve as detention areas when the creek floods. The compression areas focus the creek channel at strategic locations that bring people to the water near the plazas or open lawn areas. This pattern creates differing environments that encourage people to engage the creek in a variety of ways. Informal paths or boardwalks in the expansion zones allow people to explore the native landscape and access the creek, with drop structures at strategic locations to create overlooks and places of visual and audible interest within the park.

A plaza should be located along Lea Street and the southern terminus of Creekview Drive. The plaza is a highly flexible space intended to serve the community year round, offering both programmed and informal uses such as: public gatherings, outdoor concerts, farmers markets, and informal gathering.

A series of open, level lawn areas allow for informal active uses such as soccer, lawn games, picnics, etc. These linked ‘rooms’ create a series of distinct experiences along Chollas Creek. The southwest portion of the park should be reserved for uses that meet specific community needs and activate the park. These uses could include a community garden or dog park.

MP Figure 12.6 – Open Space Network

*** Park design shown for illustrative purposes only**

A wide multi-use path will wind through Chollas Creek Park providing a much needed pedestrian and bike friendly connection that links neighborhoods southwest of Chollas Triangle with retail amenities located to the northeast. The Lea Drive and 54th Street intersection will be signalized to allow the multi-use path to connect to the southwest with the planned bike route within the Chollas Creek Open Space corridor.

A multi-use path along the eastern edge of 54th Street will connect transit stops and commercial uses at University Avenue with the park and trails network to the south. It will provide an inviting edge that is intended to encourage development to front 54th Street, further strengthening the pedestrian experience. The multi-use path will be the first piece of a larger north/south bicycle and pedestrian system linking El Cajon Boulevard, Colina Del Sol Park, Chollas Creek Park and ultimately Chollas Lake Park.

Recommendations

- Create a neighborhood park with a mixture of active and passive uses.
- Provide a public street along the park to ensure public access.
- Enhance Chollas Creek as a community amenity through the restoration of natural habitat along the creek and the creation of a buffer from non-compatible uses.
- Allow for uses to include picnic areas, multi-purpose turf areas, walkways, and landscaping within the active park area
- Provide a multi-use bicycle/pedestrian path that connects 54th Street to University Avenue and 58th Street through Chollas Creek Park.

APPENDIX C

AIR QUALITY AND GREENHOUSE GAS EMISSIONS CALCULATIONS AND MODELING

Chollas - Existing Land Uses

San Diego Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	8.00	Dwelling Unit	0.50	8,000.00	23
Apartments Mid Rise	26.00	Dwelling Unit	1.50	26,000.00	74
Gasoline/Service Station	8.00	Pump	1.00	1,129.40	0
Strip Mall	116.00	1000sqft	11.00	116,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2014
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimated acreage based on existing land uses

Construction Phase - No construction estimates

Off-road Equipment - No construction estimates

Vehicle Trips - Estimated trip generation rates based on traffic analysis

Woodstoves - Estimates based on City of San Diego guidelines

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	370.00	0.00
tblFireplaces	FireplaceDayYear	82.00	50.00
tblFireplaces	FireplaceDayYear	82.00	50.00
tblFireplaces	FireplaceWoodMass	3,078.40	384.00
tblFireplaces	FireplaceWoodMass	3,078.40	384.00
tblLandUse	LotAcreage	0.68	1.50
tblLandUse	LotAcreage	0.03	1.00
tblLandUse	LotAcreage	2.66	11.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblVehicleTrips	ST_TR	7.16	7.00
tblVehicleTrips	ST_TR	7.16	3.00
tblVehicleTrips	ST_TR	162.78	30.00
tblVehicleTrips	ST_TR	42.04	49.00
tblVehicleTrips	SU_TR	6.07	7.00
tblVehicleTrips	SU_TR	6.07	3.00
tblVehicleTrips	SU_TR	162.78	30.00
tblVehicleTrips	SU_TR	20.43	49.00
tblVehicleTrips	WD_TR	6.59	7.00
tblVehicleTrips	WD_TR	6.59	3.00
tblVehicleTrips	WD_TR	162.78	30.00
tblVehicleTrips	WD_TR	44.32	49.00
tblWoodstoves	WoodstoveDayYear	82.00	50.00
tblWoodstoves	WoodstoveDayYear	82.00	50.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	384.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	384.00

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0546	6.7000e-003	0.5885	1.4000e-004		0.0481	0.0481		0.0481	0.0481	4.3978	9.3957	13.7935	4.7000e-003	4.8000e-004	14.0397
Energy	2.7400e-003	0.0242	0.0160	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	601.5316	601.5316	0.0236	5.2800e-003	603.6650
Mobile	4.1046	7.4510	35.9901	0.0519	3.4865	0.0986	3.5851	0.9325	0.0904	1.0229	0.0000	4,330.5590	4,330.5590	0.2233	0.0000	4,335.2489
Waste						0.0000	0.0000		0.0000	0.0000	28.7740	0.0000	28.7740	1.7005	0.0000	64.4843
Water						0.0000	0.0000		0.0000	0.0000	3.4625	70.8711	74.3336	0.3585	8.9900e-003	84.6478
Total	**5.1620**	**7.4819**	**36.5945**	**0.0522**	**3.4865**	**0.1485**	**3.6350**	**0.9325**	**0.1404**	**1.0728**	**36.6342**	**5,012.3575**	**5,048.9917**	**2.3106**	**0.0148**	**5,102.0858**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0546	6.7000e-003	0.5885	1.4000e-004		0.0481	0.0481		0.0481	0.0481	4.3978	9.3957	13.7935	4.7000e-003	4.8000e-004	14.0397
Energy	2.7400e-003	0.0242	0.0160	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	601.5316	601.5316	0.0236	5.2800e-003	603.6650
Mobile	4.1046	7.4510	35.9901	0.0519	3.4865	0.0986	3.5851	0.9325	0.0904	1.0229	0.0000	4,330.5590	4,330.5590	0.2233	0.0000	4,335.2489
Waste						0.0000	0.0000		0.0000	0.0000	28.7740	0.0000	28.7740	1.7005	0.0000	64.4843
Water						0.0000	0.0000		0.0000	0.0000	3.4625	70.8711	74.3336	0.3584	8.9700e-003	84.6423
Total	**5.1620**	**7.4819**	**36.5945**	**0.0522**	**3.4865**	**0.1485**	**3.6350**	**0.9325**	**0.1404**	**1.0728**	**36.6342**	**5,012.3575**	**5,048.9917**	**2.3106**	**0.0147**	**5,102.0803**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.14**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2014	12/31/2013	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	0	62.00	23.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.1046	7.4510	35.9901	0.0519	3.4865	0.0986	3.5851	0.9325	0.0904	1.0229	0.0000	4,330.5590	4,330.5590	0.2233	0.0000	4,335.2489
Unmitigated	4.1046	7.4510	35.9901	0.0519	3.4865	0.0986	3.5851	0.9325	0.0904	1.0229	0.0000	4,330.5590	4,330.5590	0.2233	0.0000	4,335.2489

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	56.00	56.00	56.00	159,897	159,897
Apartments Mid Rise	78.00	78.00	78.00	222,714	222,714
Gasoline/Service Station	240.00	240.00	240.00	138,280	138,280
Strip Mall	5,684.00	5,684.00	5684.00	8,753,548	8,753,548
Total	6,058.00	6,058.00	6,058.00	9,274,439	9,274,439

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.509376	0.073655	0.192210	0.135105	0.037177	0.005354	0.012300	0.020284	0.001820	0.002092	0.006537	0.000620	0.003469

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated	2.7400e-003	0.0242	0.0160	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.0964	27.0964	5.2000e-004	5.0000e-004	27.2613
NaturalGas Unmitigated	2.7400e-003	0.0242	0.0160	1.5000e-004		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	27.0964	27.0964	5.2000e-004	5.0000e-004	27.2613
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	574.4353	574.4353	0.0231	4.7800e-003	576.4038
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	574.4353	574.4353	0.0231	4.7800e-003	576.4038

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	86267.2	4.7000e-004	3.9800e-003	1.6900e-003	3.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.6036	4.6036	9.0000e-005	8.0000e-005	4.6316
Apartments Mid Rise	142544	7.7000e-004	6.5700e-003	2.7900e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6067	7.6067	1.5000e-004	1.4000e-004	7.6530
Gasoline/Service Station	13315.6	7.0000e-005	6.5000e-004	5.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7106	0.7106	1.0000e-005	1.0000e-005	0.7149
Strip Mall	265640	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.1756	14.1756	2.7000e-004	2.6000e-004	14.2618
Total		**2.7400e-003**	**0.0242**	**0.0160**	**1.5000e-004**		**1.8900e-003**	**1.8900e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**27.0964**	**27.0964**	**5.2000e-004**	**4.9000e-004**	**27.2613**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	86267.2	4.7000e-004	3.9800e-003	1.6900e-003	3.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.6036	4.6036	9.0000e-005	8.0000e-005	4.6316
Apartments Mid Rise	142544	7.7000e-004	6.5700e-003	2.7900e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6067	7.6067	1.5000e-004	1.4000e-004	7.6530
Gasoline/Service Station	13315.6	7.0000e-005	6.5000e-004	5.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7106	0.7106	1.0000e-005	1.0000e-005	0.7149
Strip Mall	265640	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	14.1756	14.1756	2.7000e-004	2.6000e-004	14.2618
Total		**2.7400e-003**	**0.0242**	**0.0160**	**1.5000e-004**		**1.8900e-003**	**1.8900e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**27.0964**	**27.0964**	**5.2000e-004**	**4.9000e-004**	**27.2613**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	29048.2	9.4932	3.8000e-004	8.0000e-005	9.5258
Apartments Mid Rise	89857.8	29.3663	1.1800e-003	2.4000e-004	29.4670
Gasoline/Service Station	10164.6	3.3219	1.3000e-004	3.0000e-005	3.3333
Strip Mall	1.62864e+006	532.2538	0.0214	4.4300e-003	534.0778
Total		**574.4353**	**0.0231**	**4.7800e-003**	**576.4038**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	29048.2	9.4932	3.8000e-004	8.0000e-005	9.5258
Apartments Mid Rise	89857.8	29.3663	1.1800e-003	2.4000e-004	29.4670
Gasoline/Service Station	10164.6	3.3219	1.3000e-004	3.0000e-005	3.3333
Strip Mall	1.62864e +006	532.2538	0.0214	4.4300e-003	534.0778
Total		**574.4353**	**0.0231**	**4.7800e-003**	**576.4038**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0546	6.7000e-003	0.5885	1.4000e-004		0.0481	0.0481		0.0481	0.0481	4.3978	9.3957	13.7935	4.7000e-003	4.8000e-004	14.0397
Unmitigated	1.0546	6.7000e-003	0.5885	1.4000e-004		0.0481	0.0481		0.0481	0.0481	4.3978	9.3957	13.7935	4.7000e-003	4.8000e-004	14.0397

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1889					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5902					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2669	3.6200e-003	0.3286	1.3000e-004		0.0467	0.0467		0.0467	0.0467	4.3978	8.9811	13.3789	4.2600e-003	4.8000e-004	13.6157
Landscaping	8.5500e-003	3.0800e-003	0.2598	1.0000e-005		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	0.4146	0.4146	4.5000e-004	0.0000	0.4240
Total	**1.0546**	**6.7000e-003**	**0.5885**	**1.4000e-004**		**0.0481**	**0.0481**		**0.0481**	**0.0481**	**4.3978**	**9.3957**	**13.7935**	**4.7100e-003**	**4.8000e-004**	**14.0397**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1889					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5902					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2669	3.6200e-003	0.3286	1.3000e-004		0.0467	0.0467		0.0467	0.0467	4.3978	8.9811	13.3789	4.2600e-003	4.8000e-004	13.6157
Landscaping	8.5500e-003	3.0800e-003	0.2598	1.0000e-005		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	0.4146	0.4146	4.5000e-004	0.0000	0.4240
Total	**1.0546**	**6.7000e-003**	**0.5885**	**1.4000e-004**		**0.0481**	**0.0481**		**0.0481**	**0.0481**	**4.3978**	**9.3957**	**13.7935**	**4.7100e-003**	**4.8000e-004**	**14.0397**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	74.3336	0.3585	8.9900e-003	84.6478
Mitigated	74.3336	0.3584	8.9700e-003	84.6423

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	0.521232 / 0.328603	3.5765	0.0171	4.3000e-004	4.0692
Apartments Mid Rise	1.694 / 1.06796	11.6237	0.0557	1.4000e-003	13.2249
Gasoline/Service Station	0.106255 / 0.0651241	0.7223	3.4900e-003	9.0000e-005	0.8227
Strip Mall	8.59241 / 5.26632	58.4111	0.2822	7.0700e-003	66.5310
Total		**74.3336**	**0.3585**	**8.9900e-003**	**84.6478**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	0.521232 / 0.328603	3.5765	0.0171	4.3000e-004	4.0689
Apartments Mid Rise	1.694 / 1.06796	11.6237	0.0556	1.3900e-003	13.2240
Gasoline/Service Station	0.106255 / 0.0651241	0.7223	3.4900e-003	9.0000e-005	0.8227
Strip Mall	8.59241 / 5.26632	58.4111	0.2822	7.0600e-003	66.5267
Total		**74.3336**	**0.3584**	**8.9700e-003**	**84.6423**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	28.7740	1.7005	0.0000	64.4843
Unmitigated	28.7740	1.7005	0.0000	64.4843

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	3.68	0.7470	0.0442	0.0000	1.6741
Apartments Mid Rise	11.96	2.4278	0.1435	0.0000	5.4408
Gasoline/Service Station	4.31	0.8749	0.0517	0.0000	1.9607
Strip Mall	121.8	24.7243	1.4612	0.0000	55.4088
Total		**28.7740**	**1.7005**	**0.0000**	**64.4843**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	3.68	0.7470	0.0442	0.0000	1.6741
Apartments Mid Rise	11.96	2.4278	0.1435	0.0000	5.4408
Gasoline/Service Station	4.31	0.8749	0.0517	0.0000	1.9607
Strip Mall	121.8	24.7243	1.4612	0.0000	55.4088
Total		**28.7740**	**1.7005**	**0.0000**	**64.4843**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Chollas - BAU

San Diego Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.00	Acre	5.00	217,800.00	0
Apartments Mid Rise	486.00	Dwelling Unit	8.90	486,000.00	1390
Strip Mall	130.00	1000sqft	8.00	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2005
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimated acreage based on allowable densities for the project site.

Construction Phase - No construction estimates

Off-road Equipment - No construction estimates

Trips and VMT - No construction estimates

Vehicle Trips - Estimated trip generation rates based on traffic analysis

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Woodstoves - Usage estimates based on City of San Diego guidelines

Area Coating -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	521700	547836
tblConstructionPhase	NumDays	370.00	0.00
tblFireplaces	FireplaceDayYear	82.00	50.00
tblFireplaces	FireplaceWoodMass	3,078.40	385.00
tblLandUse	LotAcreage	12.79	8.90
tblLandUse	LotAcreage	2.98	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2005
tblSolidWaste	SolidWasteGenerationRate	0.43	0.46
tblTripsAndVMT	VendorTripNumber	109.00	0.00
tblTripsAndVMT	WorkerTripNumber	483.00	0.00
tblVehicleTrips	ST_TR	7.16	8.00
tblVehicleTrips	ST_TR	1.59	5.18
tblVehicleTrips	ST_TR	42.04	72.00
tblVehicleTrips	SU_TR	6.07	8.00
tblVehicleTrips	SU_TR	1.59	5.18
tblVehicleTrips	SU_TR	20.43	72.00
tblVehicleTrips	WD_TR	6.59	8.00
tblVehicleTrips	WD_TR	1.59	5.18
tblVehicleTrips	WD_TR	44.32	72.00
tblWater	OutdoorWaterUseRate	5,957,406.75	6,433,999.29
tblWoodstoves	WoodstoveDayYear	82.00	50.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	385.00

2.0 Emissions Summary

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	8.4414	0.1088	8.8965	2.0600e-003		0.6867	0.6867		0.6866	0.6866	63.0257	134.2743	197.3000	0.0705	6.8100e-003	200.8909
Energy	0.0160	0.1374	0.0645	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	1,303.4889	1,303.4889	0.0491	0.0124	1,308.3761
Mobile	19.8524	36.4935	198.4054	0.2856	8.7448	1.0743	9.8191	2.2325	1.0196	3.2521	0.0000	13,303.8349	13,303.8349	1.3520	0.0000	13,332.2259
Waste						0.0000	0.0000		0.0000	0.0000	73.1823	0.0000	73.1823	4.3250	0.0000	164.0063
Water						0.0000	0.0000		0.0000	0.0000	13.1008	292.9937	306.0945	1.3574	0.0342	345.2049
Total	**28.3098**	**36.7397**	**207.3664**	**0.2885**	**8.7448**	**1.7720**	**10.5168**	**2.2325**	**1.7172**	**3.9497**	**149.3088**	**15,034.5918**	**15,183.9006**	**7.1539**	**0.0535**	**15,350.7040**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	8.4414	0.1088	8.8965	2.0600e-003		0.6867	0.6867		0.6866	0.6866	63.0257	134.2743	197.3000	0.0705	6.8100e-003	200.8909
Energy	0.0160	0.1374	0.0645	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	1,303.4889	1,303.4889	0.0491	0.0124	1,308.3761
Mobile	19.8524	36.4935	198.4054	0.2856	8.7448	1.0743	9.8191	2.2325	1.0196	3.2521	0.0000	13,303.8349	13,303.8349	1.3520	0.0000	13,332.2259
Waste						0.0000	0.0000		0.0000	0.0000	73.1823	0.0000	73.1823	4.3250	0.0000	164.0063
Water						0.0000	0.0000		0.0000	0.0000	13.1008	292.9937	306.0945	1.3571	0.0342	345.1840
Total	**28.3098**	**36.7397**	**207.3664**	**0.2885**	**8.7448**	**1.7720**	**10.5168**	**2.2325**	**1.7172**	**3.9497**	**149.3088**	**15,034.5918**	**15,183.9006**	**7.1536**	**0.0534**	**15,350.6831**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2015	12/31/2014	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	19.8524	36.4935	198.4054	0.2856	8.7448	1.0743	9.8191	2.2325	1.0196	3.2521	0.0000	13,303.8349	13,303.8349	1.3520	0.0000	13,332.2259
Unmitigated	19.8524	36.4935	198.4054	0.2856	8.7448	1.0743	9.8191	2.2325	1.0196	3.2521	0.0000	13,303.8349	13,303.8349	1.3520	0.0000	13,332.2259

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,888.00	3,888.00	3888.00	11,101,419	11,101,419
City Park	25.90	25.90	25.90	55,293	55,293
Strip Mall	9,360.00	9,360.00	9360.00	14,414,709	14,414,709
Total	13,273.90	13,273.90	13,273.90	25,571,421	25,571,421

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.477891	0.088801	0.251806	0.106955	0.021373	0.005547	0.013268	0.017971	0.001099	0.001361	0.008804	0.001096	0.004028

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated	0.0160	0.1374	0.0645	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	158.0732	158.0732	3.0300e-003	2.9000e-003	159.0352
NaturalGas Unmitigated	0.0160	0.1374	0.0645	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	158.0732	158.0732	3.0300e-003	2.9000e-003	159.0352
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,145.4157	1,145.4157	0.0461	9.5400e-003	1,149.3409
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,145.4157	1,145.4157	0.0461	9.5400e-003	1,149.3409

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.66448e+006	0.0144	0.1228	0.0522	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.1868	142.1868	2.7300e-003	2.6100e-003	143.0522
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	297700	1.6100e-003	0.0146	0.0123	9.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	15.8864	15.8864	3.0000e-004	2.9000e-004	15.9831
Total		**0.0160**	**0.1374**	**0.0645**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**158.0732**	**158.0732**	**3.0300e-003**	**2.9000e-003**	**159.0352**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.66448e+006	0.0144	0.1228	0.0522	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.1868	142.1868	2.7300e-003	2.6100e-003	143.0522
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	297700	1.6100e-003	0.0146	0.0123	9.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	15.8864	15.8864	3.0000e-004	2.9000e-004	15.9831
Total		**0.0160**	**0.1374**	**0.0645**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**158.0732**	**158.0732**	**3.0300e-003**	**2.9000e-003**	**159.0352**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.67965e +006	548.9244	0.0221	4.5700e-003	550.8054
City Park	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.8252e +006	596.4914	0.0240	4.9700e-003	598.5354
Total		**1,145.4157**	**0.0461**	**9.5400e-003**	**1,149.3409**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.67965e +006	548.9244	0.0221	4.5700e-003	550.8054
City Park	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.8252e +006	596.4914	0.0240	4.9700e-003	598.5354
Total		**1,145.4157**	**0.0461**	**9.5400e-003**	**1,149.3409**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	8.4414	0.1088	8.8965	2.0600e-003		0.6867	0.6867		0.6866	0.6866	63.0257	134.2743	197.3000	0.0705	6.8100e-003	200.8909
Unmitigated	8.4414	0.1088	8.8965	2.0600e-003		0.6867	0.6867		0.6866	0.6866	63.0257	134.2743	197.3000	0.0705	6.8100e-003	200.8909

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1784					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2564					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.8253	0.0519	4.7098	1.8700e-003		0.6690	0.6690		0.6689	0.6689	63.0257	128.3773	191.4030	0.0610	6.8100e-003	194.7954
Landscaping	0.1813	0.0569	4.1867	1.9000e-004		0.0177	0.0177		0.0177	0.0177	0.0000	5.8970	5.8970	9.4500e-003	0.0000	6.0955
Total	**8.4414**	**0.1088**	**8.8965**	**2.0600e-003**		**0.6867**	**0.6867**		**0.6866**	**0.6866**	**63.0257**	**134.2743**	**197.3000**	**0.0705**	**6.8100e-003**	**200.8908**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1784					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2564					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.8253	0.0519	4.7098	1.8700e-003		0.6690	0.6690		0.6689	0.6689	63.0257	128.3773	191.4030	0.0610	6.8100e-003	194.7954
Landscaping	0.1813	0.0569	4.1867	1.9000e-004		0.0177	0.0177		0.0177	0.0177	0.0000	5.8970	5.8970	9.4500e-003	0.0000	6.0955
Total	**8.4414**	**0.1088**	**8.8965**	**2.0600e-003**		**0.6867**	**0.6867**		**0.6866**	**0.6866**	**63.0257**	**134.2743**	**197.3000**	**0.0705**	**6.8100e-003**	**200.8908**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	306.0945	1.3574	0.0342	345.2049
Mitigated	306.0945	1.3571	0.0342	345.1840

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	31.6649 / 19.9626	217.2729	1.0401	0.0261	247.2034
City Park	0 / 6.434	23.3609	9.4000e-004	1.9000e-004	23.4409
Strip Mall	9.62943 / 5.90191	65.4607	0.3163	7.9300e-003	74.5606
Total		**306.0945**	**1.3574**	**0.0342**	**345.2049**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	31.6649 / 19.9626	217.2729	1.0400	0.0261	247.1874
City Park	0 / 6.434	23.3609	9.4000e-004	1.9000e-004	23.4409
Strip Mall	9.62943 / 5.90191	65.4607	0.3162	7.9200e-003	74.5558
Total		**306.0945**	**1.3571**	**0.0342**	**345.1840**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	73.1823	4.3250	0.0000	164.0063
Unmitigated	73.1823	4.3250	0.0000	164.0063

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	223.56	45.3807	2.6819	0.0000	101.7010
City Park	0.46	0.0934	5.5200e-003	0.0000	0.2093
Strip Mall	136.5	27.7083	1.6375	0.0000	62.0960
Total		**73.1823**	**4.3250**	**0.0000**	**164.0063**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	223.56	45.3807	2.6819	0.0000	101.7010
City Park	0.46	0.0934	5.5200e-003	0.0000	0.2093
Strip Mall	136.5	27.7083	1.6375	0.0000	62.0960
Total		**73.1823**	**4.3250**	**0.0000**	**164.0063**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Chollas

San Diego Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	5.00	Acre	5.00	217,800.00	0
Apartments Mid Rise	486.00	Dwelling Unit	8.90	486,000.00	1390
Strip Mall	130.00	1000sqft	8.00	130,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.37	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission factors based on 33% RPS in 2020

Land Use - Estimated acreage based on allowable densities for the project site.
Population estimates consistent with Section 4.10, Population and Housing, of the EIR

Construction Phase - No construction estimates

Off-road Equipment - No construction estimates

Trips and VMT - No construction estimates

Vehicle Trips - Estimated trip generation rates based on traffic analysis

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Woodstoves - Assumes no wood fireplaces
Usage estimates based on City of San Diego guidelines

Area Coating -

Energy Use - Estimated energy use

Mobile Land Use Mitigation - Includes measures based on project location and design

Area Mitigation - Maximum CalGreen VOC limits for flat and nonflat architectural coatings (2013 California Green Buildings Standards Code)

Energy Mitigation - Assumptions for Title 24 in CalEEMod are based on 2008 standards. The project would be built to meet the 2013 standards, which improve energy efficiency by 25% over the 2008 standards (CEC 2014).

Water Mitigation - Consistent with 2013 Title 24 standards.

Waste Mitigation - Recycling reduction consistent with the City's Recycling Ordinance. In addition, the City of San Diego diversion rate has increased from 52 percent in 2004 to 68 percent in 2012 (31 percent increase).

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	521700	547836
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	370.00	0.00

tblFireplaces	FireplaceDayYear	82.00	50.00
tblFireplaces	FireplaceWoodMass	3,078.40	384.00
tblLandUse	LotAcreage	12.79	8.90
tblLandUse	LotAcreage	2.98	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.37
tblProjectCharacteristics	OperationalYear	2014	2020
tblSolidWaste	SolidWasteGenerationRate	0.43	0.46
tblTripsAndVMT	VendorTripNumber	109.00	0.00
tblTripsAndVMT	WorkerTripNumber	483.00	0.00
tblVehicleTrips	ST_TR	7.16	8.00
tblVehicleTrips	ST_TR	1.59	5.18
tblVehicleTrips	ST_TR	42.04	72.00
tblVehicleTrips	SU_TR	6.07	8.00
tblVehicleTrips	SU_TR	1.59	5.18
tblVehicleTrips	SU_TR	20.43	72.00
tblVehicleTrips	WD_TR	6.59	8.00
tblVehicleTrips	WD_TR	1.59	5.18
tblVehicleTrips	WD_TR	44.32	72.00
tblWater	OutdoorWaterUseRate	5,957,406.75	6,433,999.29
tblWoodstoves	WoodstoveDayYear	82.00	50.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	384.00

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	8.3606	0.0937	8.3194	2.0600e-003		0.6872	0.6872		0.6871	0.6871	62.8620	134.2743	197.1363	0.0666	6.8000e-003	200.6427
Energy	0.0160	0.1374	0.0645	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	1,010.7799	1,010.7799	0.0380	0.0124	1,015.4334
Mobile	6.4341	11.6674	58.1225	0.1416	9.6154	0.1665	9.7819	2.5717	0.1536	2.7253	0.0000	9,824.3440	9,824.3440	0.3915	0.0000	9,832.5659
Waste						0.0000	0.0000		0.0000	0.0000	73.1823	0.0000	73.1823	4.3250	0.0000	164.0063
Water						0.0000	0.0000		0.0000	0.0000	13.1008	218.1197	231.2205	1.3545	0.0342	270.2711
Total	**14.8107**	**11.8985**	**66.5065**	**0.1445**	**9.6154**	**0.8647**	**10.4801**	**2.5717**	**0.8518**	**3.4234**	**149.1451**	**11,187.5179**	**11,336.6630**	**6.1756**	**0.0535**	**11,482.9193**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.6536	0.0937	8.3194	2.0600e-003		0.6872	0.6872		0.6871	0.6871	62.8620	134.2743	197.1363	0.0666	6.8000e-003	200.6427
Energy	0.0133	0.1141	0.0538	7.2000e-004		9.1600e-003	9.1600e-003		9.1600e-003	9.1600e-003	0.0000	948.4172	948.4172	0.0360	0.0116	952.7535
Mobile	6.2379	10.6034	54.0068	0.1256	8.4808	0.1492	8.6300	2.2682	0.1377	2.4059	0.0000	8,713.2037	8,713.2037	0.3517	0.0000	8,720.5884
Waste						0.0000	0.0000		0.0000	0.0000	51.2276	0.0000	51.2276	3.0275	0.0000	114.8044
Water						0.0000	0.0000		0.0000	0.0000	10.4806	186.6308	197.1114	1.0840	0.0275	228.3887
Total	**13.9047**	**10.8112**	**62.3800**	**0.1284**	**8.4808**	**0.8455**	**9.3263**	**2.2682**	**0.8339**	**3.1021**	**124.5702**	**9,982.5259**	**10,107.0962**	**4.5657**	**0.0458**	**10,217.1777**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**6.12**	**9.14**	**6.20**	**11.17**	**11.80**	**2.22**	**11.01**	**11.80**	**2.09**	**9.39**	**16.48**	**10.77**	**10.85**	**26.07**	**14.29**	**11.02**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	1/1/2015	12/31/2014	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.2379	10.6034	54.0068	0.1256	8.4808	0.1492	8.6300	2.2682	0.1377	2.4059	0.0000	8,713.2037	8,713.2037	0.3517	0.0000	8,720.5884
Unmitigated	6.4341	11.6674	58.1225	0.1416	9.6154	0.1665	9.7819	2.5717	0.1536	2.7253	0.0000	9,824.3440	9,824.3440	0.3915	0.0000	9,832.5659

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,888.00	3,888.00	3888.00	11,101,419	9,791,452
City Park	25.90	25.90	25.90	55,293	48,768
Strip Mall	9,360.00	9,360.00	9360.00	14,414,709	12,713,774
Total	13,273.90	13,273.90	13,273.90	25,571,421	22,553,994

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated	0.0133	0.1141	0.0538	7.2000e-004		9.1600e-003	9.1600e-003		9.1600e-003	9.1600e-003	0.0000	131.2213	131.2213	2.5200e-003	2.4100e-003	132.0198
NaturalGas Unmitigated	0.0160	0.1374	0.0645	8.7000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	158.0732	158.0732	3.0300e-003	2.9000e-003	159.0352
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	817.1959	817.1959	0.0335	9.1400e-003	820.7337
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	852.7067	852.7067	0.0350	9.5400e-003	856.3981

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.66448e+006	0.0144	0.1228	0.0522	7.8000e-004		9.9300e-003	9.9300e-003		9.9300e-003	9.9300e-003	0.0000	142.1868	142.1868	2.7300e-003	2.6100e-003	143.0522
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	297700	1.6100e-003	0.0146	0.0123	9.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	15.8864	15.8864	3.0000e-004	2.9000e-004	15.9831
Total		**0.0160**	**0.1374**	**0.0645**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**158.0732**	**158.0732**	**3.0300e-003**	**2.9000e-003**	**159.0352**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.20029e+006	0.0119	0.1014	0.0431	6.5000e-004		8.2000e-003	8.2000e-003		8.2000e-003	8.2000e-003	0.0000	117.4160	117.4160	2.2500e-003	2.1500e-003	118.1306
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	258700	1.3900e-003	0.0127	0.0107	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.8052	13.8052	2.6000e-004	2.5000e-004	13.8892
Total		**0.0133**	**0.1141**	**0.0538**	**7.3000e-004**		**9.1600e-003**	**9.1600e-003**		**9.1600e-003**	**9.1600e-003**	**0.0000**	**131.2213**	**131.2213**	**2.5100e-003**	**2.4000e-003**	**132.0198**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.67965e +006	408.6477	0.0168	4.5700e-003	410.4167
City Park	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.8252e +006	444.0590	0.0182	4.9700e-003	445.9814
Total		**852.7067**	**0.0350**	**9.5400e-003**	**856.3981**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.66012e +006	403.8953	0.0166	4.5200e-003	405.6438
City Park	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.69878e +006	413.3006	0.0170	4.6200e-003	415.0899
Total		**817.1959**	**0.0335**	**9.1400e-003**	**820.7336**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.6536	0.0937	8.3194	2.0600e-003		0.6872	0.6872		0.6871	0.6871	62.8620	134.2743	197.1363	0.0666	6.8000e-003	200.6427
Unmitigated	8.3606	0.0937	8.3194	2.0600e-003		0.6872	0.6872		0.6871	0.6871	62.8620	134.2743	197.1363	0.0666	6.8000e-003	200.6427

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1784					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2564					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.8154	0.0518	4.6976	1.8700e-003		0.6673	0.6673		0.6672	0.6672	62.8620	128.3773	191.2393	0.0609	6.8000e-003	194.6249
Landscaping	0.1104	0.0419	3.6219	1.9000e-004		0.0199	0.0199		0.0199	0.0199	0.0000	5.8970	5.8970	5.7500e-003	0.0000	6.0179
Total	**8.3606**	**0.0937**	**8.3194**	**2.0600e-003**		**0.6872**	**0.6872**		**0.6871**	**0.6871**	**62.8620**	**134.2743**	**197.1363**	**0.0666**	**6.8000e-003**	**200.6427**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4714					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2564					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.8154	0.0518	4.6976	1.8700e-003		0.6673	0.6673		0.6672	0.6672	62.8620	128.3773	191.2393	0.0609	6.8000e-003	194.6249
Landscaping	0.1104	0.0419	3.6219	1.9000e-004		0.0199	0.0199		0.0199	0.0199	0.0000	5.8970	5.8970	5.7500e-003	0.0000	6.0179
Total	**7.6536**	**0.0937**	**8.3194**	**2.0600e-003**		**0.6872**	**0.6872**		**0.6871**	**0.6871**	**62.8620**	**134.2743**	**197.1363**	**0.0666**	**6.8000e-003**	**200.6427**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	231.2205	1.3545	0.0342	270.2711
Mitigated	197.1114	1.0840	0.0275	228.3887

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	31.6649 / 19.9626	164.3164	1.0381	0.0261	194.2046
City Park	0 / 6.434	17.3910	7.1000e-004	1.9000e-004	17.4663
Strip Mall	9.62943 / 5.90191	49.5131	0.3157	7.9300e-003	58.6002
Total		**231.2205**	**1.3545**	**0.0342**	**270.2711**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	25.3319 / 18.7449	138.9534	0.8307	0.0209	162.8843
City Park	0 / 6.04153	16.3302	6.7000e-004	1.8000e-004	16.4009
Strip Mall	7.70354 / 5.54189	41.8279	0.2526	6.3600e-003	49.1035
Total		**197.1114**	**1.0840**	**0.0275**	**228.3887**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	51.2276	3.0275	0.0000	114.8044
Unmitigated	73.1823	4.3250	0.0000	164.0063

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	223.56	45.3807	2.6819	0.0000	101.7010
City Park	0.46	0.0934	5.5200e-003	0.0000	0.2093
Strip Mall	136.5	27.7083	1.6375	0.0000	62.0960
Total		**73.1823**	**4.3250**	**0.0000**	**164.0063**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	156.492	31.7665	1.8773	0.0000	71.1907
City Park	0.322	0.0654	3.8600e-003	0.0000	0.1465
Strip Mall	95.55	19.3958	1.1463	0.0000	43.4672
Total		**51.2276**	**3.0275**	**0.0000**	**114.8044**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX D

BIOLOGICAL TECHNICAL REPORT

BIOLOGICAL TECHNICAL REPORT
FOR THE
MID-CITY COMMUNITIES PLAN AMENDMENT – CHOLLAS TRIANGLE, GENERAL PLAN AMENDMENT, AND REZONE
CITY OF SAN DIEGO, CALIFORNIA

Prepared for:

City of San Diego
Michael Prinz, Senior Planner
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November 2014

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LIST OF ACRONYMS AND ABBREVIATIONS

BMP	best management practice
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
City	City of San Diego
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
CWC	California Water Code
ESL	Environmentally Sensitive Land
FESA	Federal Endangered Species Act
HCP	Habitat Conservation Plan
LDC	Land Development Code
MBTA	Migratory Bird Treaty Act
MHPA	Multiple Habitat Planning Area
MSCP	Multiple Species Conservation Program
NPPA	Native Plant Protection Act
Porter-Cologne	Porter-Cologne Water Quality Control Act
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SWPPP	Storm Water Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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MANAGEMENT SUMMARY/ABSTRACT

The City of San Diego (City) proposes land use changes to the Mid-City Communities Plan, a General Plan amendment, and rezoning of the Chollas Triangle site. The purpose of this Biological Technical Report is to summarize the findings of a biological resources assessment completed for the approximately 42.85-acre Chollas Triangle Site/Biological Study Area (BSA). The BSA represents the entire 42.85-acre project site, and biological impacts are evaluated for all of the BSA based on the assumption that the total project site could be subject to future projects and development due to the proposed land use changes of the Community Plan, General Plan amendment, and rezoning. Potential for impacts to biological resources is greatest along Chollas Creek, but impacts of potential future projects along the creek are only generally described, because no specific projects or actions are currently proposed. Therefore, such impacts cannot be adequately assessed at this time, and future evaluation will be required.

An assessment of biological resources occurring and potentially occurring within the BSA was conducted on-site by AECOM biologists. The assessment included vegetation mapping, general plant and wildlife surveys, a habitat suitability assessment for special-status plants and wildlife, and a reconnaissance-level assessment for potential jurisdictional waters.

Seven vegetation communities and land cover types were mapped within the BSA: disturbed wetland, Diegan coastal sage scrub, eucalyptus woodland, non-native grassland, disturbed land, ornamental, and urban/developed. Disturbed wetland, Diegan coastal sage scrub, and non-native grassland are considered sensitive per the City's Biology Guidelines (City of San Diego 2012). Potential jurisdictional waters and wetlands occur within and immediately adjacent to Chollas Creek within the BSA. Four special-status plant species—California adolphia (*Adolphia californica*), Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*), San Diego barrel cactus (*Ferocactus viridescens*), and San Diego marsh elder (*Iva hayesiana*)—have low potential to occur within the BSA. Two special-status wildlife species have moderate potential to occur within the BSA: two-striped garter snake (*Thamnophis hammondii*) and Mexican long-tongued bat (*Choeronycteris mexicana*). Five special-status wildlife species have low potential to occur within the BSA: coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo belli pusillus*), orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), and Coronado Island skink (*Plestiodon skiltonianus interparietalis*). No special-status wildlife species were observed during the general biological survey.

Sensitive upland and wetland vegetation communities, jurisdictional waters and wetlands, and special-status plants and wildlife could be directly and/or indirectly impacted by adoption of the proposed land use changes, General Plan amendment, and rezoning. Implementation of avoidance, minimization, and mitigation measures, as discussed in Chapter 5.0, would reduce direct impacts to below a level of significance.

Potential future projects could be inconsistent with the City's Multiple Species Conservation Program (MSCP) if they are not implemented in compliance with policies and guidelines designed to promote the goals and objectives of the MSCP. Chollas Creek is part of the Multiple Habitat Planning Area (MHPA). Various aspects of park space development could conflict with provisions of the MSCP and result in adverse effects adjacent to a portion of the MHPA. These would be potentially significant impacts. However, implementation of measures, as discussed in Chapter 5.0, would reduce impacts to below a level of significance.

CHAPTER 1.0
INTRODUCTION

The City of San Diego (City) proposes land use changes to the Mid-City Communities Plan, and a General Plan amendment and rezoning of the Chollas Triangle site. Modifications of land use designations and the rezone would allow for the development of a mixed-use neighborhood village and implementation of the General Plan City of Villages development strategy, with a maximum of 486 residential units and up to 130,000 square feet of nonresidential uses within the 42.85-acre site.

The purpose of this Biological Resources Technical Report is to summarize the findings of a biological resources assessment completed for the approximately 42.85-acre Chollas Triangle Biological Study Area (BSA), located west of 54th Street in San Diego, California. The BSA corresponds to the Chollas Creek Master Plan area.

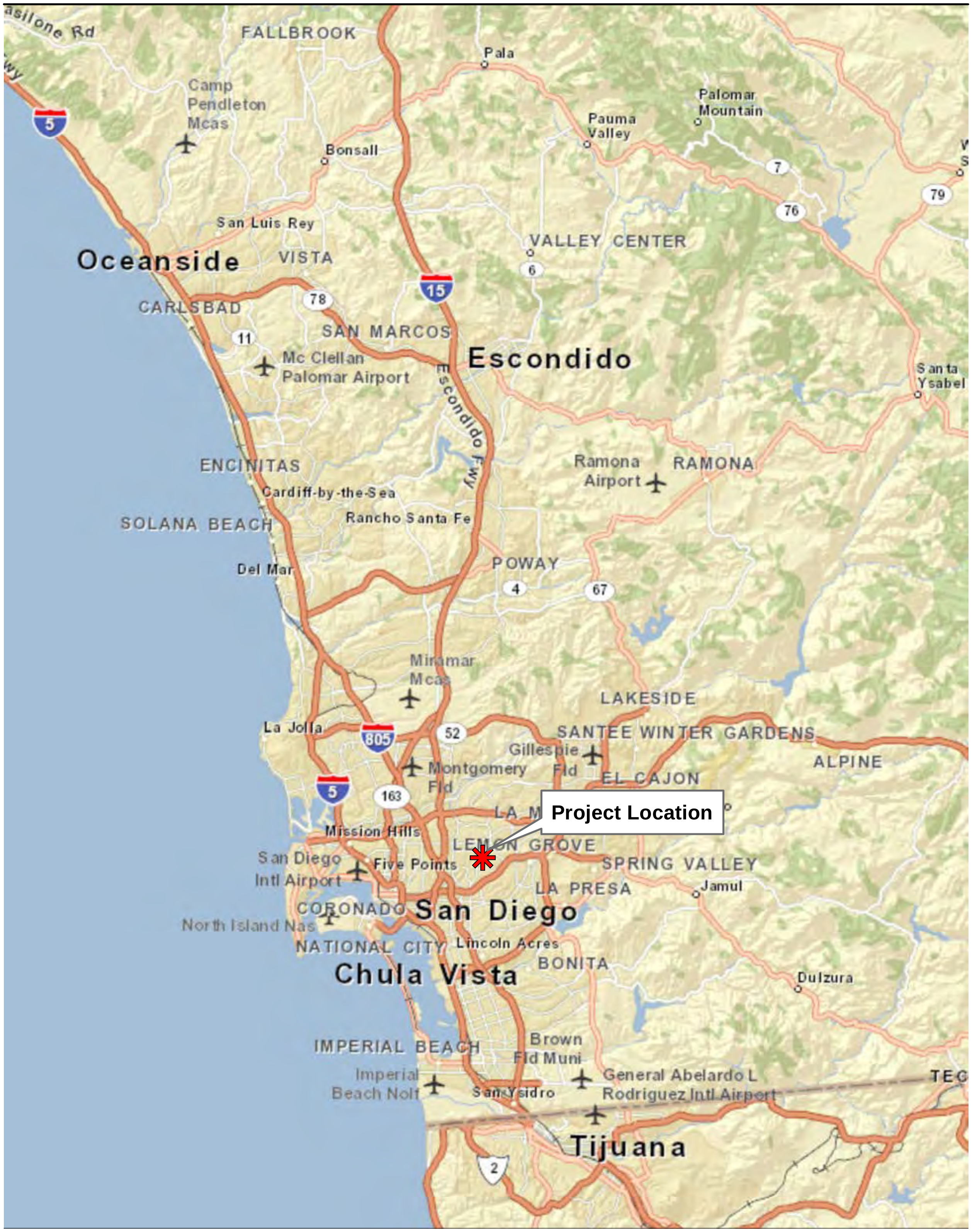
This document describes the existing biological resources located within the BSA, details the methodologies used to assess potential impacts to sensitive habitats and species (assuming the entire site could be affected), provides results of the assessment, and presents mitigation measures to reduce potential impacts.

1.1 PROJECT LOCATION

The BSA is located in the Eastern Area of the Mid-City planning area, within the City of San Diego (Figure 1). The Mid-City Communities Plan is composed of four communities: Normal Heights, Kensington-Talmadge, City Heights, and Eastern Area. The BSA is located in the center of these communities within the Eastern Area, and is adjacent to the City Heights community to the west (Figure 2). The BSA is located within a highly urbanized area, and is generally bounded by 54th Street to the west, University Avenue to the north, and Chollas Creek and Chollas Parkway to the southeast. It is in a San Diego Association of Governments (SANDAG) planned Smart Growth area and San Diego Regional Enterprise Zone.

1.2 PROJECT DESCRIPTION

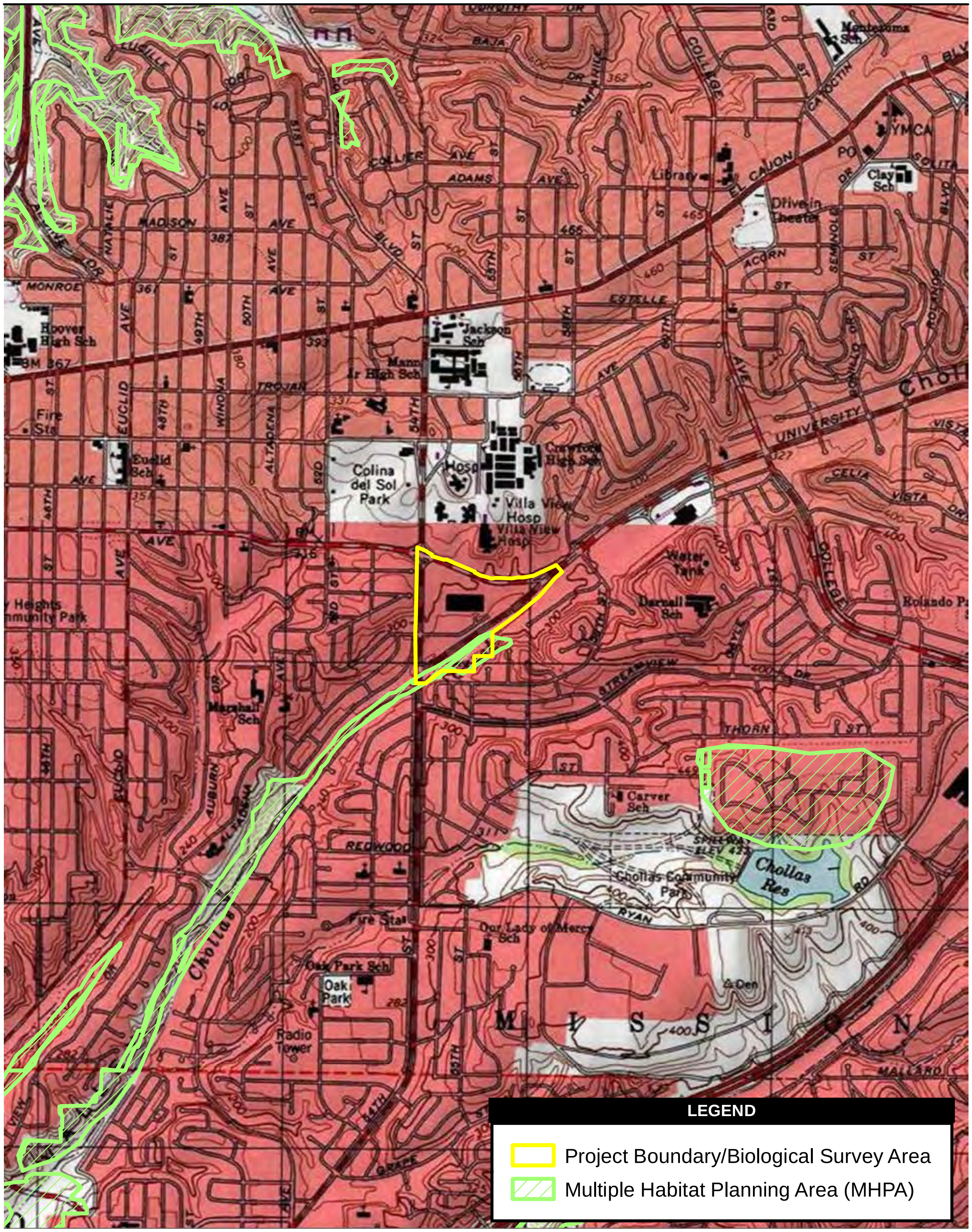
The proposed project is to amend the Mid-City Communities Plan, amend the City of San Diego General Plan, and rezone the Chollas Triangle project area.



Source: ESRI 2014

Scale: 1:506,880; 1 inch = 8 miles

Figure 1
Regional Map



Source: USGS 7.5' Topo Quad La Mesa, CA 1978, National City, CA 1978

2,000 1,000 0 2,000 Feet

Scale: 1:24,000; 1 inch = 2,000 feet

Figure 2
Vicinity Map

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The rezone and land use modifications would allow development of the site as a mixed-use neighborhood village, and would implement the General Plan City of Villages development strategy. At build out, the land use amendments and zone changes would allow for the future development of up to 486 residential units and 130,000 square feet of nonresidential uses on-site. Subsequent development allowed as a result of this rezone and land use amendments would require review and approval by the City to ensure compliance with the amended Mid-City Communities Plan, Chollas Creek Enhancement Program, and Community Plan Implementation Overlay Zone.

The amendment to the Mid-City Communities Plan is to rezone and amend the land use designations of the Chollas Triangle project area as shown in Tables 1 and 2 below. As indicated in Table 1, Zoning Summary, the rezone of the project site will result in approximately 16.91 acres of Commercial Mixed Use (CC-5-3), 1.40 acres of Industrial, 10.49 acres of a new Agricultural-Residential (AR-1-1) zone that allows park and open space uses, and approximately 11.05 acres of Right-of-Way (ROW). The approximately 11.40 acres of Chollas Parkway ROW is being rezoned to AR-1-1 (approximately 10.49 acres) and CC-5-3 (approximately 0.94 acres). In addition, approximately 16.02 acres of Industrial land is being rezoned to CC-5-3. The approximately 3.00 acres of Open Space (OR-1-1) will retain its existing zone.

Table 1
Zoning Summary

Category	Zone	Acres (Existing)	Acres (Proposed)
Community Commercial	CC-5-3	12.00	-
Community Commercial	CC-3-5	-	16.91
Industrial	IL-2-1	17.42	1.40
Open Space	OR-1-1	3.00	3.00
Agricultural-Residential	AR-1-1	-	10.49
Right-of-Way	-	10.43	11.05
Total Area	**Total Area**	**42.85**	**42.85**

As shown in Table 2, Land Use Amendment Summary, the land use amendment to the Mid-City Communities Plan and the Future Recommended Street Network of the General Plan will result in approximately 16.91 acres of a new land use designation of Neighborhood Village, approximately 1.40 acres of industrial, approximately 8.50 acres of Open Space that includes the existing 3.00 acres of Open Space on-site, and a new population-based Park designation of approximately 4.99 acres. The additional Open Space and Park acreage of approximately 10.49 acres would occur from the redesignation of Chollas Parkway ROW, with the remaining approximately 0.91 acres redesignated as Neighborhood Village.

Table 2
Land Use Amendment Summary Zoning Summary

Category	Acres (Existing)	Acres (Proposed)
Neighborhood Village	-	16.91
Commercial Mixed Use	24.46	-
Industrial	4.96	1.40
Open Space	3.00	8.5
Park	-	4.99
Right-of-Way	10.43	11.05
Total Area	**42.85**	**42.85**

The amendments to the land use designations and the rezones would also allow development of multi-family housing in a mixed-use, pedestrian-oriented setting with convenient shopping and services. The redesignation of Chollas Parkway ROW to park and open space uses would enhance public access to Chollas Creek and allow for development of park space that provides a buffer between the open space along the creek and urban development to the north. The park land would be developed as active and passive park spaces to ensure that recreational opportunities are provided that meet the needs of all residents, are compatible with the biological resources within Chollas Creek, and are consistent with the Chollas Creek Enhancement Program. Active park space may include picnic areas, multi-purpose turf areas, walkways, and landscaping.

1.3 PROJECT PURPOSE

The objectives of the rezone and land use modification are as follows:

- Amend the Mid-City Communities Plan to allow the Chollas Triangle site to be developed as a transit-oriented neighborhood village with adequate density to support a neighborhood village concept consistent with the General Plan.
- Create a safe and comfortable neighborhood village that enhances pedestrian connectivity within and to the site from adjacent neighborhoods.
- Create a street network that allows for appropriate land use patterns, connectivity, and mobility.
- Provide a diverse array of attractive and affordable housing types that cater to a full range of households and living styles.

- Create a healthy and sustainable urban environment by allowing a land use mix and density that encourages fewer vehicle trips by locating residences, retail, and employment in proximity to each other.
- Create an expanded transit plaza that connects the Chollas Triangle site to the larger regional system.
- Create a safe, accessible, and attractive park environment along Chollas Creek consistent with the Chollas Creek Enhancement Program.
- Provide a mix of passive and active recreation opportunities that will serve families and residents of different ages and cultures and that is consistent with SANDAG’s regional Comprehensive Plan and Smart Growth Concept Map for the Mid-City Subregion.

1.4 SITE CHARACTERISTICS

The Chollas Triangle site contains approximately 42.85 acres and is currently occupied by approximately 115,000 square feet of retail commercial businesses and 24 multi- and single-family residences. A large Kmart store occupies the center of the site and is the largest use on-site. A San Diego Gas & Electric substation is located south of Lea Street on the southern portion of the site, and three single-family residences are located east of 54th Street and north of Chollas Parkway. A 21-unit apartment complex and a teen challenge center are located east of 54th Street and north of Lea Street. A gas station and restaurant/ballroom are located at the southeast corner of 54th Street and University Avenue. A church, a bookstore, a used car facility, and a liquor store are located at the south of University Avenue and north of Chollas Parkway near the eastern portion of the site. Some undeveloped areas exist north and south of Chollas Parkway, but the majority of the site has impervious surfaces that serve as parking and circulation for the various uses on-site.

Based on the U.S. Geological Survey (USGS) 1996 National City, California, 7.5-minute quadrangle map, the elevation on-site ranges from 320 feet mean sea level on the northern end to approximately 280 feet mean sea level along Chollas Parkway. Drainage in the vicinity of the site is toward the southeast. Chollas Creek is located along the southeastern Chollas Triangle site boundary and runs parallel to Chollas Parkway.

1.5 REGULATORY FRAMEWORK

This section provides a summary of the federal and state environmental regulations that govern the biological resources applicable to the rezone and land use modification. This section also provides a summary of other state and local environmental guidelines or listings that evaluate the rarity of species or the habitats they depend on. The California Environmental Quality Act (CEQA) significance criteria are also included in this section. The descriptions below provide a brief overview of agency regulations that may be applicable to the resources that occur within the Chollas Triangle site, and their respective requirements.

1.5.1 Federal Regulations and Standards

1.5.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (16 United States Code [USC] Sections 1531 et seq.) directs the U.S. Fish and Wildlife Service (USFWS) to identify and protect endangered and threatened species and their critical habitat, and to provide a means to conserve their ecosystems. Section 9 of the FESA makes it unlawful for a person to "take" a listed animal without a permit. "Take" is defined by the FESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct" (16 USC 1532[19]). Through regulations, the term "harm" is interpreted to include actions that modify or degrade habitats to a degree that significantly impairs essential behavioral patterns, including breeding, feeding, or sheltering.

Section 7 of the FESA directs USFWS to use its existing authority to conserve threatened and endangered species and, in consultation with federal agencies, ensure that any action authorized, funded, or carried out by such agency does not jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is a specific geographic area that is essential for the conservation of a threatened or endangered species, and may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but will be needed for its recovery.

Section 7(a)(2) requires federal agencies to consult with USFWS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of a listed species. For those species with critical habitat, federal actions must also ensure that activities do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery.

1.5.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC Sections 703–712) makes it unlawful to take or possess migratory birds, except as permitted by USFWS. The MBTA protects all migratory bird, their eggs, their body parts, or their nests. Essentially all avian species native to the United

States are protected under the provisions of the MBTA; introduced species and nonmigratory upland game birds are not protected by the MBTA. “Take” under the MBTA is defined as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” protected birds (50 Code of Federal Regulations [CFR] 10.12). The current list of species protected by the MBTA includes several hundred species. Nearly all native birds in the San Diego region are considered migratory. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, or protection of human health or safety and personal property.

1.5.1.3 Clean Water Act

Section 404 of the Clean Water Act (CWA) requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) before performing any activity that involves any discharge of dredged or fill material into “waters of the U.S.,” including wetlands. Waters of the U.S. include navigable waters of the U.S., interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries (33 CFR 328.3[a]). Many surface waters and wetlands in California meet the criteria for waters of the U.S. In accordance with Section 401 of the CWA, projects that apply for a USACE permit for discharge of dredged or fill material must obtain a water quality certification from the appropriate Regional Water Quality Control Board (RWQCB), in this case the San Diego RWQCB, indicating that the project will not violate California water quality standards.

1.5.2 State Laws and Regulations

1.5.2.1 California Environmental Quality Act

CEQA (Public Resources Code Section 15000 et seq.) requires identification of significant environmental effects of proposed projects (including impacts on biological resources) and avoidance (where feasible) or mitigation of the significant effects. CEQA applies to projects proposed to be undertaken or requiring approval by state and/or local governmental agencies. “Projects” are activities that have the potential to have a physical impact on the environment.

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely on the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would typically be considered significant. Based on these guidelines, impacts to biological resources would be considered significant if the project would do any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife (CDFW) or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP); Natural Community Conservation Plan; or other approved local, regional, or state HCP.

An evaluation of whether an impact on biological resources would be substantial must consider the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. The evaluation of impacts considers direct impacts, indirect impacts, and cumulative impacts, and whether the impact is permanent or temporary.

1.5.2.2 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code [CFGC] Section 2050 et seq.) prohibits “take” (defined as “to hunt, pursue, catch, capture, or kill”) of state-listed species except as otherwise provided in state law. The CESA, administered by CDFW, is similar to the FESA, although unlike the federal law, the CESA applies incidental take prohibitions to species currently petitioned for state-listing status (i.e., candidate species). State lead agencies are required to consult with CDFW to ensure that their authorized actions are not likely to jeopardize the continued existence of any state-listed species or result in the degradation of occupied habitat.

Under Section 2081 of the CFGC, CDFW authorizes “take” of state-listed endangered, threatened, or candidate species through incidental take permits or memoranda of understanding if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in questions, and (4) the applicant ensures suitable funding to implement the measures required by CDFW.

1.5.2.3 Fully Protected Species

Prior to the development of the FESA and CESA, species were listed as “fully protected” by the State of California. Fully protected species, including fish, amphibians, reptiles, birds, and mammals, were identified to allow for the protection of those animals that were rare or were threatened by potential extinction. The majority of fully protected species have since been listed as threatened or endangered under the CESA and/or FESA. Per CFGC Section 4700, the possession or taking of fully protected species is only allowed as provided in CFGC Section 2081.7 and Section 2835.

1.5.2.4 California Fish and Game Code Section 1602 – Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under CFGC Section 1602. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do any of the following without first notifying CDFW:

- Substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake.
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

CDFW defines “stream” as a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation. CDFW’s jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. In practice, CDFW typically extends its jurisdictional limit to the top of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider. Riparian habitats do not always have identifiable hydric soils or clear evidence of wetland hydrology as defined by USACE. Therefore, CDFW wetland boundaries often include, but extend beyond, USACE wetland boundaries. Jurisdictional boundaries under CFGC Sections 1600–1616 (CDFW's Lake and Streambed Alteration Program) may encompass an area that is greater than that under the jurisdiction of CWA Section 404. Therefore, jurisdictional waters of the state include jurisdictional waters of the U.S.; federal and state jurisdictions do overlap, but remain distinct for regulatory administration and permitting purposes. A CDFW Streambed Alteration Agreement must be obtained for any project that would result in an impact on a river, stream, or lake.

1.5.2.5 California Fish and Game Code Sections 3503 and 3503.5 – Protection of Birds, Nests, and Raptors

CFGC Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby construction. This statute does not provide for the issuance of any type of incidental take permit.

1.5.2.6 California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (CFGC Sections 1900–1913) directed CDFW to carry out the legislature's intent to "preserve, protect, and enhance rare and endangered plants in this State." The Native Plant Protection Act gave CDFW the power to designate native plants as "endangered" or "rare," and to protect endangered and rare plants from take.

1.5.2.7 Porter-Cologne Water Quality Control Act – California Water Code Section 13000 et seq.

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne), waters of the state fall under the jurisdiction of the appropriate RWQCB. The RWQCB must prepare and periodically update water quality control plans (basin plans). Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters of the state may require waste discharge requirements from the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

1.5.2.8 Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under Porter-Cologne and the federal CWA. The RWQCB's jurisdiction extends to all waters of the state and to all waters of the U.S., including wetlands (isolated and non-isolated conditions).

Through 401 Certification, Section 401 of the CWA allows the RWQCB to regulate any proposed federally permitted activity that may affect water quality. Such activities include the discharge of dredged or fill material, as permitted by USACE, pursuant to Section 404 of the CWA. The RWQCB is required to provide "certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards" pursuant to Section 401. Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards.

In addition, pursuant to Porter-Cologne, the RWQCB is authorized to regulate any activity that would result in discharges of waste or fill material into waters of the state, including "isolated" waters and/or wetlands (e.g., vernal pools and seeps), saline waters, and groundwater within the boundaries of the state (California Water Code [CWC] Section 13050[e]). Porter-Cologne authorizes the State Water Resources Control Board to adopt, review, and revise policies for all waters of the state, and directs the RWQCB to develop and implement regional basin plans that recognize and are designed to maintain the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region (CWC Section 13050[j]). As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if a Section 404 does not apply. "Waste" is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

1.5.3 Local Plans and Policies

1.5.3.1 Multiple Species Conservation Plans

The City's Multiple Species Conservation Program (MSCP) is a regional, multi-jurisdictional plan that provides a coordinated program issuing "take" authorization for covered species for projects that comply with the MSCP. The MSCP provides for preserving a network of habitat and open space, protecting biodiversity, and enhancing the region's quality of life. The MSCP also provides an economic benefit by reducing constraints on future development and decreasing the costs of compliance with federal and state laws protecting biological resources. The MSCP was developed cooperatively by participating jurisdictions and special districts in partnership with the wildlife agencies, property owners, and representatives of the development industry and environmental groups. The MSCP was designed to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. By identifying priority areas for conservation and other areas for future development, the MSCP streamlines existing permit procedures for development projects that impact habitat.

The ultimate goal of the MSCP is to create a regional habitat preserve system within the Multiple Habitat Planning Area (MHPA) while allowing development projects to occur. The MSCP provides for a streamlined development review system that avoids the traditional project-by-project review by regulatory agencies.

The City’s MSCP Subarea Plan (City of San Diego 1997a) was prepared pursuant to the general outline developed by USFWS and CDFW to meet the requirements of the California Natural Communities Conservation Planning Act of 1992. The Subarea Plan forms the basis for the implementing agreement, which is the contract between the City and the wildlife agencies that ensures implementation of the Subarea Plan and thereby allows the City to issue take permits at the local level (City of San Diego 1997b).

As described in the City’s Land Development Code (LDC) Biology Guidelines (City of San Diego 2012), Environmentally Sensitive Lands (ESLs) regulations have been established to ensure protection of resources consistent with CEQA and the City’s MSCP. ESLs include lands within the MHPA, wetlands, sensitive vegetation communities, habitat for listed species, lands supporting narrow endemics, and steep slopes. The regulations encourage avoidance and minimization of impacts to ESLs. Biology guidelines have been established that define the survey and impact assessment methodologies and mitigation requirements for unavoidable impacts (City of San Diego 2012).

Sensitive biological resources are defined by the San Diego Municipal Code as any of the following:

- Lands that have been included in the MHPA as identified in the City’s MSCP Subarea Plan
- Wetlands (as defined by the Municipal Code, Section 113.0103)
- Lands outside of the MHPA that contain Tier I habitats, Tier II habitats, Tier IIIA habitats, or Tier IIIB habitats as identified in the Biology Guidelines of the LDC

- Lands supporting species or subspecies listed as rare, endangered, or threatened
- Lands containing habitats with narrow endemic species as listed in the Biology Guidelines of the LDC
- Lands containing habitats of covered species as listed in the Biology Guidelines of the LDC

1.5.3.2 Chollas Creek Enhancement Program Consistency

The Chollas Creek Enhancement Program (City of San Diego 2002) provides a community vision, existing City policy context, design/development guidelines, and an implementation strategy for improving the Chollas Creek drainage system as a community amenity. The Chollas Creek Enhancement Program also summarizes all recommendations regarding Chollas Creek that were identified in the Mid-City Communities Plan. The Chollas Creek Enhancement Program was created to maintain natural areas of the creek in an undisturbed fashion; promote cohesive new development that integrates buildings, open space, and the creek into successful and usable areas for the community; and restore channelized creeks in urbanized areas to more natural and safe (with adequate flood protection and enhanced personal safety) conditions.

CHAPTER 2.0
METHODS AND LIMITATIONS

2.1 BIOLOGICAL STUDY AREA

The BSA for the project primarily includes urban development, including residential developments, shopping centers, and light industrial. However, the southern portion of the BSA contains a segment of Chollas Creek. The northern boundary of the BSA extends slightly beyond University Avenue. The eastern extent is bordered by University Avenue and Chollas Parkway. The southern extent of the BSA is bordered by Chollas Parkway and Chollas Creek, and the western extent of the BSA is bordered by 54th Avenue. The BSA occurs within the City's MSCP Subarea Plan (City of San Diego 1997a).

2.2 BIOLOGICAL ASSESSMENT, DATA SOURCES, AND LIMITATIONS

2.2.1 Biological Assessment and Data Sources

An assessment of biological resources occurring and potentially occurring within the BSA was conducted on-site by AECOM biologists Brynne Mulrooney, Reynaldo Pellos, and Lance Woolley on February 4, 2014. The biological field survey was conducted between 9 a.m. and 2 p.m. under mostly cloudy skies, light winds, and a temperature of 60 degrees Fahrenheit. The assessment included vegetation mapping, general plant and wildlife surveys, a habitat suitability assessment for special-status plants and wildlife, and a reconnaissance-level assessment for potential jurisdictional waters throughout the BSA. Prior to initiating floral and wildlife surveys, AECOM biologists consulted the CDFW California Natural Diversity Database (CNDDB) (RareFind Version 3.1.0) (CDFW 2014), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants (CNPS 2014), and the Natural Resources Conservation Service's Web Soil Survey (USDA 1973) to assess the potential for special-status plant and wildlife species to occur within the BSA.

For the purposes of this report, species are considered to have special status if they meet at least one of the following criteria:

- Covered under the FESA or CESA (CDFW 2014)
- CDFW Species of Special Concern (CDFW 2014)
- CDFW Fully Protected Species (CDFW 2014)
- Listed as sensitive by CNPS (2014)
- Covered under the City's MSCP (City of San Diego 1997a)

2.2.2 Survey Limitations

This report was prepared pursuant to the 2012 City of San Diego LDC Biology Guidelines, including Appendix II, Guidelines for Conducting Biological Surveys. The biological field survey was conducted to provide a baseline assessment of the existing site conditions. Survey limitations included the seasonal variability of having conducted only one late winter survey, the absence of focused/protocol-level surveys, and the lack of a formal wetland delineation. Surveys conducted in late winter do not capture all of the breeding bird species with potential to occur in the BSA, or annual plant species that bloom in the spring and summer. Focused/protocol level surveys would document the presence or absence of special-status species that may not be detected otherwise. A formal wetland delineation would accurately define the limits of wetland and waters jurisdiction and confirm the presence of potential wetlands and waters in the BSA.

2.2.3 Vegetation Mapping

Vegetation mapping was conducted by walking meandering transects within the BSA and mapping from selected vantage points that allowed an expansive view of the BSA. Digital mapping tools capable of displaying aerial ortho-photographs were used to create vegetation polygons.

Vegetation communities were classified in accordance with the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008), based on the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). Upland vegetation communities were mapped to a 1.0-acre-minimum mapping unit, and wetland vegetation communities were mapped to a 0.5-acre-minimum mapping unit. Rare plants observed were documented during vegetation mapping.

2.2.4 Assessment of Potential Jurisdictional Waters

An assessment of jurisdictional wetlands and waters potentially under the jurisdiction of USACE, CDFW, RWQCB, and the California Coastal Commission was performed within the BSA. The jurisdictional assessment consisted of an informal field assessment of the BSA to identify the presence and/or absence of potential jurisdictional waters of the U.S. and state.

Potential jurisdictional waters of the U.S. and state are classified by wetland habitat and other waters of the U.S. (in the form of wetlands or nonwetland waters/ordinary high water mark). Vegetation is classified by habitat type using the San Diego Regional Holland Code Classification System (Holland 1986) as modified by Oberbauer (Oberbauer et al. 2008) and the

Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979) to describe riparian and wetland (e.g., hydrophytic) vegetation communities occurring within the BSA.

2.2.5 Special-Status Plant Surveys

No focused special-status plant surveys were conducted within the BSA. A habitat assessment for potentially occurring special-status plants and a general plant survey were conducted. The habitat assessment included all accessible locations within the BSA where potentially suitable habitats for sensitive plant species were present. Suitable habitats were determined based on geography, slope, aspect, soil substrate, vegetation community, associated plant species, and familiarity with each species based on reference populations.

A list of potentially occurring sensitive plant species was compiled through searches of the CDFW CNDDB (CDFW 2014), Jepson Online Interchange (2014), and the San Diego Natural History Museum plant atlas database (SDNHM 2014).

2.2.6 Special-Status Wildlife Surveys

No focused special-status wildlife surveys were conducted within the BSA. A habitat assessment for potentially occurring sensitive wildlife species and a general wildlife survey were conducted. The habitat assessment included all accessible locations within the BSA where potentially suitable habitats for sensitive wildlife species were present. Suitable habitats were determined based on geography, slope, aspect, soil substrate, vegetation community, associated plant species, and familiarity with each wildlife species.

A list of potentially occurring sensitive wildlife species was compiled through searches of the CDFW CNDDB (CDFW 2014).

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CHAPTER 3.0
EXISTING CONDITIONS

This section describes the existing environmental setting of the BSA, including the vegetation communities, plant species, wildlife species, rare and sensitive plant and wildlife species either known from or potentially occurring in the BSA, jurisdictional waters, and wildlife corridors. The information provided in the following sections is based on results of the AECOM habitat assessment conducted in 2014, review of existing studies, and literature research. Detailed information relevant to each section is provided as an appendix, where appropriate.

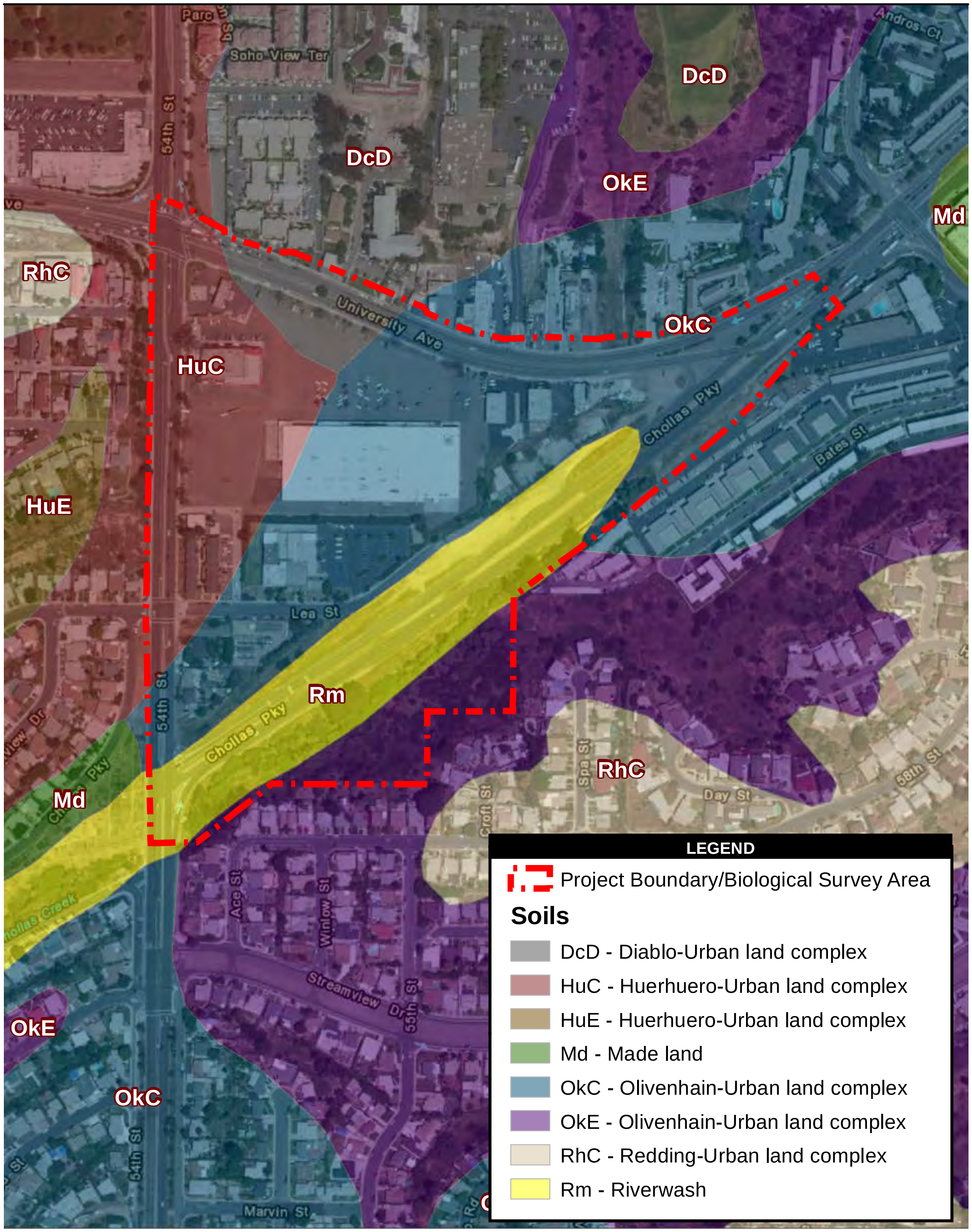
3.1 TOPOGRAPHY AND SOILS

Soils within the BSA were mapped using the Natural Resources Conservation Service Web Soil Survey. The approximately 42.85-acre BSA is located within the coastal plain of the Peninsular Ranges Geographic Province and found on the USGS National City Quadrangle 7.5-minute series topographic map. This province is characterized by a flat coastal plain with steep-sloped hills and a series of northwest-to-southwest-trending elongated mountain ranges dissected by faults and separated from one another by alluvial valleys. The coastal plain consists of marine and non-marine terraces dissected by coastal lagoons. The BSA is largely developed with naturally vegetated areas occurring along the periphery in some areas.

Soil series and their respective phases occurring within the BSA were mapped as shown in Figure 3, and are listed in Table 3. Soils found within the BSA that are listed on the National List of Hydric Soils (NRCS 2014) are also identified in Table 3. Hydric soils are defined as "a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (NRCS 2014).

Table 3
Soil Series Occurring within the BSA

Soil Series/Land Types	Soil Phase/Soil Land Type/ Soil Map Unit Name	Acres
Nonhydric Soil/Land Types		**34.1**
Diablo-Urban Land Complex	5 to 15% slopes	2.32
Huerhuero-Urban Land Complex	2 to 9% slopes	9.23
Made Land	soil land type	<0.004
Olivenhain-Urban Land Complex	2 to 9% slopes	19.59
Olivenhain-Urban Land Complex	9 to 30% slopes	2.96
Hydric Soil/Land Types		**8.75**
Riverwash	soil land type	8.75
Total		**42.85**



Source: FEMA 2007

500 250 0 500 Feet

Scale: 1:6,000; 1 inch = 500 feet

Figure 3
Soils

3.2 VEGETATION COMMUNITIES

The City's LDC Biology Guidelines (City of San Diego 2012) categorize vegetation communities in "tier" levels to represent the sensitivity of these communities. Tier I (rare uplands) categories contain the most sensitive vegetation communities, Tier II communities consist of uncommon uplands, Tier III communities consist of common uplands, and Tier IV communities are considered other uplands. Tier IV sensitivity is minimal, containing vegetation communities that are non-native, such as eucalyptus woodland. The relative sensitivity of different habitats, including wetlands, is also recognized in the City's LDC Biology Guidelines by the mitigation ratio required to compensate for habitat losses. The BSA is characterized and dominated by urban/developed land (Tier IV) and disturbed land (Tier IV). Other vegetation communities on-site that were observed less frequently are Diegan coastal sage scrub (Tier II), disturbed wetland (wetland community), non-native grassland (Tier IIIB), ornamental vegetation (Tier IV), and eucalyptus woodland (Tier IV). Each of the vegetation communities is listed in Table 4, depicted in Figures 4a and 4b, and described below. The slope, aspect, and elevations on-site are described within each vegetation community.

Table 4
Vegetation Communities and Land Cover Types Occurring within the BSA

Vegetation Communities and Land Cover Types	MSCP Tier Level	Total BSA (acres)
Riparian and Wetlands		**3.18**
Disturbed Wetland	Wetland	3.18
Uplands		**1.86**
Diegan Coastal Sage Scrub	II	1.54
Eucalyptus Woodland	IV	0.15
Non-Native Grassland	IIIB	0.17
Other Cover Types		**37.81**
Disturbed Land	IV	6.72
Ornamental	IV	0.61
Urban/Developed	N/A	30.48
Total		**42.85**

BSA = Biological Study Area; MSCP = Multiple Species Conservation Program;
N/A = not applicable

3.2.1 Riparian and Wetlands

The disturbed wetland vegetation community within the BSA is considered a wetland vegetation community based on the City's LDC Biology Guidelines (City of San Diego 2012). All riparian and wetland habitats are considered sensitive due to extensive historic losses of wetlands nationwide and the value of these habitats for sensitive species and wildlife movement. Riparian areas usually harbor greater wildlife diversity and abundance than upland areas, and frequently serve as wildlife corridors due to their linear nature and the cover they provide.

3.2.1.1 Disturbed Wetland (Wetland Community; Holland Code 11200)

The disturbed wetland community is associated with Chollas Creek along the southeastern edge of the BSA (Figures 4a and 4b). The disturbed wetland slopes gently to the southwest and varies in elevation from 275 to 230 feet. This area is a densely vegetated riparian thicket dominated by non-native, invasive species. Plant species within this community include Canary Island date palm (*Phoenix canariensis*), Brazilian pepper tree (*Schinus terebinthifolius*), castor bean (*Ricinus communis*), and Mexican fan palm (*Washingtonia robusta*). The few native plant species within this community (relative to the dominant non-native community structure) are Goodding's black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), and mule-fat (*Baccharis salicifolia*). Approximately 3.18 acres of disturbed wetland occurs within the BSA.

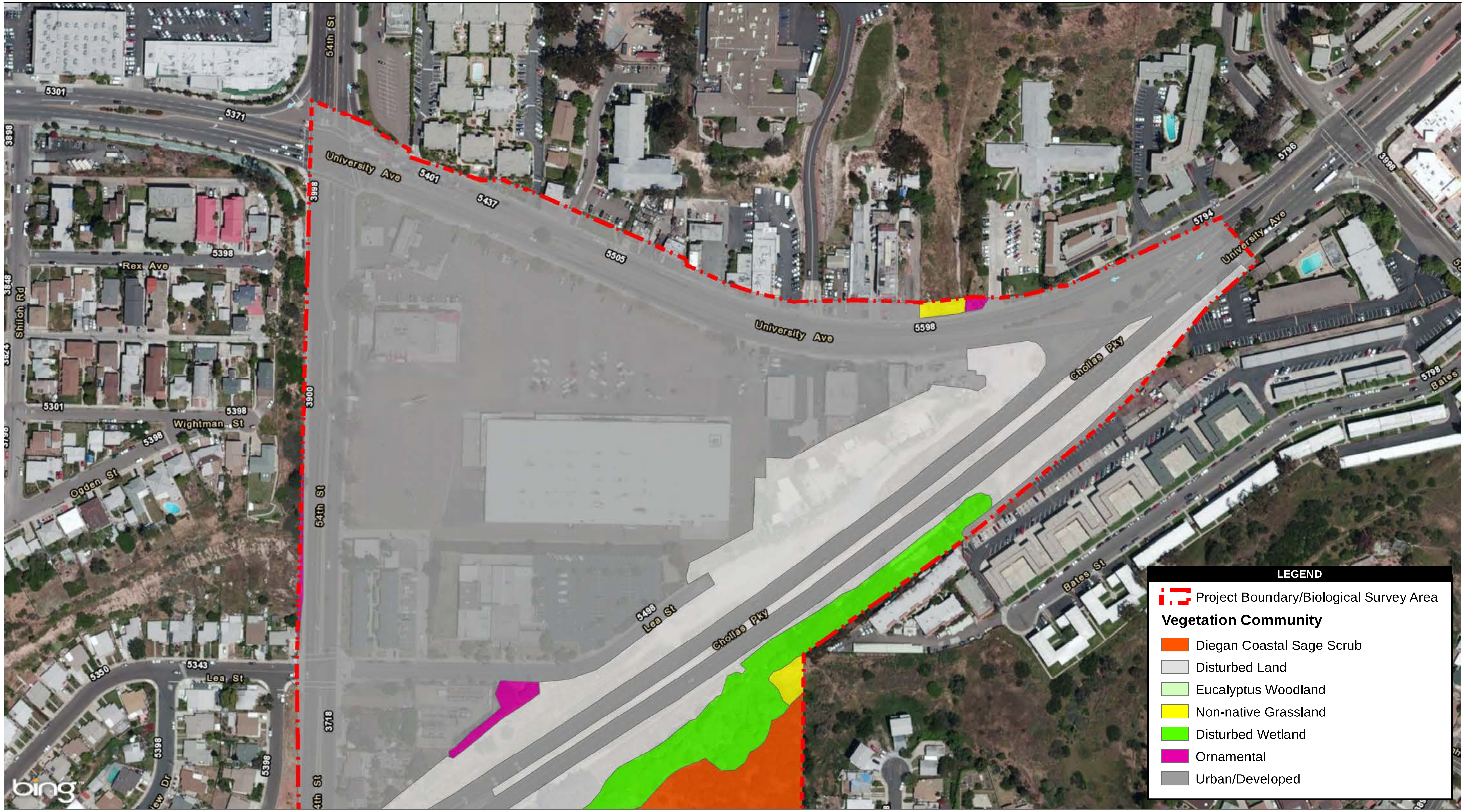
3.2.2 Uplands

Many upland vegetation communities are considered sensitive because they provide valuable nesting, breeding, and/or foraging habitat for special-status wildlife species. In addition, some upland vegetation communities such as coastal sage scrub are rapidly in decline due to development. Unlike riparian corridors, which are linear (in association with riverine systems), upland habitats typically form a large matrix and provide a broad variety of species structure and composition. Dense sage scrub vegetation or dense-canopied woodlands provide useful habitat and movement corridors for wildlife. Diegan coastal sage scrub and non-native grassland are considered sensitive based on the City's LDC Biology Guidelines (City of San Diego 2012).

3.2.2.1 Diegan Coastal Sage Scrub (Tier II; Holland Code 32510)

Diegan coastal sage scrub occurs on a north-facing, 10% slope at approximately 315 feet in elevation along the southeastern edge of the BSA (Figure 4b). It is upslope from the disturbed wetland community along Chollas Creek and is heavily dominated by lemonade-berry (*Rhus integrifolia*). Other species present include California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), San Diego morning glory (*Calystegia macrostegia*), and coyote brush (*Baccharis sarathroides*).

Approximately 1.54 acres of Diegan coastal sage scrub occurs within the BSA.



Source: ESRI 2014, Microsoft 2010

200 100 0 200 Feet

Scale: 1:2,400; 1 inch = 200 feet

Figure 4a

Vegetation Communities - North

Mid-City Communities Plan Amendment – Chollas Triangle Biological Technical Report

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Source: ESRI 2014, Microsoft 2010

Figure 4b
Vegetation Communities - South

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3.2.2.2 Non-Native Grassland (Tier IIIB; Holland Code 42200)

Non-native grassland occurs in two small patches within the BSA (Figures 4a and 4b): along the northeastern border on a south-facing slope of approximately 5% and an elevation of approximately 300 feet, and along the southeastern border on a gentle north-facing slope at approximately 290 feet in elevation. Both of these areas are heavily invaded with non-native grasses, with little to no native species cover. Common plants present in these areas include ripgut grass (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), soft chess (*Bromus hordeaceus*), crown daisy (*Glebionis coronaria*), and long-beak filaree (*Erodium botrys*). Approximately 0.17 acre of non-native grassland occurs within the BSA.

3.2.2.3 Eucalyptus Woodland (Tier IV; Holland Code 79100)

Eucalyptus woodland occurs in one small patch in the southwestern portion of the BSA on a south-facing 5% slope at approximately 300 feet in elevation (Figure 4b). The eucalyptus woodland consists of a thick stand of ironbark (*Eucalyptus cyderoxylon*) and sugar gum (*Eucalyptus cladocalyx*) with little to no understory. Approximately 0.15 acre of eucalyptus woodland occurs within the BSA.

3.2.3 Other Land Cover Types

Other land cover types are communities characterized by predominantly non-native species introduced and established through human action, or by permanent or semi-permanent structures, pavement, or hardscape. These areas have been physically disturbed and are no longer recognizable as a native or naturalized vegetation community.

3.2.3.1 Disturbed Land (Tier IV; Holland Code 11300)

Disturbed land consists mainly of non-native species and/or barren land, and is repeatedly exposed to human activities. Disturbed land occurs throughout the BSA adjacent to paved roads and shopping centers (Figures 4a and 4b). Characteristic species include ripgut grass, red brome, African fountain grass (*Pennisetum setaceum*), tocalote (*Centaurea melitensis*), Australian saltbush (*Atriplex semibaccata*), and cheeseweed (*Malva parviflora*). Approximately 6.72 acres of disturbed land occurs within the BSA.

3.2.3.2 Ornamental (Tier IV; Holland Code 11000)

Ornamental plantings occur throughout the BSA adjacent to shopping centers and residential areas (Figures 4a and 4b). Characteristic species include Brazilian pepper tree, Canary Island date palm, cape plumbago (*Plumbago auriculata*), lantana (*Lantana camara*), Canary Island aeonium (*Aeonium arboretum*), and Hawaii myoporum (*Myoporum sandwicense*). Approximately 0.61 acre of ornamental plantings occurs within the BSA.

3.2.3.3 Urban/Developed (Holland Code 12000)

Urban/Developed land occurs throughout the BSA (Figures 4a and 4b). The urban/developed areas consist of shopping centers, residential areas, and paved roads and parking lots. Approximately 30.48 acres of urban/developed land occurs within the BSA.

3.3 JURISDICTIONAL WATERS AND WETLANDS

The USACE Wetlands Delineation Manual (Environmental Laboratory 1987) (1987 Manual) and Arid West Supplement (Environmental Laboratory 2008) (2008 Supplement) were used to evaluate jurisdictional waters and wetlands within the BSA. The 1987 Manual and 2008 Supplement provide technical guidelines and methods for a three-parameter approach to determining the existence and boundaries of federal jurisdictional wetlands. This approach requires that an area support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a federal jurisdictional wetland. Areas not considered a wetland but that have a defined bed and bank with an ordinary high water mark and have connectivity with a traditionally navigable water are considered nonwetland waters of the U.S. as defined by 33 CFR 328.3(e).

A formal wetland delineation was not completed for this rezone and land use modification[1]; however, a field reconnaissance-level jurisdictional assessment was conducted of the BSA to determine the jurisdictional limits for waters of the U.S. and state. In addition to the field reconnaissance-level survey, the following sources were used to define the limits of waters of the U.S. and state: the National Hydrography Dataset (USGS 2014), U.S. Department of Agriculture national agriculture imagery aerial maps of the BSA (USDA 2012), and the National Wetlands Inventory wetlands mapper (USFWS 2014). A total of 3.98 acres of jurisdictional waters and wetlands occurs within the BSA. Of these acres, 1.05 acres is considered waters of the U.S. and state under the regulatory purview of USACE, RWQCB, CDFW, and the City. The remaining 2.93 acres is nonwetland riparian habitat and considered waters of the state regulated by CDFW and the City. As defined by CWC Section 13050(e), waters of the state under the purview of the RWQCB require the presence of surface water or groundwater. The 2.93 acres of riparian habitat does have surface water or groundwater.

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[1] If impacts to waters of the U.S. and state are proposed, a formal delineation would be required to formally define jurisdictional limits of waters of the U.S. and to determine accurate impact calculations.

Total jurisdictional waters are listed in Table 5 by habitat type, according to Holland (1986), Oberbauer et al. (2008), and the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). Waters of the U.S. include open water (64100) and concrete channel (12000) within the confines of the channel of Chollas Creek. Waters of the state are composed of disturbed wetland (11200), eucalyptus woodland (79100), and ornamental (11000) types. Jurisdictional areas are depicted in Figures 5a and 5b.

Wetlands are considered sensitive biological resources under the ESL Regulations and are regulated by the City. The San Diego LDC Biology Guidelines (City of San Diego 2012) provide the following guidance for defining wetlands regulated by the City:

1. Wetland Vegetation Communities: Naturally occurring wetland vegetation communities (as described by Holland [1986], revised Holland [Oberbauer et al. 2008], Cowardin et al. [1979], Sawyer et al. [2007], and/or Zedler [1987]) characteristically dominated by hydrophytic vegetation. Wetland vegetation communities include salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools.
2. Presence of Hydric Soils or Wetland Hydrology: Areas lacking naturally occurring wetland vegetation communities due to human activities and/or disturbance, or catastrophic or recurring natural events, are considered wetlands if hydric soils or wetland hydrology is present.
3. Historic Wetlands that have been Filled without Permits: Areas lacking wetland vegetation communities, hydric soils, and wetland hydrology due to non-permitted filling of previously existing wetlands are considered a wetland.
4. Previously Mapped Wetlands: Areas previously mapped as wetlands (labeled Map No. C-713 and C-740, available for viewing at the City’s Development Services Department).

The purpose of the City’s definition of wetlands is to determine and differentiate upland communities from wetland communities. Additionally, this wetland definition allows for clarification between naturally occurring wetlands and wetland areas created by human activities. Artificially created wetlands in historically nonwetland areas are not regulated by the City unless they have been delineated as wetlands by USACE and/or CDFW (City of San Diego 2012). Based on the City’s definition of wetlands, potential City wetlands occur within the BSA, as surveyed during the reconnaissance-level jurisdictional assessment.

Table 5
Potential Waters of the U.S. and State Occurring within the BSA

Type of Jurisdictional Waters of the U.S. and State	Type of Habitat (Holland 1986; Oberbauer et al. 2008)	Type of Habitat (Cowardin et al. 1979)	Area of Aquatic Resource (acres)
Jurisdictional Waters of the U.S. (USACE, RWQCB, CDFW, and City of San Diego)			
Other Waters	Open Water (64100)	Riverine; Intermittent; Streambed; Cobble-gravel	0.91
Other Waters	Concrete Channel (12000)	Riverine; Intermittent; Artificially Concrete-lined; Fresh	0.14
Subtotal Jurisdictional Waters of the U.S.			*1.05*
Jurisdictional Waters of the State (CDFW and City of San Diego)			
Nonwetland Riparian	Disturbed Wetland (11200)	Palustrine; Forested Broad-leaved, Deciduous, Seasonally Flooded, Fresh	2.42
Nonwetland Riparian	Ornamental (11000)	Palustrine; Forested Broad-leaved, Deciduous, Seasonally Flooded, Fresh	0.36
Nonwetland Riparian	Eucalyptus Woodland (79100)	Palustrine; Forested Broad-leaved, Deciduous, Seasonally Flooded, Fresh	0.15
Subtotal Jurisdictional Waters of the State			*2.93*
Grand Total Jurisdictional Waters			**3.98**

CDFW = California Department of Fish and Wildlife; MHPA = Multiple Habitat Planning Area; RWQCB = Regional Water Quality Control Board; USACE = U.S. Army Corps of Engineers

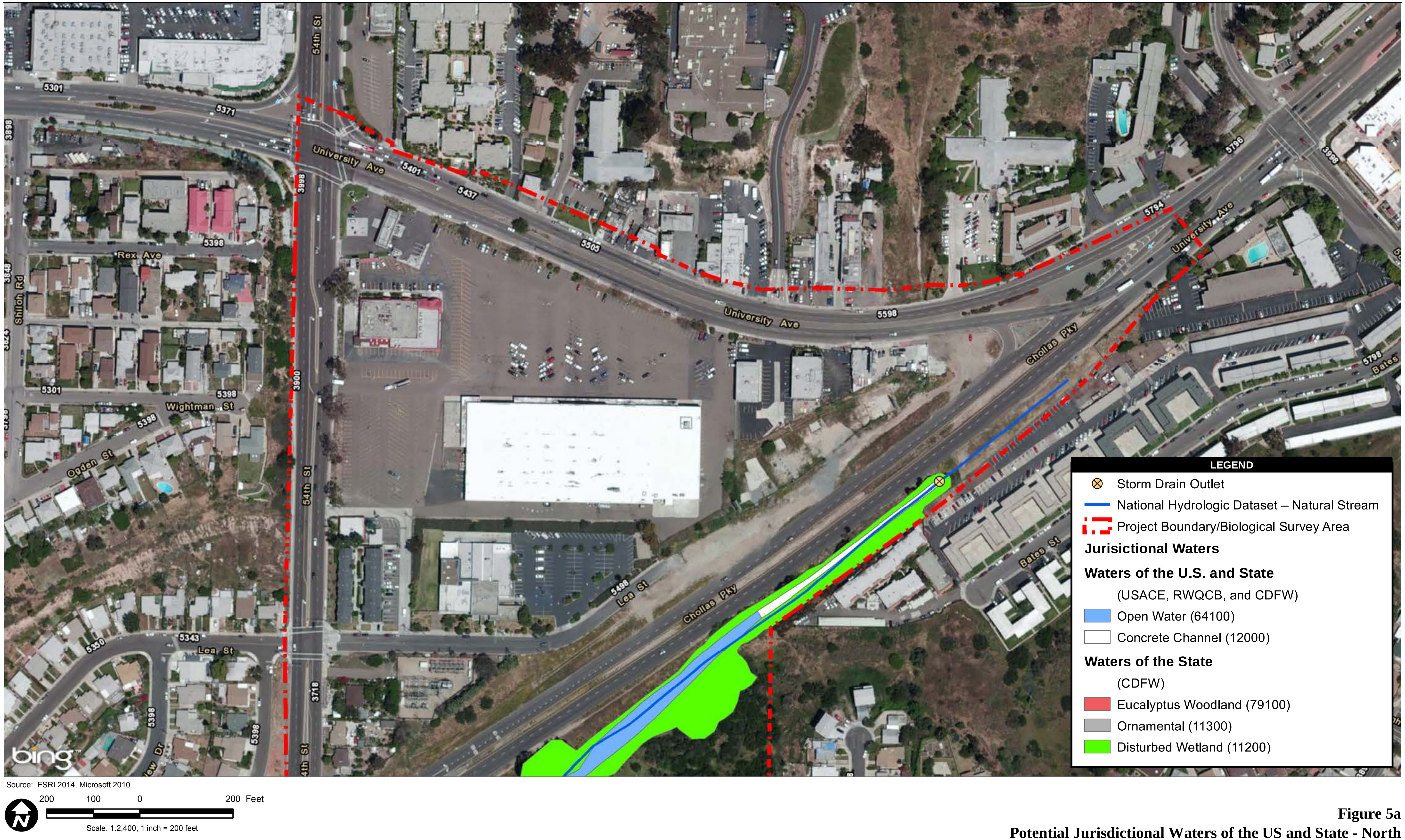
3.4 BOTANICAL RESOURCES

During the general biological survey conducted within the BSA, 100 plant species were observed; of these, 61 are non-native (Appendix A). The species detected are representative of the vegetation communities located within the BSA.

3.5 ZOOLOGICAL RESOURCES

Suitable breeding and foraging habitat for wildlife occurs within the disturbed wetland, Diegan coastal sage scrub, and non-native grassland vegetation communities. Suitable nesting habitat for raptors and other birds occurs within the eucalyptus woodland vegetation community. Although residential and industrial development occurs on surrounding parcels, the southern portion of the property along Chollas Creek serves as a local linkage for wildlife.

A total of 14 species of birds, and the sign of one mammal, were observed during the general biological survey conducted within the BSA (Appendix B). Native fish were not observed and are not anticipated to occur in Chollas Creek due to the dry and stagnant conditions of the creek. These wildlife species observed reflect an assemblage of typical species encountered in native



Source: ESRI 2014, Microsoft 2010

Figure 5a

Potential Jurisdictional Waters of the US and State - North

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Source: ESRI 2014, Microsoft 2010

200 100 0 200 Feet

Scale: 1:2,400; 1 inch = 200 feet

Figure 5b
Potential Jurisdictional Waters of the US and State - South

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habitats within disturbed and urban areas. Sensitive wildlife observed or with the potential to occur within the BSA is discussed in Section 3.6.

3.6 RARE, THREATENED, ENDANGERED, NARROW ENDEMIC, SENSITIVE, AND MSCP SPECIES

Special-status species are plant and animal species that have been afforded special recognition by federal, state, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under the CESA or FESA
- Protected under other regulations (e.g., MBTA)
- CDFW Species of Special Concern
- Listed as a species of concern by CNPS or USFWS
- Receive consideration during environmental review under CEQA
- Covered under the MSCP

Prior to conducting biological surveys within the BSA, a search of the CNDDB and CNPS databases was conducted for the National City quadrangle and surrounding eight quadrangles (El Cajon, Imperial Beach, La Mesa, Otay Mesa, Jamul Mountains, Point Loma, Poway, and San Vicente Reservoir). The results of the data query and review of adjacent data were then refined through site visits involving habitat assessments for these species. The following criteria were used to determine the potential for occurrence for each special-status species evaluated:

- Present: Species is known to occur based on CNDDB or other records, and/or was observed on-site during the site survey.

- High potential: Species is known to occur near the site (based on CNDDB or other records within the nine-quad search of the site or based on professional expertise specific to the site or species), and there is highly suitable habitat on-site. A plant species is likely to be found if rare plant surveys are performed during the spring or fall flowering season, depending on the species. A wildlife species is likely to be detected during focused surveys during the breeding season.

- Moderate potential: Species is known to occur in the vicinity of the site, but there is marginal habitat on the site. A focused survey would need to be performed to confirm presence or absence.

- Low potential: Species is not known to occur on or in the vicinity of the site, and there is poor-quality habitat for the species within the site.
- Unlikely: Species is outside of its elevational or habitat range, so potential for occurrence is extremely low.

The vegetation communities present within the BSA have the potential to provide habitat for four special-status plant species and seven special-status wildlife species.

3.6.1 Special-Status Plant Species

Based on searches of the CNDDB and Jepson Online Interchange, 40 special-status plant species have been documented within the nine-quadrangle Chollas Triangle vicinity (Table 6). Of these 40 special-status plant species, four were determined to have low potential to occur in the BSA based on habitat conditions and regional location: California adolphia (*Adolphia californica*), Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*), San Diego barrel cactus (*Ferocactus viridescens*), and San Diego marsh elder (*Iva hayesiana*).

3.6.1.1 Federally and State-Listed Plant Species

There were no federally listed or state-listed plant species detected, or determined to have high potential to occur, within the BSA.

3.6.1.2 Other Special-Status Plant Species

Four special-status plant species have a low potential to occur within the BSA and are also discussed below. No MSCP Narrow Endemic species have the potential to occur within the BSA.

San Diego Barrel Cactus

San Diego barrel cactus ranges from coastal Southern California south to Baja California, Mexico. Hillsides of Diegan coastal sage scrub, often at the crest of slopes and growing in cobbles, is optimal habitat for this species. This species occasionally is found on the periphery of vernal pools and mima mound topography. Many small and mid-sized populations are routinely being impacted by grading for urban development (Reiser 2001). The Diegan coastal sage scrub habitat within the BSA is highly disturbed and not likely to support populations of San Diego barrel cactus. This species is visible year-round and, if present within the BSA, would have been detected during the habitat assessment.

Table 6
Special-Status Plant Species with Potential to Occur within the Chollas Triangle BSA

Common Name ***Scientific Name***	**Sensitivity Status**[1]	**Habitat Requirements**[2]	**Microhabitat Description**[3]	**Detected or Not Detected (ND)**	**Probability of Occurrence**
Plants					
San Diego thorn-mint *Acanthomintha ilicifolia*	Federal: Threatened State: Endangered CNPS 1B.1 MSCP: Covered; Narrow Endemic	Clay soils, openings in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 32–3,150 feet. Annual herb. Blooms April–June.	Grassy openings in chaparral or sage scrub with broken clay soils. All sites have a crumbly or deeply fissured soil, which noticeably compresses when treaded upon even during the dry season.	ND	Unlikely. The preferred habitat of this species does not occur within the Biological Study Area (BSA). This species was not observed during the habitat assessment and is not historically known from the BSA.
Nuttall’s lotus *Acmispon prostratus*	CNPS 1B.1	Coastal dunes. Elevation 0–33 feet. Annual herb. Blooms March–July.	Costal dunes and well-protected back dunes with minimal foot traffic. Soils include beach sand.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and is not historically known from the BSA.
California adolphia *Adolphia californica*	CNPS 2.1	Clay soils, chaparral, coastal scrub, and valley and foothill grassland. Elevation 148–2,428 feet. Perennial deciduous shrub. Blooms December–May.	Peripheral chaparral habitat with Diegan sage scrub, particularly near hillsides and next to creeks. Associated with California buckwheat and California sagebrush.	ND	Low. Poor-quality habitat is found within the Diegan coastal sage scrub within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
San Diego bur-sage *Ambrosia chenopodiifolia*	CNPS 2.1	Coastal scrub. Elevation 180–509 feet. Perennial shrub. Blooms April–June.	Found in Diegan sage scrub that usually contains California sagebrush and black sage (*Salvia mellifera*). Has been mapped in Olivenhain cobbly loam.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

Common Name ***Scientific Name***	**Sensitivity Status[1]**	**Habitat Requirements[2]**	**Microhabitat Description[3]**	**Detected or Not Detected (ND)**	**Probability of Occurrence**
singlewhorl burrobrush *Ambrosia monogyra*	CNPS 2.2	Sandy soils. Elevation 33–1,640 feet. Perennial shrub. Blooms August–November.	Undocumented.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
San Diego ambrosia *Ambrosia pumila*	Federal: Endangered CNPS 1B.1 MSCP: Covered; Narrow Endemic	Sandy loam or clay, often in disturbed areas, sometimes alkaline chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 66–1,362 feet. Perennial rhizomatous herb. Blooms April–October.	Creek beds, seasonally dry drainages, floodplains, on the periphery of willow woodland. Soils include sandy alluvium.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
aphanisma *Aphanisma blitoides*	CNPS 1B.2 MSCP: Covered; Narrow Endemic	Sandy habitat, coastal bluff scrub, coastal dunes, and coastal scrub. Elevation 3–1,000 feet. Annual herb. Blooms March–June.	On coastal bluffs next to the ocean and beach dunes.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
Dean's milk-vetch *Astragalus deanei*	CNPS 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian forest. Elevation 246–2,280 feet. Perennial herb. Blooms February–May.	Sandy washes. Found in Cieneba-Fallbrook rocky sandy loam, which is the soil type for the Tecate population.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

Common Name ***Scientific Name***	**Sensitivity Status**[1]	**Habitat Requirements**[2]	**Microhabitat Description**[3]	**Detected or Not Detected (ND)**	**Probability of Occurrence**
south coast salt scale *Atriplex pacifica*	CNPS 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, and playas. Elevation 0–459 feet. Annual herb. Blooms March–October.	Xeric, often mildly disturbed locales. Soils are mapped as Linne clay loam and found with California sagebrush.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
golden-spined cereus *Bergerocactus emoryi*	CNPS 2.2	Sandy, closed-cone coniferous forest, chaparral, and coastal scrub. Elevation 10–1,296 feet. Perennial stem succulent. Blooms May–June.	Found in maritime succulent scrub with cliff spurge (*Euphorbia misera*) and Shaw's agave.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
San Diego goldenstar *Bloomeria clevelandii*	CNPS 1B.1 MSCP: Covered	Clay, chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 164–1,526 feet. Perennial bulbiferous herb. Blooms April–May.	Undocumented.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
round-leaved filaree *California macrophylla*	CNPS 1B.1	Cismontane woodland, valley and foothill grassland. Annual herb. Elevation 49-3,937 feet. Blooms March–May.	Occurs in clay soils.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

Common Name ***Scientific Name***	**Sensitivity Status**[1]	**Habitat Requirements**[2]	**Microhabitat Description**[3]	**Detected or Not Detected (ND)**	**Probability of Occurrence**
wart-stemmed ceanothus *Ceanothus verrucosus*	CNPS 2.2 MSCP: Covered	Chaparral. Elevation 3–1,247 feet. Perennial evergreen shrub. Blooms December–May.	Coastal chaparral intermixed with chamise. Soils consist of exchequer rocky silt loams and San Miguel-Exchequer rocky silt loams.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	Federal: Endangered State: Endangered CNPS 1B.2	Coastal dunes. Elevation 0–98 feet. Annual herb. Blooms May–October.	Undocumented.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	CNPS 1B.2	Clay, chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 98–5,020 feet. Annual herb. Blooms April–July.	Found on clay lenses devoid of shrubs and occasionally found on the periphery of vernal pool habitat. Can also be found near the periphery of montane meadows near vernal seeps.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
snake cholla *Cylindropuntia californica* var. *californica*	CNPS 1B.1	Chaparral and coastal sage scrub habitat. Elevation 98–492 feet. Perennial stem succulent. Blooms April–May.	Open Diegan sage scrub on xeric hillsides. It is found with barrel cactus (*Ferocactus viridescens)*, strawberry cactus (*Mammillaria dioica*), and jojoba (*Simmondsia chinensis*). Soils include Huerhuero loam, Gaviota fine sandy loam, and Redding cobbly loam.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

Common Name ***Scientific Name***	**Sensitivity Status**[1]	**Habitat Requirements**[2]	**Microhabitat Description**[3]	**Detected or Not Detected (ND)**	**Probability of Occurrence**
Otay tarplant *Deinandra conjugens*	Federal: Threatened State: Endangered CNPS 1B.1 MSCP: Covered	Clay, coastal scrub, and valley and foothill grassland. Elevation 82–984 feet. Annual herb. Blooms May–June.	Undocumented.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
Orcutt's bird's-beak *Dicranostegia orcuttiana*	CNPS 2.1	Coastal scrub. Elevation 33–1,148 feet. Annual herb hemiparasitic. Blooms March–September.	Found in coastal scrub associations on slopes; also reported from intermittently moist swales and in washes.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
Palmer's goldenbush *Ericameria palmeri* var. *palmeri*	CNPS 1B.1 MSCP: Covered	Mesic habitat, chaparral, and coastal scrub. Elevation 98–1,969 feet. Perennial evergreen shrub. Blooms July–November.	Coastal drainages, mesic chaparral, occasionally occurs as a hillside element. Soils include Las Posas fine sandy loam.	ND	Low. Poor-quality habitat is found within the disturbed wetland within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Federal: Endangered State: Endangered CNPS 1B.1 MSCP: Covered; Narrow Endemic	Mesic habitat, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 66–2,034 feet. Annual and perennial herb. Blooms April–June.	Areas with vernal pools, mima mounds, and vernally moist conditions. Soils include Redding gravelly loams.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

Common Name ***Scientific Name***	**Sensitivity Status**[1]	**Habitat Requirements**[2]	**Microhabitat Description**[3]	**Detected or Not Detected (ND)**	**Probability of Occurrence**
cliff spurge *Euphorbia misera*	CNPS 2.2	Rocky habitat, coastal bluff scrub, coastal scrub, and Mojavean desert scrub. Elevation 33–1,640 feet. Perennial shrub. Blooms December–August.	Low-growing, maritime succulent scrub with a high incidence of cactus. Soils include Olivenhain cobbly loams.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
San Diego barrel cactus *Ferocactus viridescens*	CNPS 2.1 MSCP: Covered	Chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 10–1,476 feet. Perennial stem succulent. Blooms May–June.	Diegan sage scrub hillsides, often at the crest of slopes and growing in cobbles, occasionally found on the periphery of vernal pools and mima mounds. Soil types include San Miguel-Exchequer rocky silt loams and Redding gravelly loams.	ND	Low. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
Palmer's frankenia *Frankenia palmeri*	CNPS 2.1	Coastal dunes, marshes and swamps (coastal salt), and playas. Elevation 0–33 feet. Perennial herb. Blooms May–July.	Saltmarsh habitat and the periphery of salt marsh habitat.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
beach goldenaster *Heterotheca sessiliflora* ssp. *Sessiliflora*	CNPS 1B.1	Chaparral (coastal), coastal dunes, and coastal scrub. Elevation 0–1,225 feet. Perennial herb. Blooms March–December.	Coastal sage scrub in sandy locales. Found on beach bluffs and maritime locales.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

Common Name ***Scientific Name***	**Sensitivity Status**[1]	**Habitat Requirements**[2]	**Microhabitat Description**[3]	**Detected or Not Detected (ND)**	**Probability of Occurrence**
decumbent goldenbush *Isocoma menziesii* var. *decumbens*	CNPS 1B.2	Chaparral and coastal scrub (sandy, often open in disturbed areas). Elevation 33–443 feet. Perennial shrub. Blooms April–November.	Coastal sage scrub and is found in clay soils.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
San Diego marsh-elder *Iva hayesiana*	CNPS: 2.2	Marshes, swamps, and playas. Elevation 33–1,640 feet. Perennial herb. Blooms April–October.	Creeks and intermittent streambeds, open riparian canopy allowing substantial sunlight.	ND	Low. Poor-quality habitat is found within the disturbed wetland within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	CNPS 1B.1	Marshes, swamps (coastal salt), playas, and vernal pools. Elevation 3–4,000 feet. Annual herb. Blooms February–June.	Tidal marsh areas near the coast at the extreme upper end of tidal inundation and periphery of vernal pools.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	CNPS 1B.2	Chaparral and coastal scrub. Elevation 3–2,903 feet. Annual herb. Blooms January–July.	Openings in chaparral and sage scrub, usually found in foothill elevations. Sites are dry, exposed locales.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
willowy monardella *Monardella viminea*	Federal: Endangered State: Endangered CNPS: 1B.1	Chaparral, coastal sage scrub, riparian forest, riparian scrub, riparian woodland, alluvial and ephemeral washes. Elevation 164–738 feet. Perennial herb. Blooms June–August.	Riparian scrub, usually sandy locations and seasonally dry washes.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

Common Name *Scientific Name*	Sensitivity Status[1]	Habitat Requirements[2]	Microhabitat Description[3]	Detected or Not Detected (ND)	Probability of Occurrence
mud nama *Nama stenocarpum*	CNPS: 2.2	Marshes and swamps (lake margins, riverbanks). Elevation 16–1,640 feet. Annual or perennial herb. Blooms January–July.	This herb grows on muddy embankments of ponds and lakes.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
spreading navarretia *Navarretia fossalis*	Federal: Threatened CNPS 1B.1 MSCP: Covered; Narrow Endemic	Chenopod scrub, marshes and swamps, playas, and vernal pools. Elevation 98–2,149 feet. Annual herb. Blooms April–June.	Vernal pools and vernal pool swales. Soils include Huerhuero loam	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
coast woolly-heads *Nemacaulis denudata* var. *denudata*	CNPS 1B.2	Coastal dunes habitat. Elevation 0–328 feet. Annual herb. Blooms April–September.	Coastal sand dunes along beaches.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
Otay Mesa mint *Pogogyne nudiuscula*	Federal: Endangered State: Endangered CNPS 1B.1 MSCP: Covered	Vernal pools. Elevation 295–820 feet. Annual herb. Blooms May–July.	Vernal pools with stockpen gravelly clay loam soils. Most populations are in open grassland with mima mound topography.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
Nuttall's scrub oak *Quercus dumosa*	CNPS 1B.1	Sandy and clay loam habitat. Elevation 49–1,312 feet. Perennial evergreen shrub. Blooms February–August.	Coastal chaparral with a relatively open canopy cover and relatively flat terrain.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

Common Name ***Scientific Name***	**Sensitivity Status**[1]	**Habitat Requirements**[2]	**Microhabitat Description**[3]	**Detected or Not Detected (ND)**	**Probability of Occurrence**
chaparral ragwort *Senecio aphanactis*	CNPS: 2.2	Sometimes alkaline habitat, chaparral, cismontane woodland, and coastal scrub. Elevation 49–2,625 feet. Annual herb. Blooms January–April.	Coastal sage scrub on cismontane woodlands and alkaline flats.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
purple stemodia *Stemodia durantifolia*	CNPS: 2.1	Sonoran desert scrub. Elevation 590–984 feet. Perennial herb. Blooms January–December.	Undocumented.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
Laguna Mountains jewel-flower *Streptanthus bernardinus*	CNPS 4.3	Chaparral and lower montane coniferous forest. Elevation 2,198–8,202 feet. Perennial herb. Blooms May–August.	Lower montane coniferous forest, partial shade, or near Boomer stony loams. Commonly found in mesic situations, but can occupy drier embankments in granitic gravels and sand.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
oil neststraw *Stylocline citroleum*	CNPS 1B.1	Chenopod scrub, coastal scrub. Elevation 164–1,312 feet. Annual herb. Blooms March–April.	Flats, clay soils in oil-producing areas.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.
estuary seablite *Suaeda esteroa*	CNPS 1B.2	Marshes and swamps (coastal salt). Elevation 0–16 feet. Perennial herb. Blooms May–January.	Periphery of coastal salt marshes with pickleweed species. Soils are mapped as tidal flats.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

Common Name ***Scientific Name***	**Sensitivity Status**[1]	**Habitat Requirements**[2]	**Microhabitat Description**[3]	**Detected or Not Detected (ND)**	**Probability of Occurrence**
Parry's tetracoccus *Tetracoccus dioicus*	CNPS 1B.2	Chaparral and coastal scrub. Elevation 541–3,281 feet. Perennial deciduous shrub. Blooms April–May.	Low-growing chamise chaparral with moderately dense canopy cover. Soils include Las Posas and xeric conditions.	ND	Unlikely. The preferred habitat of this species does not occur within the BSA. This species was not observed during the habitat assessment and it is not historically known from the BSA.

[1] Sensitivity Status Key

CNPS: California Native Plant Society Rare Plant Rank:
1B: Considered rare, threatened, or endangered in California and elsewhere
2: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants for which we need more information – review list
4: Plants of limited distribution a watch list
Decimal notations: .1 – Seriously endangered in California, .2 – Fairly endangered in California, .3 – Not very endangered in California
Multiple Species Conservation Program (MSCP)

[2] Source: CNPS 2014

[3] Source: Reiser 2001

California Adolphia

California adolphia is a perennial, deciduous shrub that ranges from coastal Southern California south to Baja California, Mexico. This species is often intermixed with Diegan coastal sage scrub and occasionally on the periphery of chaparral habitats (Reiser 2001). The Diegan coastal sage scrub habitat within the BSA is highly disturbed and not likely to support populations of adolphia. This species is visible year-round and, if present within the BSA, would have been detected during the habitat assessment.

Palmer's Goldenbush

Palmer's goldenbush is a perennial evergreen shrub that ranges from coastal Southern California south to Baja California, Mexico. This sizeable shrub grows along coastal drainages, in mesic chaparral sites, or rarely in Diegan coastal sage scrub (Reiser 2001). The habitat on-site is not within a coastal drainage, and no chaparral exists within the BSA. This species is visible year-round and, if present within the BSA, would have been detected during the habitat assessment.

San Diego Marsh Elder

San Diego marsh elder is a perennial evergreen shrub that ranges from coastal Southern California south to Baja California, Mexico. Creeks or intermittent streambeds are the preferred habitat for this low-growing shrub. Typically, the riparian canopy is open, allowing for sunlight to reach the marsh elder (Reiser 2001). The preferred habitat for this species within the BSA is highly disturbed and thickly vegetated, and not likely to support populations of marsh elder. This species is visible year-round and, if present within the BSA, would have been detected during the habitat assessment.

3.6.2 Special-Status Wildlife

Based on searches of the CNDDB, 40 special-status wildlife species are known from the nine-quadrangle Chollas Triangle vicinity (Table 7). Of these 40 sensitive wildlife species, seven were determined to have some potential to occur in the BSA based on habitat conditions and regional location: Coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo belli pusillus*), orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), Coronado Island skink (*Plestiodon skiltonianus interparietalis*), two-striped garter snake (*Thamnophis hammondii*), and Mexican long-tongued bat (*Choeronycteris mexicana*). Two special-status wildlife species have moderate potential to occur within the BSA and five special-status wildlife species have low potential to occur within the BSA.

Table 7
Special-Status Wildlife Species with Potential to Occur within the Chollas Triangle BSA

Common Name **Scientific Name**	**Sensitivity Status[1]**	**Habitat Requirements**	**Probability of Occurrence**
Invertebrates			
San Diego fairy shrimp *Branchinecta sandiegonensis*	Federal: Endangered MSCP: Covered	Restricted to vernal pools, hardpan and claypan pools, shallow and small, Orange and San Diego Counties, Baja California, 49–410 feet but up to 1,640 feet, mid-December to early May, 50–79°F, up to 88°F.	Unlikely. Habitat requirements for this species are not found within the BSA; topography not suitable to support ponding.
Thorne's hairstreak *Callophrys thornei*	MSCP: Covered	Restricted exclusively to its host plant, Tecate cypress (*Cupressus forbesi*).	Unlikely. BSA is outside of species' restricted range.
Quino checkerspot butterfly *Euphyryas editha quino*	Federal: Endangered	Native and non-native grasslands, coastal sage scrub, open chaparral, and other open plant community types.	Unlikely. Habitat requirements and host plants for this species are not found within the BSA.
Hermes copper butterfly *Lycaena hermes*	Federal: Candidate for Listing	Host plant is redberry (*Rhamnus crocea*). Distribution is closely tied to the distribution of redberry, typically occurring in chaparral or coastal sage scrub. Adults visit flowers, especially those of California buckwheat (*Eriogonum fasciculatum*).	Unlikely. Habitat requirements and host plants for this species are not found within the BSA.
Reptiles and Amphibians			
orange-throated whiptail *Aspidoscelis hyperythra beldingi*	State: Species of Special Concern MSCP: Covered	Low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food, which is termites.	Low. Poor-quality, suitable habitat for this species occurs adjacent to Chollas Creek.
coastal western whiptail *Aspidoscelis tigris stejnegeri*	Federal: Species of Concern CDFW: Special Animal	Open areas in grasslands, scrublands, and woodlands.	Low. Poor-quality, suitable habitat for this species occurs adjacent to Chollas Creek.
green turtle *Chelonia mydas*	Federal: Endangered	Open ocean and beaches for nesting.	Unlikely. Habitat requirements for this species are not found within the BSA.
northern red-diamond rattlesnake *Crotalus ruber ruber*	State: Species of Special Concern	Coastal sage scrub and grasslands. Occurs in rocky areas and dense vegetation with rodent burrows, cracks in rocks, or surface cover objects.	Unlikely. Habitat requirements for this species are not found within the BSA.
San Diego coast horned lizard *Phrynosoma coronatum* (*blainvillei*)	State: Species of Special Concern MSCP: Covered	A variety of habitats including sage scrub and chaparral. Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil.	Unlikely. Habitat requirements, such as sandy/friable soils, for this species are not found within the BSA.

Common Name Scientific Name	Sensitivity Status[1]	Habitat Requirements	Probability of Occurrence
Coronado Island skink *Plestiodon skiltonianus interparietalis*	State: Species of Special Concern	Scrub habitats with leaf litter and sandy substrates.	Low. Poor-quality, suitable habitat for this species occurs adjacent to Chollas Creek.
two-striped gartersnake *Thamnophis hammondii*	State: Species of Special Concern	Aquatic habitats, preferably rocky streams with protected pools, cattle ponds, marshes, vernal pools, and other shallow bodies of water lacking large aquatic predators.	Moderate. Marginal suitable habitat for this species occurs within Chollas Creek.
coast patch-nosed snake *Salvadora hexalepis virgultea*	State: Species of Special Concern	Grasslands, scrublands, and woodlands with sandy soils and leaf litter.	Unlikely. Habitat requirements for this species are not found within the BSA.
western spadefoot *Spea hammondii*	State: Species of Special Concern	Sandy or gravelly soil in grasslands, open chaparral and pine-oak woodlands, coastal sage scrub; vernal pools or freshwater marshes are essential for breeding.	Unlikely. Breeding habitat and required soils are not found within the BSA.
Birds			
southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	State: Species of Special Concern MSCP: Covered	Coastal sage scrub and sparse mixed chaparral, often in steep or rocky terrain.	Unlikely. Habitat requirements for this species are not found within the BSA.
western burrowing owl *Athene cunicularia*	Federal: Bird of Conservation Concern State: Species of Special Concern (burrowing sites and some wintering sites) MSCP: Covered	Found mainly in grassland and open scrub from the seashore to foothills. Strongly associated with California ground squirrel (*Spermophilus beecheyi*) burrows.	Unlikely. Habitat requirements for this species are not found within the BSA.
coastal cactus wren *Campylorhynchus brunneicapillus couesi*	Federal: Bird of Conservation Concern State: Species of Special Concern MSCP: Covered	Coastal sage scrub with extensive stands of tall prickly pear or cholla cacti (*Opuntia* sp.).	Unlikely. Habitat requirements for this species are not found within the BSA.
western snowy plover *Charadrius alexandrinus nivosus*	Federal: Threatened State: Species of Special Concern MSCP: Covered	Nests on beaches, dunes, and salt flats in San Diego County, with the highest concentrations in two areas: Camp Pendleton and Silver Strand. Outside the breeding season, species is more widespread but not common along the county’s coast.	Unlikely. Habitat requirements for this species are not found within the BSA.

Common Name **Scientific Name**	**Sensitivity Status**[1]	**Habitat Requirements**	**Probability of Occurrence**
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	State: Endangered	Deciduous riparian woodlands along rivers and streams.	Unlikely. Riparian habitat within the BSA is not suitable to support this species.
yellow warbler *Dendroica petechia brewsteri*	State: Species of Special Concern	Mature riparian woodlands consisting of cottonwood, willow, alder, and ash trees.	Unlikely. Riparian habitat within the BSA is not suitable to support this species.
prairie falcon *Falco mexicanus*	State: Species of Special Concern	Forages in open grasslands, agricultural fields, and desert scrub. Prefers ledges on rocky cliffs for nesting.	Unlikely. Habitat requirements for this species are not found within the BSA.
least bittern *Ixobrychus exilis*	State: Species of Special Concern	Marsh habitats or large emergent wetlands with cattails (*Typha* sp.) and tules (*Schoenoplectus* sp.).	Unlikely. Habitat requirements for this species are not found within the BSA.
California black rail *Laterallus jameicensis coturniculus*	Federal: Bird of Conservation Concern State: Threatened	Found in Southern California coastal marshes.	Unlikely. Habitat requirements for this species are not found within the BSA.
Belding’s savannah sparrow *Passerculus sandwichensis beldingi*	State: Endangered MSCP: Covered	Locally common in open grassy or weedy areas throughout San Diego County.	Unlikely. Habitat requirements for this species are not found within the BSA.
coastal California gnatcatcher *Polioptila californica californica*	Federal: Threatened State: Species of Special Concern MSCP: Covered	Diegan coastal sage scrub dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*) below 2,500 feet elevation; generally avoids steep slopes of more than 25% and dense, tall vegetation for nesting.	Low. Poor-quality, fragmented coastal sage scrub, south of Chollas Creek, occurs within the BSA.
light-footed clapper rail *Rallus longirostris levipes*	Federal: Endangered State: Endangered; Fully Protected MSCP: Covered	Found in Southern California in coastal salt marshes, especially those dominated by cordgrass (*Spartina* sp.). The Tijuana River estuary is an especially important site.	Unlikely. Habitat requirements for this species are not found within the BSA.
California least tern *Sternula antillarum browni*	Federal: Endangered State: Endangered; Fully Protected (nesting) MSCP: Covered	A ground-nesting bird that requires undisturbed stretches of beach and coastline. Adults are highly philopatric to natal colonies, and forage in bays and estuaries near their colonies.	Unlikely. Habitat requirements for this species are not found within the BSA.
least Bell’s vireo *Vireo bellii pusillus*	Federal: Endangered State: Endangered (nesting) MSCP: Covered	Riparian woodland with understory of dense young willows (*Salix* sp.) or mulefat (*Baccharis salicifolia*) and willow canopy.	Low. Poor-quality habitat with scattered willows and mulefat occurs along Chollas Creek.

Common Name Scientific Name	Sensitivity Status[1]	Habitat Requirements	Probability of Occurrence
Mammals			
pallid bat *Antrozous pallidus*	State: Species of Special Concern	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect them from high temperatures.	Unlikely. Habitat requirements for this species are not found within the BSA.
Dulzura pocket mouse *Chaetodipus californicus femoralis*	State: Species of Special Concern	Slopes covered with chaparral and live oaks.	Unlikely. Habitat requirements for this species are not found within the BSA.
northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	State: Species of Special Concern	Sagebrush scrub, annual grassland, chaparral, and desert scrubs. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Unlikely. Habitat requirements for this species are not found within the BSA.
Mexican long-tongued bat *Choeronycteris mexicana*	State: Species of Special Concern	In San Diego County, this bat species occurs primarily in urban areas.	Moderate. Suitable foraging habitat for this species is present within the BSA.
California (western) mastiff bat *Eumops perotis californicus*	State: Species of Special Concern	Chaparral, live oaks, and arid, rocky regions. Requires downward-opening crevices.	Unlikely. Habitat requirements for this species are not found within the BSA.
western red bat *Lasiurus blossevillii*	State: Species of Special Concern	Feeds over grasslands, shrublands, open woodlands, forests, and croplands. Roosts primarily in trees and, at times, shrubs, often in edge habitats along streams or fields.	Unlikely. Habitat requirements for this species are not found within the BSA.
western yellow bat *Lasiurus xanthinus*	State: Species of Special Concern	Found in valley foothills riparian, desert riparian, desert wash, and palm oases. Forages among trees and over water. Roosts in trees.	Unlikely. Habitat requirements for this species are not found within the BSA.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	State: Species of Special Concern	Grasslands, open scrub habitats, disturbed areas, and agricultural fields.	Unlikely. Habitat requirements for this species are not found within the BSA.
Yuma myotis *Myotis yumanensis*	State: Species of Special Concern	Primarily an inhabitant of desert regions where it is most commonly encountered in lowland habitats near open water, where it prefers to forage.	Unlikely. Habitat requirements for this species are not found within the BSA.
San Diego desert woodrat *Neotoma lepida intermedia*	State: Species of Special Concern	Sagebrush scrub, annual grassland, chaparral, and desert scrubs, often with cactus patches, rock outcrops, or rock piles.	Unlikely. Habitat requirements for this species are not found within the BSA due to lack of cactus and rocky outcrops/piles within the grassland and sagebrush scrub habitats.

Common Name Scientific Name	Sensitivity Status[1]	Habitat Requirements	Probability of Occurrence
pocketed free-tailed bat *Nyctinomops femorosaccus*	State: Species of Special Concern	Rugged cliffs, rocky outcrops, and slopes in desert shrub and pine oak forests.	Unlikely. Habitat requirements for this species are not found within the BSA.
big free-tailed bat *Nyctinomops macrotis*	State: Species of Special Concern	Pinyon-juniper and Douglas fir forests, chaparral and oak forests in rugged, rocky habitats and low-lying arid areas.	Unlikely. Habitat requirements for this species are not found within the BSA.
American badger *Taxidea taxus*	State: Species of Special Concern MSCP: Covered	Coastal sage scrub, mixed chaparral, grassland, oak woodland, chamise chaparral, mixed conifer, pinyon-juniper, desert scrub, desert wash, montane meadow, open areas, and sandy soils.	Unlikely. Habitat requirements for this species are not found within the BSA.

[1] Sensitivity Status Key
Multiple Species Conservation Program (MSCP) Covered: City of San Diego MSCP Covered Species
CDFW = California Department of Fish and Wildlife

3.6.2.1 Federally and State-Listed Wildlife Species

No federally or state-listed wildlife species were detected within the BSA, or determined to have moderate or high potential to occur. Coastal California gnatcatcher (MSCP-covered) and least Bell's vireo (MSCP-covered) have low potential to occur within the BSA.

Coastal California Gnatcatcher

Coastal California gnatcatcher is a small songbird that occurs in coastal sage scrub habitat in Southern California and Baja California. The primary cause of this species' decline is the cumulative loss of coastal sage scrub vegetation to urban and agricultural development (USFWS 1991). Coastal California gnatcatcher generally inhabits Diegan coastal sage scrub and Riversidian coastal sage scrub dominated by California sagebrush and California buckwheat, generally below 1,500 feet in elevation and along the coastal slope. This species typically avoids slopes greater than 25% with dense, tall vegetation when nesting. The potential for coastal California gnatcatcher to occur within the BSA is very low, based on the poor habitat quality. As described in Section 3.2.2.1, Diegan coastal sage scrub in the BSA is dominated by lemonade berry and lacks California sagebrush and California buckwheat.

Least Bell's Vireo

Least Bell's vireo is a small songbird that breeds in riparian habitat throughout Southern California. It arrives in San Diego County in late March and early April and leaves for its wintering grounds in September. This species is in decline due to loss, degradation, and fragmentation of riparian habitat. Least Bell's vireo is restricted to riparian woodland with dense mulefat and young willows under a canopy of tall willows. The potential for this species to occur within the BSA is low, based on the generally poor quality of habitat along Chollas Creek and lack of specific habitat requirements.

3.6.2.2 MSCP Covered and Other Special-Status Wildlife Species

Two special-status wildlife species have moderate potential to occur within the BSA: two-striped garter snake (CDFW Species of Special Concern) and Mexican long-tongued bat (CDFW Species of Special Concern). Three special-status wildlife species have low potential to occur in the BSA: orange-throated whiptail (CDFW Species of Special Concern and MSCP covered), coastal western whiptail (USFWS Species of Special Concern), and Coronado Island skink (CDFW Species of Special Concern). These species are discussed in further detail below.

Orange-Throated Whiptail

Orange-throated whiptail is a small lizard species strongly associated with coastal sage scrub habitat. This species is found throughout Southern California and northern Baja California. Orange-throated whiptail may occur in coastal sage scrub; chaparral; edges of riparian woodlands and washes; and in weedy, disturbed areas adjacent to these habitats. Orange-throated whiptail emerges from hibernation in February and March, but some populations may be active throughout the year (Stebbins 2003). Mating may take place May through July, and females deposit two to three eggs. Hatchlings are observed in August. Habitat quality in the BSA is poor for the orange-throated whiptail. Therefore, the potential for this species to occur within the BSA is low.

Coastal Western Whiptail

Coastal western whiptail is a relatively large lizard species associated with coastal sage scrub, chaparral, woodland, and desert and semiarid habitats. This species is found throughout Southern California and northern Baja California. It is often associated with dense vegetation such as chaparral and sage scrub, especially in and around sandy washes and streambeds (Stebbins 2003). Habitat quality for coastal western whiptail in the BSA is poor. Therefore, the potential for this species to occur within the BSA is low.

Coronado Island Skink

Coronado Island skink is a small, slim amphibian that occurs in grassland, woodlands, pine forests, chaparral, and especially in open sunny areas such as clearings and the edges of creeks and rivers (Stebbins 2003). This species prefers rocky areas near streams with extensive vegetation, but it is also found in areas away from water. Habitat quality in the BSA is poor for the Coronado Island skink. Therefore, the potential for this species to occur within the BSA is low.

Two-Striped Garter Snake

Two-striped garter snake is distributed from central California to as far south as the La Presa region in Baja California (Jennings and Hayes 1994). In Southern California, it is occurs from the coast to the foothills and mountains in a variety of habitats. This species is most frequently encountered in the immediate vicinity of permanent or semi-permanent sources of water, bordered by dense vegetation. Two-striped garter snake is diurnal and forages along streams, feeding off small fish, amphibians and amphibian larvae, small mammals, and invertebrates (Fitch 1941; Nussbaum et al. 1983; Rathburn et al. 1993). Suitable habitat is located along Chollas Creek within the BSA. This species has moderate potential to occur within the BSA.

Mexican Long-Tongued Bat

Mexican long-tongued bat is known in California only from San Diego County as a summer resident in mostly urban habitat (Arroyo-Cabrales 1999; Olson 1947). In New Mexico and Arizona, these bats have been found from sea level to 25,833 feet, in desert and montane riparian, desert succulent shrub, desert scrub, and pinyon-juniper habitats. This species uses caves, mines, and buildings to roost in the day. As a nectar feeder, although known to eat fruits on occasion and insects rarely, the Mexican long-tongued bat migrates to follow flowering food plants, particularly agave and yucca (Arroyo-Cabrales 1999). These bats can be found as solitary individuals or in groups of up to several dozen. Suitable foraging habitat is present along Chollas Creek, and suitable roosting habitat is present in the surrounding urban setting within the BSA. This species has moderate potential to occur within the BSA due to the presence of roosting habitat and its adaptation to urban environments.

3.7 WILDLIFE CORRIDORS AND HABITAT LINKAGES

Wildlife movement corridors, also called dispersal corridors or landscape linkages, are linear features. Their primary wildlife function is to connect at least two significant habitat areas (Beier and Loe 1992). Other definitions of corridors and linkages are as follows:

1. A corridor is a specific route that is used for movement and migration of species. A corridor may be different from a “linkage” because it represents a smaller or narrower avenue for movement. “Linkage” means an area of land that supports or contributes to the long-term movement of wildlife and genetic material.
2. A linkage is a habitat area that provides connectivity between habitat patches, and year-round foraging, reproduction, and dispersal habitat for resident plants and animals.

Wildlife corridors and linkages are important features in the landscape, and the viability and quality of corridors and linkages are dependent on site-specific factors. Topography and vegetative cover are important factors for corridors and linkages, and they should provide cover for both predator and prey species. Wildlife corridors and linkages should direct animals to areas of contiguous open space or resources and away from humans and development. The corridor or linkage should be buffered from human encroachment and other disturbances (e.g., light, loud noises, domestic animals) associated with developed areas that have caused habitat fragmentation (Schweiger et al. 2000). Wildlife corridors and linkages may function at various levels depending on these factors and, as such, the most successful wildlife corridors and linkages accommodate all or most of the necessary life requirements of predator and prey species.

Width and connectivity are assumed to be the primary factors of a “good” corridor (Forman 1987); “stepping stone reserves” for pollinators, seed dispersers, and other flying species such as birds, bats, and insects should also be included as “good” factors (Soulé 2003). The level of connectivity needed to maintain a population of a particular species varies with the demography of the population, including population size, survival and birth rates, and genetic factors such as the level of inbreeding and genetic variance (Rosenberg et al. 1997). Areas not considered functional wildlife dispersal corridors or linkages are typically obstructed or isolated by concentrated development and heavily traveled roads, known as “chokepoints.” One of the worst scenarios for dispersing wildlife occurs when a large block of habitat leads animals into “cul-de-sacs” of habitat surrounded by development. These habitat cul-de-sacs frequently result in adverse human/animal interface.

The BSA occurs primarily within urban development and is surrounded by residential and industrial development. The southern portion of the BSA consists of a narrow strip of disturbed wetland vegetation associated with Chollas Creek. The riparian habitat surrounding Chollas Creek is approximately 180 feet wide, at its widest, by 1,645 feet long. The Chollas Creek habitat provides refuge for wildlife and may act as a local habitat linkage and corridor for local wildlife movement, but does not function as part of a larger regional wildlife movement corridor. The BSA does not include a designated MSCP regional wildlife corridor, but approximately 4.7 acres of the MHPA, as delineated within the City’s MSCP Subarea Plan, is present along a portion of Chollas Creek within the BSA (Figure 6). The portion of the MHPA that is adjacent to Chollas Creek is not contiguous with a wildlife corridor or linkage as it is surrounded by urban development.

3.8 STEEP SLOPES

The City’s ESL Regulations define steep slopes containing sensitive biological resources as a sensitive resource. The definition of steep slopes is those areas with greater than 25% slope with a height differential of more than 50 feet. Manufactured slopes within the developed areas of the BSA meet the definition of a steep slope, but do not contain sensitive biological resources or vegetation communities (Figure 7). Steep slopes occur adjacent to Chollas Creek within the BSA. Any work conducted within the steep slopes adjacent to Chollas Creek would require compliance with the Steep Hillside Guidelines, the ESL Regulations, and the Landscape Standards, including provisions for erosion control and post-construction revegetation (City of San Diego 2012).

3.9 MSCP CONSISTENCY

The Chollas Creek portion of the BSA includes approximately 4.7 acres of the MHPA (Figure 6), as delineated in the City’s MSCP Subarea Plan. Proposed uses within the MHPA portion of

Source: FEMA 2007

500 250 0 500 Feet

Scale: 1:6,000; 1 inch = 500 feet

Figure 6
Multiple Habitat Planning Area

Source: FEMA 2007

400 200 0 400 Feet

Scale: 1:4,800; 1 inch = 400 feet

Figure 7
Steep Slope Analysis

Path: \\ussdg1fp001.na.aecomnet.com\data\projects\2011\60218434\06GIS\6.3_Layout\BTR\Fig7_Slope.mxd, 11/7/2014, sorensenj the BSA may include restoring and enhancing native habitat and enhancing public access. To maintain consistency with the MSCP, design and implementation of proposed uses must comply with all applicable objectives, policies, and guidelines of the Subarea Plan, including specified compatible land uses, general planning policies and design guidelines, land use adjacency guidelines, management goals and objectives, general management directives, and fire management guidelines.

The following subset of general planning policies and design guidelines from Section 1.4.2 of the Subarea Plan would be applicable to and implemented for potential future projects within or adjacent to the MHPA:

- Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas, rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion is required.
- Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met.
- Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, chain-link fencing or cattle wire can be used to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing can be used to direct public access to appropriate locations, and chain-link fencing can be used to provide added protection for certain sensitive species or habitats (e.g., vernal pools).
- Lighting will be designed to avoid intrusion into the MHPA and avoid effects on wildlife. Lighting in areas of wildlife crossings will be of low-sodium or similar lighting.
- Signage will be limited to access and litter control, and for educational purposes.
- Storage of materials (e.g., hazardous or toxic, chemicals, equipment) is prohibited within the MHPA. Appropriate storage per applicable regulations is required in any areas that may impact the MHPA, especially due to potential leakage.

The following adjacency guidelines from Section 1.4.3 of the Subarea Plan would be applicable to and implemented for potential future projects within or adjacent to the MHPA:

- **Drainage.** All new and proposed parking lots and developed areas must not drain directly into the MHPA. All developed and paved areas must not release toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA.
- **Toxics**. Land uses such as recreation and agriculture that use chemicals or generate by-products, such as manure, that are potentially toxic or impactful to wildlife, sensitive species, habitat, or water quality must incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA.
- **Lighting**. Lighting of all developed areas adjacent to the MHPA must be directed away from the MHPA. Where necessary, development must provide adequate shielding with noninvasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.
- **Noise**. Uses in or adjacent to the MHPA must be designed to minimize noise impacts. Berms or walls can be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife use of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and/or be curtailed during the breeding season of sensitive species. Adequate noise reduction measures must also be incorporated for the rest of the year.
- **Barriers**. New development adjacent to the MHPA may be required to provide barriers (e.g., noninvasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.
- **Invasives**. Invasive, non-native plant species must not be introduced into areas adjacent to or in the MHPA.
- **Brush Management**. New residential development located adjacent to and topographically higher than the MHPA must be set back from slope edges and must incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zone 2 may be located in the MHPA upon granting of an easement to the City (or other acceptable agency), except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required.

- **Grading/Land Development**. Manufactured slopes associated with site development will be included within the development footprint for projects adjacent to the MHPA.

Management objectives for the MHPA from Section 1.5.2 of the Subarea Plan would be applicable to potential future projects within or adjacent to the MHPA, including:

- To ensure the long-term viability and sustainability of native ecosystem function and natural processes throughout the MHPA.
- To protect the existing and restored biological resources from intense or disturbing activities within and adjacent to the MHPA while accommodating compatible public recreational uses.
- To enhance and restore, where feasible, the full range of native plant associations in strategic locations and functional wildlife connections to adjoining habitat in order to provide viable wildlife and sensitive species habitat.
- To facilitate monitoring of selected target species, habitats, and linkages in order to ensure long-term persistence of viable populations of priority plant and animal species and to ensure functional habitats and linkages.
- To provide for flexible management of the preserve that can adapt to changing circumstances to achieve the above objectives.

The following general management directives from Section 1.5.2 apply to all areas covered by the Subarea Plan and would be applicable to and implemented for potential future projects within or adjacent to the MHPA:

- **Mitigation.** Mitigation, when required as part of project approvals, shall be performed in accordance with the City of San Diego Environmentally Sensitive Lands Ordinance and Biology Guidelines.
- **Restoration.** Restoration or revegetation undertaken in the MHPA shall be performed in a manner acceptable to the City. Where covered species status identifies the need for reintroduction and/or increasing the population, the covered species will be included in restoration/revegetation plans, as appropriate. Restoration or revegetation proposals will be required to prepare a plan that includes elements addressing financial responsibility; site preparation; planting specifications; maintenance, monitoring and success criteria; and remediation and contingency measures.

- **Public Access, Trails, and Recreation**
    - Provide sufficient signage to clearly identify public access to the MHPA. Barriers such as vegetation, rocks/boulders or fencing may be necessary to protect highly sensitive areas. Use appropriate type of barrier based on location, setting and use.
    - Locate trails, view overlooks, and staging areas in the least sensitive areas of the MHPA. Locate trails along the edges of urban land uses adjacent to the MHPA, or the seam between land uses, and follow existing dirt roads as much as possible rather than entering habitat or wildlife movement areas. Avoid locating trails between two different habitat types (ecotones) for longer than necessary due to the typically heightened resource sensitivity in those locations.
    - In general, avoid paving trails unless management and monitoring evidence shows otherwise. Clearly demarcate and monitor trails for degradation and off-trail access and use. Provide trail repair/maintenance as needed. Undertake measures to counter the effects of trail erosion including the use of stone or wood crossjoints, edge plantings of native grasses, and mulching of the trail.
    - Minimize trail widths to reduce impacts to critical resources. For the most part, do not locate trails wider than 4 feet in core areas or wildlife corridors. Exceptions are in areas where necessary to safely accommodate multiple uses or disabled access. Provide trail fences or other barriers at strategic locations when protection of sensitive resources is required.
    - Off-road or cross country vehicle activity is an incompatible use in the MHPA, except for law enforcement, preserve management or emergency purposes. Restore disturbed areas to native habitat where possible or critical, or allow to regenerate.
    - Limit recreational uses to passive uses such as birdwatching, photography and trail use. Locate developed picnic areas near MHPA edges or specific areas within the MHPA, in order to minimize littering, feeding of wildlife, and attracting or increasing populations of exotic or nuisance wildlife (opossums, raccoons, skunks). Where permitted restrain pets on leashes.
    - Remove homeless and itinerant worker camps in habitat areas as soon as found pursuant to existing enforcement procedures.
- **Litter/Trash and Materials Storage**
    - Remove litter and trash on a regular basis. Post signage to prevent and report littering in trail and road access areas. Provide and maintain trash cans and bins at

trail access points. Impose penalties for littering and dumping. Fines should be sufficient to prevent recurrence and also cover reimbursement of costs to remove and dispose of debris, restore the area if needed, and to pay for enforcement staff.

  - Prohibit permanent storage of materials (e.g. hazardous and toxic chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any areas that may impact the MHPA, due to potential leakage.
  - Evaluate areas where dumping recurs for the need for barriers. Provide additional monitoring as needed (possibly by local and recreational groups on a “Neighborhood Watch” type program), and/or enforcement.

- **Adjacency Management Issues**
  - Enforce, prevent and remove illegal intrusions into the MHPA on an annual basis, in addition to complaint basis.
  - Disseminate educational information to residents adjacent to and inside the MHPA to heighten environmental awareness, and inform residents of access, appropriate plantings, construction or disturbance within MHPA boundaries, pet intrusion, fire management, and other adjacency issues.
  - Install barriers (fencing, rocks/boulders, vegetation) and/or signage where necessary to direct public access to appropriate locations.
- **Invasive Exotics Control and Removal**
  - Do not introduce invasive non-native species into the MHPA. Provide information on invasive plants and animals harmful to the MHPA, and prevention methods, to visitors and adjacent residents. Encourage residents to voluntarily remove invasive exotics from their landscaping.
  - Remove giant reed, tamarisk, pampas grass, castor bean, artichoke thistle, and other exotic invasive species from creek and river systems, canyons and slopes, and elsewhere within the MHPA as funding or other assistance becomes available. Avoid removal activities during the reproductive seasons of sensitive species and avoid/ minimize impacts to sensitive species or native habitats. Monitor the areas and provide additional removal and apply herbicides if necessary. If herbicides are necessary, all safety and environmental regulations must be observed.
  - If funding permits, initiate a baseline survey with regular follow-up monitoring to assess invasion or re-invasion by exotics, and to schedule removal. Utilize trained

    - volunteers to monitor and remove exotic species as part of a neighborhood, community, school, or other organization's activities program.
    - If eucalyptus trees die or are removed from the MHPA area, replace with appropriate native species. Ensure that eucalyptus trees do not spread into new areas, nor increase substantially in numbers over the years. Eventual replacement by native species is preferred.

- **Flood Control**
    - Perform standard maintenance, such as clearing and dredging of existing flood channels, during the non-breeding or nesting season of sensitive bird or wildlife species utilizing the riparian habitat.
    - Review existing flood control channels within the MHPA periodically (every 5-10 years) to determine the need for their retention and maintenance, and to assess alternatives, such as restoration of natural rivers and floodplains.

Section 1.6.2 of the Subarea Plan requires permanent protection of the long-term biological integrity of the MHPA and would apply to the portion of the project area that is within and adjacent to the MHPA. Protective measures may include use of open space easements, dedications, zoning, general plan designations, or other protective measures to ensure that such lands are managed and preserved consistent with the MSCP and this Subarea Plan.

Finally, conditions described in Appendix A of the Subarea Plan, “Species Evaluated for Coverage Under the MSCP,” would apply for all covered species that could occur in the project area and would be implemented for potential future projects.

3.10 CHOLLAS CREEK ENHANCEMENT PROGRAM CONSISTENCY

A portion of Chollas Creek and its surrounding habitat occurs along the southern edge of the BSA and is part of the area addressed by the Chollas Creek Enhancement Program. Therefore, potential future projects within the proposed Chollas Creek open space would comply with the design/development guidelines described in the Chollas Creek Enhancement Program. These guidelines address wetland and upland restoration and rehabilitation, channel reconstruction, landscaping, trail systems, public art opportunities, and education and interpretive programs. The relevant design/development guidelines include:

Wetland and Upland Restoration and Rehabilitation

- Retain natural features, including existing vegetation, ravines, watercourses, and topographical features.
- Preserve, enhance, and maintain the existing natural setting through removal of non-native, invasive plants, retention of natural features, and including landscaping that complements the natural features.
- Restore disturbed areas.
- Avoid channelization.
- Integrate vacant parcels abutting the creek.
- Restore native wetland vegetation.
- Vegetate upland areas to complement creek habitat.
- Maintain natural drainage patterns.
- Recharge the creek’s aquifer.
- Maintain and enhance water quality.
- Control erosion.
- Reclaim water.
- Address flood safety.

Channel Reconstruction

- Hardscape the channelization of the creek (if it should occur) with stones or stepped concrete.
- Ensure the grade of the creek wall slope is consistent with the Land Development Code requirements.
- Remove concrete channel and daylight underground channels when possible.
- Design the creek emphasizing designs that are multi-functional hydrologically and recreationally.

Landscaping

- Use minimum vegetation ratios (vegetation should constitute no less than 25% of the landscape design).
- Use a plant palette specific to the edge of Chollas Creek.
- Plant fast growing riparian trees and riparian understory shrubs.
- Use reclaimed water for landscaping irrigation.
- Use landscape setbacks of 10 feet minimum from the rim of the creek.
- Use porous paving materials for hardscaping.

Trail System

- Design trail to include natural elements.
- Address safety and maintenance during trail development.
- Enhance street trails with trees.
- Provide a buffer of at least 20 feet to accommodate a planting strip and shade trees between the creek and the public trail.

Public Art Opportunities

- Incorporate diverse public art throughout the design of the creek's trail system, underpasses, and bridges.

Education and Interpretive Program

- Recognize the creek's natural habitat through an interactive educational exhibit program.
- Promote education about Chollas Creek through interpretive centers, stations, and signs, and education programs in local schools.

CHAPTER 4.0
IMPACTS

This chapter addresses impacts to biological resources within the BSA that could result from implementing the proposed land use and zoning changes and General Plan amendment. Biological resources could be directly and/or indirectly impacted by related projects, as described below.

<u>Direct impact</u>: Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Examples include clearing vegetation, encroaching into wetlands, diverting surface water flows, and direct loss of individual species and/or their habitats.

<u>Indirect impact</u>: As a result of project-related activities, biological resources can also be affected in a manner that is not direct. Examples include elevated noise and dust levels, soil compaction, increased human activity, decreased water quality, and introduction of invasive wildlife (domestic cats and dogs) and plants.

<u>Permanent impact</u>: All impacts that result in the irreversible removal of biological resources are considered permanent. Examples include constructing a building or permanent road on an area containing biological resources. Impacts on vegetation can also be considered permanent if they would result in a change in vegetation community or land cover type or would result in a temporal loss of habitat.

<u>Temporary impact</u>: Impacts considered to have reversible effects on biological resources can be viewed as temporary. For example, the Biology Guidelines indicate that temporary habitat disruption and use of temporary staging areas that do not alter landform and are appropriately restored as part of a project are generally not considered permanent habitat loss.

Under City and CEQA guidelines, impacts to biological resources are considered significant if any of the following would occur:

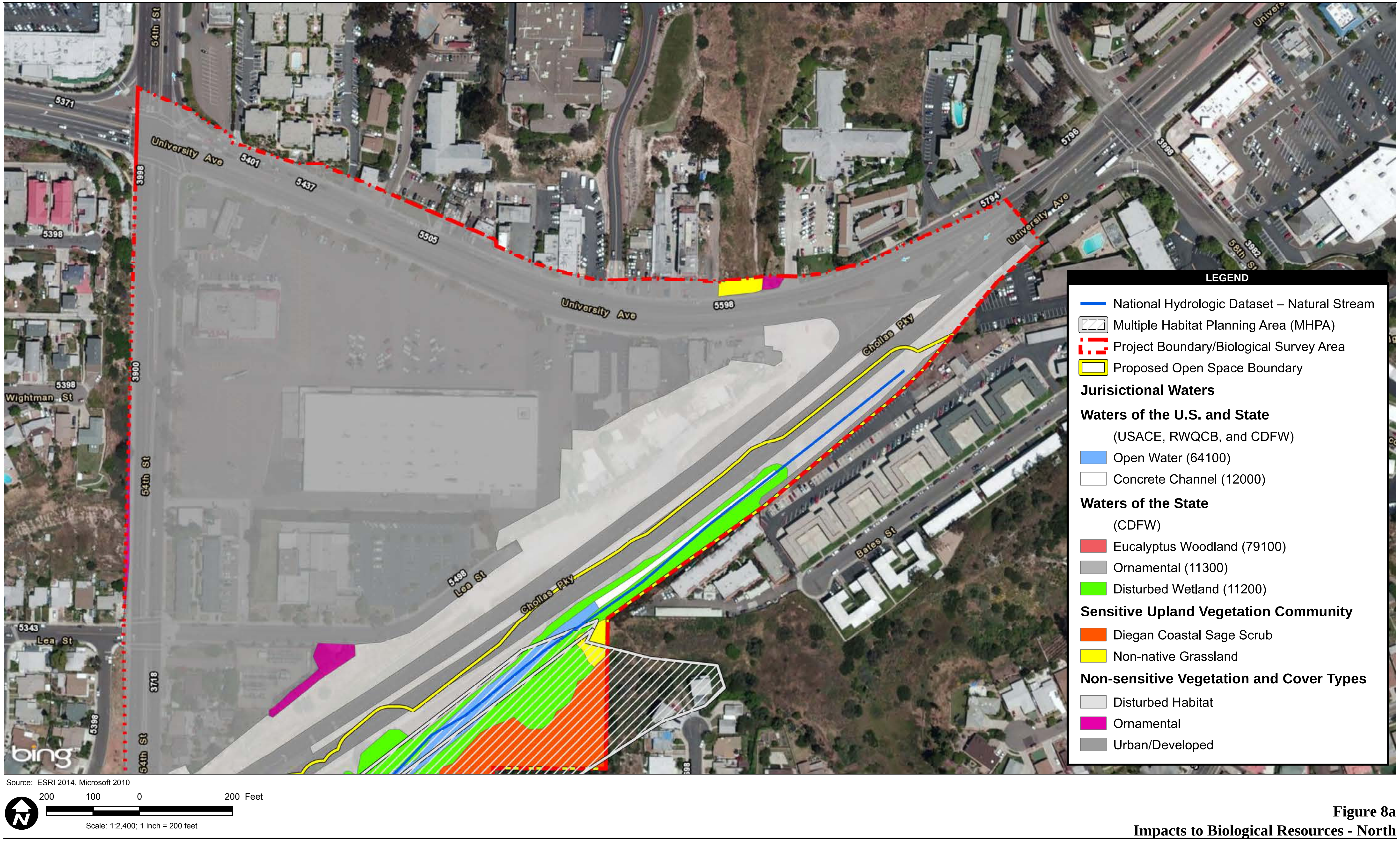
1. A substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in the MSCP or other local or regional plans, policies, or regulations, or by CDFW or USFWS; a substantial adverse impact on any Tier I Habitat, Tier II Habitat, Tier IIIA Habitat, or Tier IIIB Habitat as identified in the City of San Diego LDC Biology Guidelines, or

other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.

2. A substantial adverse impact on wetlands (including marsh, vernal pool, riparian) through direct removal, filling, hydrological interruption, or other means.
3. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites.
4. Conflict with the provisions of an adopted HCP; the Natural Communities Conservation Planning Act; or other approved local, regional, or state habitat conservation plan, either within the MSCP Plan Area or in the surrounding region.
5. Introduce land use within an area adjacent to the MHPA that would result in adverse edge effects.
6. Conflict with any local policies or ordinances protecting biological resources.
7. Introduce invasive species of plants into a natural open space area.

The following impact analysis assumes that implementation of potential future projects associated with proposed land use changes, the General Plan amendment, and rezoning could affect all portions of the BSA. Potential impacts are evaluated based primarily on the framework developed as part of the Chollas Triangle Master Plan process. According to this framework, mixed-use development would occur throughout the existing developed portions of the BSA. Park space would be developed along and within most of the removed Chollas Parkway; the proposed park space zoning would allow development for active and passive recreation purposes.

The Chollas Creek corridor along the southern boundary of the BSA would be rezoned as open space. The northern boundary of this open space area would coincide with a 50-foot buffer established from the edge of the disturbed wetland habitat (Figures 8a and 8b). Potential future projects within the proposed Chollas Creek open space would likely be associated with implementation of the Chollas Creek Enhancement Program and are anticipated to include habitat restoration and enhancement, public access improvements, and other actions consistent with the goals of the Chollas Creek Enhancement Program. However, no specific projects have been developed, and potential effects on biological resources cannot be adequately evaluated at this time. Therefore, the following impact analysis focuses on effects of the urban redevelopment



Source: ESRI 2014, Microsoft 2010

Figure 8a
Impacts to Biological Resources - North

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Source: ESRI 2014, Microsoft 2010

Figure 8b

Impacts to Biological Resources - South

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and park space development north of Chollas Creek. Effects of potential future projects along Chollas Creek are generally described, but will require additional future evaluation.

4.1 DIRECT IMPACTS

4.1.1 Vegetation Communities

The extent of potential impacts on vegetation communities and other land cover types within the BSA is presented in Table 8. It is assumed that all areas outside of the proposed Chollas Creek open space would be directly impacted by redevelopment, including removal of Chollas Parkway. A very small area along the northern boundary of the open space also would be directly impacted by the roadway removal. The remainder of the open space, including portions within the MHPA, could be directly impacted by implementation of future projects associated with the Chollas Creek Enhancement Program. Creek enhancement projects could include activities such as removal of invasive vegetation; restoration of native vegetation; and development of trails, overlooks, and other community amenities. Table 8 indicates the amount of each vegetation community currently present within the proposed Chollas Creek open space area, all of which is potentially subject to future impacts of implementing the Chollas Creek Enhancement Program. Because no projects are currently proposed, the actual extent of potential impacts cannot be quantified at this time, but relatively large areas of sensitive vegetation communities, including disturbed wetland and Diegan coastal sage scrub, could be affected. These impacts may be considered significant, but there would likely be a long-term environmental benefit from habitat enhancement projects. Additional environmental review will be required to accurately quantify and evaluate impacts associated with future projects (other than roadway removal) within the proposed Chollas Creek open space area.

Direct impacts on vegetation communities and land cover types north of Chollas Creek can be quantified and fully evaluated at this time. A very small area (0.07 acre) of one sensitive upland community—non-native grassland (Tier IIB)—along the north side of University Avenue could be converted as a result of redevelopment (Figure 8a). Conversion of this area of non-native grassland would not be considered significant, because it does not meet the City Significance Threshold of 0.10 acre of loss for a significant impact on this habitat type. In addition, this area is of little habitat value because of its small size and location immediately adjacent to a busy roadway. No direct impact on any other sensitive habitats would result from removal of Chollas Parkway or redevelopment of urban areas to the north (potential indirect impacts of roadway removal on adjacent sensitive vegetation communities within the proposed open space are discussed in Section 4.2.1). Figures 8a and 8b depict vegetation communities and land cover types north of Chollas Creek that would be directly impacted.

Table 8
Potential Direct Impacts to Vegetation Communities and Other Land Cover Types within the Biological Study Area

Vegetation Communities and Land Cover Types	MSCP Tier Level	Impact (acres)			
		Outside Chollas Creek Open Space	Inside Chollas Creek Open Space		Total
			Inside MHPA	Outside MHPA	
Riparian and Wetlands					**3.18**
Disturbed Wetland	Wetland	0.00	1.10	2.08	3.18
Uplands					**1.86**
Diegan Coastal Sage Scrub	II	0.00	1.45	0.09	1.54
Eucalyptus Woodland	IV	0.00	0.15	0.00	0.15
Non-Native Grassland	IIIB	0.07	0.05	0.05	0.17
Other Cover Types					**37.81**
Disturbed Land	IV	5.00	0.00	1.71	6.72
Ornamental	IV	0.24	0.30	0.06	0.61
Urban/Developed	N/A	29.03	0.00	1.45	30.48
Total		**34.35**	**3.05**	5.45	**42.85**

MSCP = Multiple Species Conservation Program; MHPA = Multiple Habitat Planning Area

Direct impacts north of Chollas Creek would result in redevelopment of 30.48 acres of urban/developed land and would have no effect on native vegetation. The majority of this area would continue to support urban/developed cover types, but the southern portion would be converted to park space. In addition, approximately 1.45 acres of urban/developed land would be converted to open space. Conversion of urban/developed land to park space and open space would result in an improvement to the biological values of these areas. Therefore, these impacts on urban/developed land would not be considered significant.

Impacts on 6.72 acres of disturbed land would result from redevelopment north of Chollas Parkway and conversion of the roadway corridor to park space and open space. Disturbed land north of Chollas Parkway has very little, if any, biological value and its loss would not affect any sensitive species. Conversion of disturbed land within and on the south side of the roadway would result in an improvement to the biological value of the habitat, including 1.71 acres that would become part of the proposed Chollas Creek open space. Therefore, loss of disturbed land would not be considered a significant impact.

Approximately 0.61 acre of ornamental vegetation is located north of Chollas Parkway, most of which is within the proposed park space area. This vegetation could be retained or removed as part of the park space development. Potential removal of this ornamental vegetation would not be considered a significant impact because it has little, if any, habitat value, is not considered sensitive, and does not provides habitat for any sensitive species.

4.1.2 Jurisdictional Waters and Wetlands

Jurisdictional waters of the U.S., state, and City within the BSA are restricted to Chollas Creek. As described above, no projects are currently proposed within the creek corridor. Removal of the Chollas Parkway roadway would encroach slightly on the proposed open space, but would not directly impact jurisdictional waters or wetlands (potential indirect impacts of roadway removal on adjacent waters and wetlands within the open space are discussed below in Section 4.2.2).

Direct impacts on the 3.98 acres of jurisdictional waters and wetlands along Chollas Creek (Table 9 and Figure 8b) could result from implementation of future Chollas Creek Enhancement Program projects, which could include habitat restoration, trail and overlook construction, and other recreational and habitat enhancements along the creek. Although such enhancements could result in a long-term benefit to habitat values, they could have a substantial adverse effect in the short term that would be potentially significant. Because no such projects are currently proposed, the actual extent of potential impacts cannot be adequately assessed at this time, and additional environmental review will be required to accurately quantify and evaluate impacts associated with future projects along Chollas Creek.

Table 9
Potential Direct Impacts to Jurisdictional Waters and Wetlands within the Biological Study Area from Implementation of the Chollas Creek Enhancement Program

Type of Jurisdictional Waters and Wetlands	Impact (acres)		
	Inside Chollas Creek Open Space		Total
	Inside MHPA	Outside MHPA	
Jurisdictional Waters of the U.S. (USACE, RWQCB, CDFW, and City of San Diego)			
Other Waters	0.86	0.19	1.05
Jurisdictional Waters of the State (CDFW and City of San Diego)			
Non-wetland Riparian	2.03	0.90	2.93
Total	**2.89**	**1.09**	**3.98**

CDFW = California Department of Fish and Wildlife; MHPA = Multiple Habitat Planning Area; RWQCB = Regional Water Quality Control Board; USACE = U.S. Army Corps of Engineers

4.1.3 Special-Status Plants

No special-status plants are expected to occur within the BSA. All four of the species evaluated were determined to have low potential to occur in the BSA because of the poor habitat quality. In addition, all of these species are visible year-round and would have been detected, if present, during the field surveys. Therefore, no direct impacts on special-status plants would occur.

4.1.4 Special-Status Wildlife

No special-status birds are anticipated to occur in the BSA, but common birds protected by the CFGC and MBTA could nest on buildings and in small areas of ornamental and other vegetation within the mostly developed portion of the BSA north of Chollas Parkway. Redevelopment activities within this area could result in removal and/or disturbance of active nests, potentially resulting in loss of protected birds. This would be a significant impact.

The Chollas Creek corridor supports suitable habitat for two special-status species: two-striped garter snake and Mexican long-tongued bat. Potential direct impacts to these species are limited to those that could result from implementation of future projects along the creek. Nesting birds protected by the CFGC and MBTA could also be directly impacted by future projects along the creek if project activities occur during the breeding season. Although creek enhancements could result in a long-term benefit to special-status wildlife, impacts from projects along the creek could also have a substantial adverse effect in the short term that would be potentially significant. Because no such projects are currently proposed, the actual extent of potential impacts cannot be adequately assessed at this time, and additional environmental review will be required to accurately quantify and further evaluate impacts associated with future projects along Chollas Creek.

4.1.5 Wildlife Dispersal Corridors and Linkages

Although Chollas Creek does not function as a regional wildlife corridor, it does provide refuge for wildlife and may act as a local linkage and stopover for migrating birds. Implementation of potential future projects north of Chollas Creek, including removal of Chollas Parkway, would not have any direct impact on wildlife habitat along Chollas Creek or usage of the creek as a habitat linkage. A portion of the creek is within the MHPA of the MSCP; consistency with the MSCP is discussed below in Section 4.3.

Potential impacts to the Chollas Creek linkage could result from implementation of future projects associated with the Chollas Creek Enhancement Program, such as habitat restoration, trail and overlook construction, and other recreational and habitat enhancements along the creek. Although these enhancements could result in a long-term benefit to the habitat values of the linkage, they could also have adverse effects that may be considered significant. Because no such projects are currently proposed, the actual extent of potential impacts cannot be adequately assessed at this time, and additional environmental review will be required to accurately quantify and further evaluate impacts associated with future projects along Chollas Creek.

4.2 INDIRECT IMPACTS

4.2.1 Vegetation Communities

Vegetation communities south of Chollas Parkway, which would not be directly impacted by urban redevelopment, roadway removal, or park space development, could be indirectly impacted by these actions. Indirect impacts that could occur during construction activities include effects of fugitive dust, sedimentation, and exposure to contaminants. Potential for long-term contaminant exposure from use of herbicides, pesticides, fertilizers, and other potentially harmful materials in maintenance of park space adjacent to Chollas Creek would be avoided by implementation of Land Use Adjacency Guidelines that address toxics. Indirect impacts during construction could be significant if they would result in a substantial adverse effect to the disturbed wetland and Diegan coastal sage scrub vegetation along and adjacent to the creek and to non-native grassland north of University Avenue that is outside of the project area.

Although park space would be developed within 100 feet of Chollas Creek, existing functions and values of the creek would be maintained by establishing an open space buffer that would extend 50 feet from the edge of the disturbed wetland vegetation or the natural stream line where no vegetation is present (Figure 8b). The 50-foot wetland buffer represents the boundary between the proposed Chollas Creek open space and the park space to be developed within the former roadway. An overall long-term beneficial impact to sensitive communities along Chollas Creek would result from providing this wetland buffer and from developing a park space transition between the open space to the south and urban development to the north. Therefore, zoning and development of the area north of Chollas Creek as park space and zoning the creek and 50-foot buffer as open space is unlikely to have substantial adverse indirect effects on the sensitive communities along the creek.

If enhancement of public access to Chollas Creek is part of future projects, such projects could result in indirect impacts on vegetation along the creek. The actual extent and nature of potential impacts cannot be described at this time because no specific projects are currently proposed. Impacts could be considered significant if they would result in a substantial adverse effect to creekside vegetation. Additional environmental review will be required to accurately quantify and evaluate impacts associated with future projects within the proposed Chollas Creek open space area.

4.2.2 Jurisdictional Waters and Wetlands

Jurisdictional waters and wetlands along Chollas Creek could be indirectly impacted by fugitive dust, sedimentation, and exposure to contaminants during construction activities associated with removal of Chollas Parkway and subsequent park space development. Potential for long-term contaminant exposure from the use of herbicides, pesticides, fertilizers, and other potentially harmful materials in maintenance of park space adjacent to Chollas Creek would be avoided by implementation of Land Use Adjacency Guidelines that address toxics. Indirect impacts during construction could be significant if they would result in substantial adverse effects to jurisdictional waters and wetlands.

The existing functions and values of jurisdictional waters and wetlands along Chollas Creek would be preserved, and possibly enhanced, by establishment of the proposed open space boundary 50 feet from the edge of the jurisdictional habitat (Figure 8b). This would provide a buffer greater than the current distance between the creek and the existing roadway. Converting the roadway corridor to park space/open space would reduce the amount of impermeable surface adjacent to the creek, which could reduce contamination and improve water quality. Therefore, potential long-term indirect impacts of removing the roadway and developing the park space corridor are unlikely to have substantial adverse indirect effects on jurisdictional waters and wetlands along Chollas Creek.

Implementation of future projects associated with the Chollas Creek Enhancement Program could result in significant indirect impacts on jurisdictional waters and wetlands, such as reduced water quality, during project implementation. In addition, long-term effects could result from enhancement of public access to the creek. The actual extent and nature of potential impacts cannot be described at this time because no specific projects are currently proposed. Although enhancement projects could result in a long-term overall benefit to habitat quality, short-term impacts could be considered significant if they would result in substantial adverse effects. Additional environmental review will be required to accurately quantify and evaluate impacts associated with future projects within the proposed Chollas Creek open space area.

4.2.3 Special-Status Plants

No special-status plants are expected to occur within the BSA. All four of the species evaluated were determined to have low potential to occur in the BSA because of the poor habitat quality. In addition, all of these species are visible year-round and would have been detected, if present, during the field surveys. Therefore, no indirect impact on special-status plants are anticipated to occur.

4.2.4 Special-Status Wildlife Species

Suitable habitat for two-striped garter snake and Mexican free-tongued bat along Chollas Creek could be indirectly impacted by fugitive dust, sedimentation, and exposure to contaminants during construction activities associated with Chollas Parkway removal and park space development. Potential for long-term contaminant exposure from use of herbicides, pesticides, fertilizers, and other potentially harmful materials in maintenance of park space adjacent to riparian vegetation along Chollas Creek would be avoided by implementing Land Use Adjacency Guidelines that address toxics. Indirect impacts during construction could be significant if they would result in substantial adverse effects to two-striped garter snake or Mexican free-tongued bat.

No special-status birds are expected to occur within the BSA, but common nesting birds protected by the CFGC and MBTA could be adversely affected by disturbance from construction activities associated with roadway removal and park space development adjacent to Chollas Creek if such activities occur during the breeding season. Disturbance could result in nest failure and loss of individuals. Loss of birds protected by the CFGC or MBTA would be a significant impact.

Special-status wildlife and common nesting birds that occupy the Chollas Creek corridor are not anticipated to suffer long-term adverse effects of developing the park space corridor. The park space boundary would be 50 feet from the edge of the creek or riparian vegetation. This would provide a buffer greater than the current distance between the creek and the current high levels of disturbance associated with the existing roadway and pedestrian shoulder. Although public use of the park space would be encouraged, such use is not anticipated to increase noise levels and other sources of disturbance compared to existing conditions. Therefore, removing the roadway and developing the park space corridor are unlikely to have substantial adverse indirect effects on special-status and other protected wildlife using the Chollas Creek corridor.

Implementation of future projects associated with the Chollas Creek Enhancement Program could result in significant indirect impacts on two-striped garter snake, Mexican free-tongued bat, and common birds protected by the CFGC and/or MBTA. Impacts would primarily be restricted to the construction period, although long-term effects could result from enhancement of public access to the creek. The actual extent and nature of potential impacts cannot be described at this time because no specific projects are currently proposed. Although enhancement projects could result in a long-term overall benefit to habitat quality for special-status wildlife, short-term impacts could be considered significant if they would result in substantial adverse effects. Additional environmental review will be required to accurately quantify and evaluate impacts associated with future projects within the proposed Chollas Creek open space area.

4.2.5 Wildlife Dispersal Corridors and Linkages

Chollas Creek is not a designated MSCP regional wildlife corridor, but it does provide refuge for wildlife and may act as a local habitat linkage and corridor for local wildlife movement. The proposed open space boundary would provide a greater buffer than the current distance between the creek and existing roadway and pedestrian shoulder. Therefore, although public use of the park space would be encouraged, such use is not anticipated to increase interference with wildlife use of the creek habitat compared to the existing conditions. Because the creek is bordered by urban development and existing disturbance levels are very high, implementation of urban redevelopment and development of park space north of the existing Chollas Parkway are not anticipated to substantially interfere with use of the habitat as foraging and nesting habitat, or to obstruct wildlife movement. However, roadway removal and park space development within the Chollas Parkway alignment would likely require movement of heavy equipment, increased noise levels, and increased human disturbance associated with construction personnel. These increased disturbance levels adjacent to the creek during project implementation could interfere with wildlife use along Chollas Creek and result in a significant impact. Potential impacts related to the MHPA and consistency with the MSCP are discussed below in Section 4.3.

Implementation of future projects associated with the Chollas Creek Enhancement Program could result in significant indirect impacts on wildlife use of the creek habitat. Impacts would primarily be restricted to the construction period, although long-term effects could result from enhancement of public access to the creek. The actual extent and nature of potential impacts cannot be described at this time because no specific projects are currently proposed. Although enhancement projects could result in a long-term overall benefit to habitat quality and contribute to improving the value of the larger Chollas Creek corridor for longer distance wildlife movements, short-term impacts could be considered significant if they would result in substantial adverse effects on wildlife use or movement. Additional environmental review will be required to accurately quantify and evaluate impacts associated with future projects along Chollas Creek.

4.3 MULTIPLE SPECIES CONSERVATION PROGRAM CONSISTENCY

Designation of the Chollas Creek corridor as open space would be consistent with compatible land uses identified in Section 1.4.1 of the Subarea Plan, which indicates that passive recreation is considered conditionally compatible with the biological objectives of the MSCP and is allowed within the City’s MHPA. Because the proposed park space is adjacent to a portion of the MHPA, roadway removal and park space development and maintenance would be implemented in accordance with relevant Subarea Plan policies, guidelines, objectives, conditions, and directives described above in Section 3.9. In addition, the proposed open space boundary would provide a greater buffer than the current distance between the creek and existing roadway and pedestrian shoulder, and proposed park space would be a more compatible land use adjacent to the MHPA than Chollas Parkway. Therefore, proposed roadway removal and park space development would be consistent with the MSCP.

Future projects associated with the Chollas Creek Enhancement Program are intended to comply with MSCP Subarea Plan policies, guidelines, objectives, conditions, and directives. In addition, implementation of the enhancement program would likely result in a long-term overall benefit to habitat quality and integrity of the MHPA and MSCP. However, additional environmental review will be required to fully evaluate MSCP consistency of future projects proposed as part of the Chollas Creek Enhancement Program.

4.4 CONSISTENCY WITH THE CHOLLAS CREEK ENHANCEMENT PROGRAM

One of the specific project objectives is to create a safe, accessible, and attractive park environment along Chollas Creek, which is consistent with the Chollas Creek Enhancement Program. Vacation of Chollas Parkway, development of park space, and establishment of the proposed Chollas Creek open space would be consistent with, and facilitate implementation of, the Chollas Creek Enhancement Program, the overall goal of which is to create a linear park encompassing the multiple branches of Chollas Creek, including the portion immediately south of Chollas Parkway. Specific components of the program vision are to maintain natural areas of the creek in an undisturbed fashion; promote cohesive new development that integrates buildings, open space, and the creek into successful and usable areas for the community; and restore channelized creeks in urbanized areas to more natural and safe (with adequate flood protection and enhanced personal safety) conditions. Removing Chollas Parkway and designating approximately one-half of the vacated space as population-based parkland and the other one-half as open space would directly contribute to fulfillment of this vision. Therefore, proposed roadway removal, park space development, and open space designation would be consistent with the Chollas Creek Enhancement Program.

The Chollas Creek Enhancement Program is intended to be used as a guide to develop recommendations for future improvements along Chollas Creek. However, applicable design/development guidelines and potential conflict with project plans cannot be evaluated at this time because no projects are currently proposed. Therefore, additional environmental review will be required to assess consistency of future projects along the creek with the Chollas Creek Enhancement Program.

4.5 CUMULATIVE IMPACTS

CEQA Guidelines Section 15355 defines cumulative impacts as “two or more individual effects [that], when considered together, are considerable or [that] compound or increase other environmental impacts.” Cumulative impacts refer to the incremental impacts from two or more projects when considered together. When analyzed separately, the impacts may be minor, but when analyzed together, they could be considered significant over a period of time.

The proposed land use changes, General Plan amendment, and rezoning, as well as implementation of reasonably foreseeable future projects (e.g., redeveloping land north of Chollas Parkway, removing Chollas Parkway, and developing park space) could result in significant impacts to vegetation communities, jurisdictional waters and wetlands, and special-status species, and could result in inconsistency with the MSCP. These potential impacts would be mitigated to less-than-significant levels with implementation of the mitigation measures identified in Chapter 5.

The City has undergone extensive conversion of native habitat, which resulted in significant impacts on biological resources, including encroachment of surrounding urban development on the Chollas Creek watershed. Some adverse impacts from this surrounding development are ongoing, such as human disturbance and urban runoff.

Because the proposed project could contribute to these ongoing impacts, it could result in a cumulatively considerable incremental contribution to a significant cumulative impact. However, implementing the mitigation measures described in Chapter 5 would reduce the incremental contribution to any potentially significant cumulative impacts because the measures conform to the MSCP, as specified by the Subarea Plan, and the implementing ordinances (i.e., Biology Guidelines and ESL Regulations). Projects that comply with the MSCP are not expected to result in a significant cumulative impact for biological resources that are covered by the MSCP, including those that would be affected by future projects. Therefore, the proposed land use changes, General Plan amendment, and rezoning would not make a considerable incremental contribution to a significant cumulative impact, and the resulting impact would be less than significant.

Because no specific projects have been proposed in relation to enhancement of Chollas Creek, the potential contribution of such projects to a significant cumulative impact on biological resources cannot be adequately evaluated at this time, and additional environmental review will be required to assess cumulative impacts of such future projects.

CHAPTER 5.0
MITIGATION

Mitigation is required for impacts that are considered significant under the City's Biology Guidelines (City of San Diego 2012) and the City's CEQA Significance Determination Thresholds for biological resources (Appendix I of the Biology Guidelines).

Mitigation is defined in CEQA Guidelines Section 15370 (Title 14, Chapter 3, Article 20) as follows:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

According to the City's Biology Guidelines, mitigation is the process of reducing significant impacts to below a level of significance. The process of identifying biological mitigation under the ESL Regulations and CEQA consists of two parts:

- identification of significant biological impacts and
- identification of the corresponding mitigation requirements to reduce the impacts to below a level of significance.

Compensatory mitigation would be required for any impacts that cannot be avoided or adequately minimized. The following sections describe measures that would reduce biological impacts to sensitive vegetation communities, jurisdictional waters and habitats, special-status plants, special-status wildlife, and wildlife linkages to levels below significance under CEQA and the City's MSCP Subarea Plan.

5.1 MITIGATION MEASURES FOR FUTURE PROJECTS IN AREAS EXCLUDING CHOLLAS CREEK

Implementation of the measures described in the sections below would reduce significant impacts related to sensitive vegetation communities, jurisdictional wetlands and waters, special-status plants, special-status wildlife, and MSCP consistency to less than significant. These measures relate to implementation of the proposed land use changes, General Plan amendment, and rezoning, as well as future projects that could be implemented north of the southern shoulder of Chollas Parkway (i.e. north of the boundary between the southern edge of the roadway mapped as urban/developed and the road shoulder mapped as disturbed land in Figures 4a and 4b). As discussed in the impacts section above, potential effects of future projects along Chollas Creek cannot be adequately assessed at this time, and additional environmental review of such projects will be required consistent with the mitigation framework described below in Section 5.2.

5.1.1 Direct Impacts

5.1.1.1 Special-Status Wildlife Species

Potential direct impacts on nesting birds protected by the CFGC and MBTA will be avoided and/or minimized through implementation of the following measures:

- Removal of vegetation or structures that could be used by nesting birds shall be conducted outside of the bird nesting season (February 1 through September 15), to the maximum extent feasible.
- If vegetation or structure removal is not completed during the non-nesting season, a pre-construction survey shall be conducted by a qualified biologist to determine if active bird nests are present within any vegetation or structures to be removed.
- If an active nest is found, an appropriately sized protective buffer shall be determined by a qualified biologist, and implementation of the buffer shall be monitored by the biologist until the young have fledged or the nest is otherwise no longer active. The buffer may be adjusted as appropriate, depending on the nest stage and disturbance level.

5.1.2 Indirect Impacts

5.1.2.1 Sensitive Vegetation Communities

Implementation of the following measures will minimize indirect impacts on sensitive vegetation communities:

- A qualified biologist shall monitor and confirm compliance with applicable Subarea Plan policies and guidelines during construction activities adjacent to sensitive vegetation communities, including non-native grassland north of University Avenue and disturbed wetland along Chollas Creek. The biological monitor shall be familiar with local habitats, plants, and wildlife, and shall maintain communications with the contractor to ensure that issues relating to biological resources are appropriately and lawfully managed. Biological monitoring shall occur within designated areas during critical times, such as installation of best management practices (BMPs) and fencing to protect habitat along the creek, and to ensure that all avoidance and minimization measures are properly constructed and followed. The project biologist shall provide a final report documenting compliance with avoidance and minimization measures within 60 days of completion of construction activities.

- Project employees and contractors on-site shall complete a worker-awareness training conducted by the biological monitor. The training shall advise workers of potential impacts to the sensitive habitat and species and the potential penalties for impacts to such habitat and species. At a minimum, to promote continued successful occupation of areas adjacent to the work footprint, the program shall include the following topics: occurrences of the listed and sensitive species in the area, a physical description and their general ecology, sensitivity of the species to human activities, legal protection afforded these species, and work features designed to reduce the impacts to these species. Employees and contractors shall be instructed to immediately notify the biological monitor of any incidents, such as construction vehicles that move outside of the work area boundary. The biological monitor shall be responsible for notifying the City within 72 hours of any incident.

- Orange construction fencing shall be placed along the perimeter of the identified construction, laydown, and equipment storage areas adjacent to Chollas Creek and other areas that support sensitive vegetation communities.

- BMPs shall be implemented during construction to prevent impacts to water quality in Chollas Creek.

- Spill prevention and cleanup measures shall be practiced on-site. Fuel and equipment shall be stored at least 100 feet from Chollas Creek.

- Prior to construction, the project contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the State’s General Construction Storm Water Permit – 99-08-DWQ, and implement the SWPPP during construction. Specific measures to be incorporated into the SWPPP include the following:

  a. All equipment shall be maintained in accordance with manufacturer's recommendations and requirements.
  b. Equipment and containers shall be inspected daily for leaks.
  c. The contractor shall use off-site maintenance and repair shops as much as possible for maintenance and repair of equipment.
  d. If maintenance of equipment occurs on-site, within all areas, fuel/oil pans, absorbent pads, or appropriate containment shall be used to capture spills/leaks.

- All food-related trash such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and/or closed trash bags and regularly removed from the project site. Feeding of wildlife shall be strictly prohibited.

5.1.2.2 Jurisdictional Areas

Implementation of the measures described above for sensitive vegetation communities would also minimize potential indirect impacts on jurisdictional areas by preventing accidental incursion into these areas, minimizing water quality degradation (e.g., erosion and sedimentation), and preventing and containing contaminant spills.

5.1.2.3 Special-Status Wildlife

Implementation of measures described above for sensitive vegetation communities would also minimize potential for indirect impacts on special-status wildlife. Indirect impacts on protected nesting birds would be further minimized by implementation of the following measures:

- Construction activities adjacent to Chollas Creek shall be conducted outside of the bird nesting season (February 1 through September 15), to the maximum extent feasible.
- If construction occurs during the nesting season (February 1 through September 15), a pre-construction survey shall be conducted by a qualified biologist to determine if active bird nests are present within 200 feet of construction areas.
- If an active nest is found, an appropriately sized protective buffer shall be determined by a qualified biologist, and implementation of the buffer shall be monitored by the biologist until the young have fledged or the nest is otherwise no longer active. The buffer may be adjusted as appropriate, depending on the nest stage and disturbance levels.

5.1.2.4 Wildlife Dispersal Corridors and Linkages

Implementation of measures described above for sensitive vegetation communities and special-status wildlife would also minimize potential for indirect impacts on wildlife dispersal corridors and linkages by preventing accidental incursion into the creek corridor and requiring pre-construction nesting bird surveys and implementation of protective buffers around active nests.

5.2 MITIGATION FRAMEWORK FOR FUTURE PROJECTS ALONG CHOLLAS CREEK

All impacts on sensitive biological resources along Chollas Creek would be avoided to the maximum extent feasible and minimized when avoidance is not possible. Future projects that could significantly affect biological resources in the undeveloped area along Chollas Creek would implement the Biological Resources Mitigation Framework detailed below. Where impacts are not avoidable or cannot be minimized, compensatory mitigation would be required to reduce significant impacts to below a level of significance. Mitigation measures typically employed include resource avoidance, restoration or creation of habitat, dedication or acquisition of habitat, or payment into the City’s Habitat Acquisition Fund or other City-approved mitigation bank. Mitigation measures would be determined and implemented at the project level. Adherence to the framework below is anticipated to minimize impacts to sensitive biological resources.

5.2.1 Sensitive Upland Vegetation Communities

Future projects resulting in impacts to sensitive upland habitats along Chollas Creek (i.e., Diegan coastal sage scrub and non-native grassland south of the creek) would implement avoidance and minimization measures that are consistent with the Biology Guidelines and MSCP Subarea Plan, and would provide suitable mitigation in accordance with the Biology Guidelines. Future project-level plans would incorporate project design features to minimize direct impacts on sensitive upland vegetation communities, consistent with federal, state, and City guidelines. Any required mitigation for impacts on sensitive vegetation communities would be at ratios based on the tier level of the vegetation community, the location of the impact, and the location of the mitigation site, and would be outlined in a conceptual mitigation plan in accordance with the Biology Guidelines. Mitigation for impacts on sensitive vegetation communities would be developed at the time future projects are proposed.

5.2.2 Sensitive Wetland Vegetation Communities and Jurisdictional Waters and Wetlands

To reduce potential direct impacts to City, state, and federally regulated wetlands, all future projects along Chollas Creek would be required to comply with USACE CWA Section 404 requirements and special conditions, CDFW Section 1602 Streambed Alteration Agreement requirements and special conditions, and the City's ESL Regulations for minimizing impacts to wetlands. Achieving consistency with these regulations for impacts on wetlands and special aquatic sites would reduce potential impacts to regulated wetlands and provide compensatory mitigation (as required) to ensure no-net-loss of wetland habitats.

Prior to obtaining discretionary permits for future actions, a site-specific biological resources survey would be completed in accordance with the Biology Guidelines. Any required mitigation for impacts would be outlined in a conceptual wetland mitigation plan that is prepared in accordance with the guidelines. In addition, a preliminary or final jurisdictional wetlands delineation of the project site would be completed following the methods outlined in the USACE 1987 Manual (Environmental Laboratory 1987) and 2008 Supplement (Environmental Laboratory 2008). A determination of the presence/absence and boundaries of any waters of the U.S. and state would be completed following the appropriate USACE guidance documents for determining ordinary high water mark boundaries. The limits of any habitats on-site under the sole jurisdiction of CDFW would also be delineated, as well as any special aquatic sites that may not meet federal jurisdictional criteria but are regulated by the RWQCB. Future project-level plans would incorporate measures to minimize direct impacts to jurisdictional waters, wetlands, and other creekside habitats, consistent with federal, state, and City guidelines.

Additionally, any impacts to wetlands would require a deviation from the ESL wetland regulations. Under the wetland deviation process, projects that have wetland impacts would be considered only pursuant to one of three options: Essential Public Project, Economic Viability Option, or Biologically Superior Option. The most appropriate option for future projects within the proposed Chollas Creek open space area is anticipated to the Biologically Superior Option.

Unavoidable impacts to wetlands would be minimized to the maximum extent practicable and mitigated as follows:

- As part of the project-specific environmental review pursuant to CEQA, all unavoidable wetland impacts shall be analyzed, and mitigation shall be required in accordance with ratios outlined in the Biology Guidelines. Mitigation shall be based on the impacted type of wetland and project design. Mitigation shall prevent any net loss of wetland functions and values of the impacted wetland.
- For the Biologically Superior Option, the project and proposed mitigation shall include avoidance, minimization, and compensatory measures that shall result in a biologically superior net gain in overall function and values of (a) the type of wetland resource being impacted and/or (b) the biological resources to be conserved. The Biologically Superior

Option mitigation shall include either (1) standard mitigation per the Biology Guidelines, including wetland creation or restoration of the same type of wetland resource that is being impacted that results in high-quality wetlands, and a biologically superior project design whose avoided area (a) is in a configuration or alignment that optimizes the potential long-term biological viability of the on-site sensitive biological resources, and/or (b) conserves the rarest and highest quality on-site biological resources; or (2) for a project not considered consistent with "1" above, extraordinary mitigation shall be required.

The following provides operational definitions of the four types of activities that constitute wetland mitigation under the ESL Regulations:

- **Wetland creation** is an activity that results in the formation of new wetlands in an upland area. An example is excavation of uplands adjacent to existing wetlands and establishment of native wetland vegetation.
- **Wetland restoration** is an activity that re-establishes the habitat functions of a former wetland. An example is the excavation of agricultural fill from historic wetlands and the re-establishment of native wetland vegetation.
- **Wetland enhancement** is an activity that improves the self-sustaining habitat functions of an existing wetland. An example is removal of exotic species from existing riparian habitat.
- **Wetland acquisition** may be considered in combination with any of the three mitigation activities above.

Because wetland impacts within the proposed Chollas Creek open space area are most likely to be associated with creek enhancement projects, mitigation is anticipated to be incorporated into project design. Mitigation is most likely to occur in the form of on-site wetland restoration and/or wetland enhancement, depending on the project. Wetland creation may not be feasible based on spatial constraints. Acquisition of off-site wetlands may be necessary if unavoidable impacts cannot be fully mitigated on-site.

The Biology Guidelines and Subarea Plan require that impacts on wetlands be avoided and that a sufficient wetland buffer be maintained, as appropriate, to protect resource functions/values. The project-specific Biology Report(s) would include an analysis of on-site wetlands (including City, state, and federal jurisdiction analysis) and, if present, include project alternatives that fully/substantially avoid wetland impacts. Detailed evidence supporting why there is no feasible less environmentally damaging location or alternative to avoid any impacts would be provided for City staff review; a mitigation plan that specifically identifies how the project is to compensate for any unavoidable impacts would also be provided. A conceptual wetland mitigation plan would be approved by City staff prior to the release of the draft environmental document. Avoidance would be the first requirement; mitigation would only be used for impacts clearly demonstrated to be unavoidable.

Prior to the commencement of any construction-related activities on-site for projects impacting wetland habitat (including earthwork and fencing), the applicant would provide evidence of the following to the Assistant Deputy Director/Environmental Designee prior to any construction activity:

- Compliance with the USACE Section 404 Nationwide Permit
- Compliance with the RWQCB Section 401 Water Quality Certification
- Compliance with the CDFW Section 1601/1603 Streambed Alteration Agreement

5.2.3 Special-Status Species

To reduce potentially significant impacts that would cause a reduction in the number of unique, rare, endangered, sensitive, or fully protected species of plants or animals, all subsequent projects that could affect habitat along Chollas Creek would be analyzed in accordance with the CEQA Significance Thresholds, which require that site-specific biological resources surveys be conducted in accordance with the Biology Guidelines. The locations of any sensitive plant species, including listed, rare, and narrow endemic species, as well as the potential for occurrence of any listed or rare wildlife species, would be recorded and presented in a biological resources report. Based on available habitat within the proposed open space area, focused presence/absence surveys would be conducted in accordance with the Biology Guidelines and applicable resource agency survey protocols to determine the potential for impacts resulting from the future projects on these species. Measures would be incorporated into the design of future projects to minimize or eliminate direct impacts on sensitive plant and wildlife species consistent with the FESA, MBTA, CESA, Subarea Plan, and ESL Regulations.

5.2.4 Wildlife Corridors and Linkages

Mitigation to reduce potentially significant impacts of future projects that would interfere with the movement of wildlife species along Chollas Creek would be identified in site-specific biological resources surveys prepared in accordance with the Biology Guidelines during the project-level review process. The Biology Report(s) would include results of protocol surveys and recommendations for additional measures to be implemented during construction-related activities. The report would identify the limits of habitat linkages and analyze potential impacts in relation to local fauna to minimize direct impacts on sensitive wildlife species and to provide for continued wildlife movement through the corridor.

Measures to minimize direct impacts on wildlife movement, nesting activities, and/or foraging activities would be identified in the Biology Report(s) and incorporated into project-level construction documents. The Biology Report(s) would include recommendations for pre-construction protocol surveys to be conducted during established breeding seasons, construction noise monitoring, and implementation of any species-specific mitigation plans to comply with the FESA, MBTA, CFGC, and/or ESL Regulations.

5.2.5 Multiple Species Conservation Program Consistency

Consistency of future projects with the MSCP would be addressed at the project level. All projects that would be implemented within or adjacent to the designated MHPA along Chollas Creek would incorporate features into the project and/or permit conditions that demonstrate compliance with Subarea Plan policies and guidelines, including the MHPA Land Use Adjacency Guidelines. Projects would comply with the Land Use Adjacency Guidelines of the MSCP in terms of land use, drainage, access, lighting, noise, invasive plant species, grading, brush management, and toxic substances in runoff. Potential mitigation measures would include sufficient buffers and design features, barriers (rocks, boulders, signage, fencing, and appropriate vegetation) where necessary, lighting directed away from the MHPA, and berms or walls adjacent to uses that may introduce construction noise or noise from future projects that could impact or interfere with wildlife use of the MHPA. The project biologist for each proposed project would identify specific mitigation measures to reduce impacts to below a level of significance.

Subsequent environmental review would be required to determine the significance of impacts and consistency with the MSCP. Prior to project approval, the City would identify specific conditions of approval designed to avoid or reduce potential impacts to the MHPA. Specific measures to ensure avoidance or reduction of potential MHPA impacts may be required for future projects as part of the subsequent environmental review and permit processing. Although not anticipated to be required based on the likely nature of future projects along Chollas Creek, if an MHPA boundary adjustment is necessary, it would be processed by the individual project applicants through the City and the wildlife agencies during the early project planning stage.

5.2.6 Chollas Creek Enhancement Program Consistency

Consistency with the Chollas Creek Enhancement Program would be addressed at the project level. All projects that would be implemented within the program area would incorporate design/development features into the project design to demonstrate consistency with the Chollas Creek Enhancement Program. Subsequent environmental review would be required to determine the significance of impacts related to consistency with the program.

CHAPTER 6.0
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CHAPTER 7.0
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APPENDIX A

PLANT SPECIES DETECTED WITHIN THE CHOLLAS TRIANGLE BIOLOGICAL STUDY AREA

Appendix A
Plant species observed within the Chollas Triangle BSA

Family	Scientific Name	Common Name	Habitat Type
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	Blue Elderberry	Disturbed Wetland
Agavaceae	*Yucca schidigera*	Mohave Yucca	Diegan Coastal Sage Scrub
Anacardiaceae	*Malosma laurina*	Laurel Sumac	Diegan Coastal Sage Scrub
	Rhus integrifolia	Lemonadeberry	Diegan Coastal Sage Scrub
	*Schinus molle**	Peruvian Pepper Tree	Disturbed Wetland, Disturbed Habitat
	*Schinus terebinthifolius**	Brazilian Pepper Tree	Disturbed Wetland, Disturbed Habitat
Arecaceae	*Phoenix canariensis**	Canary Island Date Palm	Disturbed Wetland
	*Washingtonia robusta**	Mexican fan Palm	Disturbed Wetland
Asparagaceae	*Asparagus asparagoides**	Florist's-Smilax	Disturbed Wetland, Disturbed Habitat
Asphodelaceae	*Asphodelus fistulosus**	Hollow-Stem Asphodel	Disturbed Habitat, Ornamental
Asteraceae	*Ambrosia psilostachya*	Western Ragweed	Disturbed HabitatNonative Grassland
	Artemisia californica	Coastal Sagebrush	Diegan Coastal Sage Scrub
	Baccharis pilularis	Coyote Brush	Disturbed Wetland, Diegan Coastal Sage Scrub
	Baccharis salicifolia	Mule-Fat, Seep-Willow	Disturbed Wetland
	Baccharis sarothroides	Broom Baccharis	Disturbed Wetland
	*Centaurea melitensis**	Tocalote	Disturbed Habitat, Nonnative Grassland
	*Cotula coronopifolia**	African Brass-Buttons	Disturbed Habitat, Nonnative Grassland
	Deinandra fasciculata	Fascicled Tarweed	Diegan Coastal Sage Scrub, Nonnative Grassland
	Encelia californica	California Encelia	Diegan Coastal Sage Scrub
	Erigeron canadensis	Horseweed	Disturbed Habitat, Nonnative Grassland
	*Glebionis coronaria**	Garland/Crown Daisy	Disturbed Habitat, Nonnative Grassland
	*Hedypnois cretica**	Crete Hedypnois	Disturbed Habitat, Nonnative Grassland
	Heterotheca grandiflora	Telegraph Weed	Disturbed Habitat, Nonnative Grassland

Family	**Scientific Name**	**Common Name**	**Habitat Type**
Asteraceae (continued)	*Hypochaeris glabra**	Smooth Cat's Ear	Disturbed Habitat, Nonnative Grassland
	Isocoma menziesii	Goldenbush	Disturbed Habitat, Nonnative Grassland
	*Lactuca serriola**	Prickly Lettuce	Disturbed Habitat, Nonnative Grassland
	Pseudognaphalium biolettii	Bicolor Cudweed	Disturbed Habitat, Nonnative Grassland
	Pseudognaphalium californicum	California Everlasting	Disturbed Habitat, Nonnative Grassland
	*Silybum marianum**	Milk Thistle	Disturbed Habitat, Nonnative Grassland
	*Sonchus oleraceus**	Common Sow-Thistle	Disturbed Habitat, Nonnative Grassland
	Xanthium strumarium	Cocklebur	Disturbed Wetland
Bignoniaceae	*Tecomaria capensis**	Cape Honeysuckle	Ornamental
Boraginaceae	*Heliotropium curassavicum*	Salt Heliotrope	Disturbed Wetland
Brassicaceae	*Brassica nigra**	Black Mustard	Disturbed Habitat, Nonnative Grassland
	*Capsella bursa-pastoris**	Shepherd's Purse	Disturbed Habitat, Nonnative Grassland
	Hirschfeldia incana *	Short-Pod Mustard	Disturbed Habitat, Nonnative Grassland
	*Lobularia maritima**	Sweet Alyssum	Disturbed Habitat, Nonnative Grassland
	*Nasturtium officinale**	Water-Cress	Disturbed Wetland
	*Raphanus sativus**	Wild Radish	Disturbed Habitat, Nonnative Grassland
	*Sisymbrium irio**	London Rocket	Disturbed Habitat, Nonnative Grassland
	*Sisymbrium orientale**	Hare's-Ear Cabbage	Disturbed Habitat, Nonnative Grassland
Cactaceae	*Cylindropuntia prolifera*	Coast Cholla	Diegan Coastal Sage Scrub
Chenopodiaceae	*Atriplex semibaccata* *	Australian Saltbush	Disturbed Habitat, Nonnative Grassland
	*Salsola tragus**	Russian Tumbleweed	Disturbed Habitat, Nonnative Grassland
Cleomaceae	*Peritoma arborea* var. *arborea*	Coast Bladderpod	Diegan Coastal Sage Scrub
Convolvulaceae	*Calystegia macrostegia*	San Diego Morning-Glory	Diegan Coastal Sage Scrub
Crassulaceae	*Aeonium arboretum**	Canary Island Aeonium	Ornamental

Family	**Scientific Name**	**Common Name**	**Habitat Type**
Cucurbitaceae	*Marah macrocarpa*	Wild Cucumber	Diegan Coastal Sage Scrub
Cyperaceae	*Cyperus eragrostis*	Tall Flatsedge	Disturbed Wetland
	Schoenoplectus californicus	California Bulrush	Disturbed Wetland
Dipsacaceae	*Dipsacus sativus**	Fuller's Teasel	Disturbed Wetland
Euphorbiaceae	*Euphorbia peplus**	Petty Spurge	Disturbed Habitat, Nonnative Grassland
	*Ricinus communis**	Castor Bean	Disturbed Wetland
Fabaceae	*Acacia Cyclops**	Cyclops Acacia	Ornamental
	Acmispon glaber	Coastal Deerweed	Diegan Coastal Sage Scrub
	*Medicago polymorpha**	Burclover	Disturbed Habitat, Nonnative Grassland
	*Melilotus indicus**	Indian Sweetclover	Disturbed Habitat, Nonnative Grassland
	*Trifolium hirtum**	Rose Clover	Disturbed Habitat, Nonnative Grassland
Geraniaceae	*Erodium botrys**	Long-Beak Filaree/Storksbill	Disturbed Habitat, Nonnative Grassland
	*Erodium cicutarium**	Red-Stem Filaree/Storksbill	Disturbed Habitat, Nonnative Grassland
Lamiaceae	*Marrubium vulgare**	Horehound	Disturbed Habitat, Nonnative Grassland
	Salvia apiana	White Sage	Diegan Coastal Sage Scrub
	Salvia mellifera	Black Sage	Diegan Coastal Sage Scrub
Moraceae	*Ficus carica **	Common Fig	Disturbed Wetland
Myrsinaceae	*Anagallis arvensis**	Scarlet Pimpernel	Disturbed Wetland, Nonnative Grassland
Myrtaceae	*Eucalyptus camaldulensis**	River Red Gum	Ornamental
	*Eucalyptus cladocalyx**	Sugar Gum	Ornamental
	*Eucalyptus cyderoxylon **	Ironbark	Ornamental
Nyctaginaceae	*Mirabilis laevis* var. *crassifolia*	Coastal Wishbone Plant	Diegan Coastal Sage Scrub
Onagraceae	*Epilobium ciliatum* ssp. *ciliatum*	Willow Herb	Disturbed Wetland
Oxalidaceae	*Oxalis pes-caprae**	Bermuda-Buttercup	Disturbed Habitat, Nonnative Grassland
Plumbaginaceae	*Limonium perezii**	Perez's Marsh-Rosemary	Disturbed Habitat, Nonnative Grassland
	*Plumbago auriculata**	Cape plumbago	Ornamental
Poaceae	*Agrostis viridis**	Water Beardgrass	Disturbed Wetland, Nonnative Grassland
	*Bromus diandrus**	Ripgut Grass	Disturbed Habitat, Nonnative Grassland

Family	**Scientific Name**	**Common Name**	**Habitat Type**
Poaceae (continued)	*Bromus hordeaceus* *	Soft Chess	Disturbed Habitat, Nonnative Grassland
	Bromus madritensis ssp. *rubens**	Red Brome	Disturbed Habitat, Nonnative Grassland
	*Cynodon dactylon**	Bermuda Grass	Disturbed Habitat, Disturbed Wetland, Nonnative Grassland
	*Echinochloa crus-galli**	Common Barnyard Grass	Disturbed Habitat, Disturbed Wetland, Nonnative Grassland
	*Festuca perennis**	Italian Ryegrass	Disturbed Habitat, Nonnative Grassland
	*Pennisetum setaceum**	African Fountain Grass	Nonnative grassland, Ornamental
	*Polypogon monspeliensis**	Annual Beard Grass	Disturbed Wetland, Nonnative Grassland
	*Sporobolus indicus**	Smutgrass	Disturbed Wetland, Nonnative Grassland
	Stipa pulchra	Purple Needle Grass	Nonnative Grassland
	*Stipa miliacea**	Smilo Grass	Disturbed Wetland, Nonnative Grassland
Polygonaceae	*Eriogonum fasciculatum*	California Buckwheat	Diegan Coastal Sage Scrub
Rosaceae	*Heteromeles arbutifolia*	Toyon	Diegan Coastal Sage Scrub
Rubiaceae	*Galium angustifolium* ssp. *angustifolium*	Narrow-Leaf Bedstraw	Diegan Coastal Sage Scrub
Salicaceae	*Salix gooddingii*	Goodding's Black Willow	Disturbed Wetland
	Salix lasiolepis	Arroyo Willow	Disturbed Wetland
Scrophulariaceae	*Myoporum sandwicense**	Hawaii Myoporum	Ornamental
Solanaceae	*Nicotiana glauca**	Tree Tobacco	Disturbed Wetland
	Solanum douglasii	Douglas's Nightshade	Disturbed Wetland, Nonnative grassland
Tamaricaceae	*Tamarix ramosissima**	Tamarisk, Salt-Cedar	Disturbed Wetland
Themidaceae	*Dichelostemma capitatum* ssp. *capitatum*	Blue Dicks	Nonnative Grassland
Typhaceae	*Typha domingensis*	Southern Cattail	Disturbed Wetland
Urticaceae	*Urtica urens**	Dwarf Nettle	Disturbed Wetland
Verbenaceae	*Glandularia aristigera**	South American Mock Vervain	Ornamental
	*Lantana camara**	Lantana	Ornamental
	Verbena lasiostachys var. *lasiostachys*	Western Vervain	Diegan Coastal Sage Scrub

APPENDIX B

WILDLIFE SPECIES DETECTED WITHIN THE CHOLLAS TRIANGLE BIOLOGICAL STUDY AREA

APPENDIX B

WILDLIFE SPECIES OCCURRING WITHIN THE CHOLLAS TRIANGLE BIOLOGICAL STUDY AREA

Family	Scientific Name	Common Name
BIRDS		
Order: Accipitriformes		
Family Accipitridae		
	Buteo lineatus	Red-Shouldered Hawk
Order: Charadriiformes		
Family Laridae		
	Larus delawarensis	Ring-Billed Gull
Order: Columbiformes		
Family Columbidae		
	Zenaida macroura	Mourning Dove
Order: Apodiformes		
Family Trochilidae		
	Calypte anna	Anna’s Hummingbird
Order: Passeriformes		
Family Tyrannidae		
	Sayornis nigricans	Black Phoebe
Family Corvidae		
	Aphelocoma californica	Western Scrub-Jay
	Corvus brachyrhynchos	American Crow
Family Aegithalidae		
	Psaltriparus minimus	Bushtit
Family Troglodytidae		
	Thryomanes bewickii	Bewick’s Wren
Family Turdidae		
	Sialia mexicana	Western Bluebird
Family Parulidae		
	Dendroica coronata	Yellow-Rumped Warbler
	Geothlypis trichas	Common Yellowthroat
Family Emberizidae		
	Melospiza melodia	Song Sparrow
Family Fringillidae		
	Carpodacus mexicanus	House Finch
MAMMALS		
Order: Rodentia	**Squirrels, Rats, Mice, and Relatives**	
Family Geomyidae		
	Thomomys bottae	Botta’s Pocket Gopher

APPENDIX C

STAFF RESUMES

Lanika Cervantes

Wetland/Regulatory Specialist

Education
MS, Biology, California State University, San Marcos, Summer 2013
BA, Biology, Emphasis Ecology, California State University, San Marcos, 2009

Training
US Army Corps Prospect Courses Regulatory Proficiency:

- Regulatory 1: Clean Water Act (CWA) Section 404 Regulatory Program Overview, March 2010
- Regulatory 2B: Emphasis on CWA Section 404 individual permits, 404(b)(1) guidelines, public interest review, and the Mitigation Rule, May 2011
- Regulatory 3:CWA Section 404 Enforcement, February 2012
- Regulatory 4: Wetland Delineation, May 2010

US Army Corp Prospect Courses for Technical Excellence:

- Hydric Soils: March 2013
- California Rapid Assessment Method (CRAM): Riverine Module 6.0, March 2012
- Native American Perspectives: Emphasis on government-to - government consultation, October 2011
- Ordinary High Water Mark Training, September 2011
- Biological Assessment Training, August 2010
- Coastal Ecology, June 2010

Certifications
Certified CRAM Practitioner for all Modules (except for vernal pool module)

Lanika Cervantes has 5 years of professional experience as a project manager with the US Army Corps of Engineers Regulatory Division. Ms. Cervantes has experience with Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. She also has experience in assessing and evaluating project effects on aquatic resources, federally threatened and endangered species, essential fish habitat, coastal zones, and historical properties to ensure project compliance with the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, the Coastal Zone Management Act, and the National Historic Preservation Act. She has experience in evaluating environmental impacts and preparing environmental assessments and statements of findings in accordance with the National Environmental Policy Act (NEPA). She has evaluated and reviewed compensatory mitigation proposals, long-term management plans, and habitat mitigation and monitoring reports.

In addition, Ms. Cervantes has reviewed geographic jurisdictional determinations and conducted some levels of fieldwork to delineate wetlands and other waters of the US. She has experience with CWA Section 401 and California Department of Fish and Game Lake and Streambed Alteration Agreement program permitting within San Diego and Imperial Counties.

Project Experience

Southern California Edison (SCE) Alberhill Substation/500kV and 115kV alignment Project, Temecula, CA
Ms. Lanika performed the wetland delineations and jurisdictional waters assessments for the Alberhill Project in addition to aided in the collection of data for the CRAM functional assessments completed. Duties include delineating the type and extent of regulated waterbodies of the state and federal governments, including wetlands and

summarizing potential impacts for Project Manager directly after data collection to aid SCE in project design and planning. A Jurisdictional Delineation and permit packages are currently being drafted.

City of San Diego (City), Rue Cheaumont Pipeline Project, San Diego County, CA
Ms. Lanika performed a formal jurisdictional waters delineation for constraints mapping to aid in the development of the project design to avoid and minimize impacts to regulated waterbodies. In addition, she prepared an accompanying jurisdictional delineation report with recommendations on permitting and mitigation strategies.

San Diego Gas and Electric (SDG&E), On Call Wetland Delineation and Jurisdictional Waters Assessment, San Diego County, CA
Ms. Lanika performed wetland delineations and jurisdictional waters assessments at various project sites for SDG&E utility lines. Duties include delineating the type and extent of regulated waterbodies of the state and federal governments, including wetlands, and summary reporting. Summary reporting includes wetlands/waters delineations and constraints mapping, providing materials of sufficient detail to be used in project planning and regulatory permitting efforts in addition to advising the client of Mitigation Strategies.

City of San Diego (City), Laurel Ridge Pipeline Installation Project, San Diego County, CA
Ms. Lanika performed a formal jurisdictional waters delineation for constraints mapping to aid in the development of the project design to avoid and minimize impacts to regulated waterbodies. In addition, she prepared an accompanying jurisdictional delineation report with recommendations on permitting and mitigation strategies.

Marine Corps Base Camp Pendleton (MCBCP), P-1046 Supplemental Environmental Assessment Wetland Delineation, San Diego County, CA
Ms. Lanika performed a formal jurisdictional waters delineation within MCBCP. Duties include field delineation and identification of the type and extent of regulated waterbodies and preparation of an accompanying jurisdictional delineation report. The delineation will be used to identify environmental constraints for current and future projects within the survey area.

California Natural Resource Agency, Salton Sea Species Conservation Habitat (SCH) EIS/EIR, Imperial County, CA
Lead project manager for preparation of an environmental impact statement/report (EIS/EIR) for an approximately 3,770-acre saline pond habitat restoration project within the southern portion of the Salton Sea. Lead and participated in public meetings and scoping meetings. Lead review of both the draft and final EIS documents, and aided in drafting the wetland delineation report. Lead the development of the Draft 404(b)(1) Alternatives Analysis. Lead the Section 7 consultation under the Endangered Species Act, with continuous coordination and meetings with the US Fish and Wildlife Services, and lead Section 106 consultation under the National Historic Preservation Act. [Prior to AECOM]

Palomar Station Owner, LLC, Palomar Station Project, San Marcos, CA
Lead project manager in the issuance of the Section 404 Clean Water Act permit for this mixed-use commercial and residential development. Prepared the Environmental Assessment, developed the 404(b)(1) Alternative Analysis, lead Section 7 consultation under the Endangered Species Act for San Diego fairy shrimp and its designated critical habitat, lead government-to-government consultation with the Pechanga Band of Mission Indians, and lead Section 106 consultation under the National Historic Preservation Act. In addition, aided in the draft and approval of compensatory mitigation plans for impacts to vernal pool wetlands and impacts to southern willow scrub and emergent wetlands. [Prior to AECOM]

City of Escondido, Regional General Permit 87: City of Escondido Sewer Outfall Project, Escondido, CA
Lead project manager in the issuance of the Section 404 Clean Water Act permit for the operation and maintenance of a 14-mile-long sewer alignment. Prepared the Environmental Assessment and lead Section 106 consultation under the National Historic Preservation Act with the State Historic Preservation Officer. [Prior to AECOM]

County of Imperial, Brawley Landfill Closure Project, Brawley, CA
Lead project manager in the issuance of the Section 404 Clean Water Act permit for the bioengineered bank stabilization of the east bank of the New River directly adjacent to the Brawley Landfill. Coordinated with the County of Imperial to modify the project from an initial riprap-lined design to a bioengineered design. Prepared the average cubic yard below the plane of the ordinary high water mark limit waiver to allow the project to proceed with

a general permit. Lead Section 106 consultation under the National Historic Preservation Act. [Prior to AECOM]

Gregory Canyon Landfill, LTD, Gregory Canyon Landfill Project, San Diego County, CA
Aided in performing a formal jurisdictional waters delineation. Duties included field delineation and identification of the type and extent of jurisdictional waters. [Prior to AECOM]

Anne King

Senior Wildlife Biologist

Education
B.A., Anthropology, University of California, Berkeley, 1992

Registrations/Permits
SCUBA Certified

Publications + Technical Presentations
King, A.M. and J.R. King. 2003. Willow Flycatchers in Warner Valley, Plumas County. Studies in Avian Biology 26:56-59.

Gardali, T., A.M. King, and G.R. Geupel. 1998. Cowbird parasitism and nest success of the Lazuli Bunting in the Sacramento Valley. Western Birds 29:174-179.

Presentations
King, A.M., D. Bishop, and R. Childers. 2007. Opportunities and challenges of setback levees as a means to address flood control concerns and restore natural processes and native habitats. Oral presentation at the Society for Ecological Restoration International/Ecological Society of America joint annual meeting and international conference. August 2007, San Jose, CA.

King, A.M., S. Patterson, L.J. Edson, and J.R. King. 2001. Riparian restoration and songbird populations on Audubon's Paul Wattis Sanctuary. Poster presentation at Riparian Habitat Joint Venture Conference. March 2001, Sacramento, CA.

Broome, J.C., R.L. Bugg, D.L. Denton, D. Zeleke, A.M King, M. Stevenson, and C. Ohmart. 1999. Promoting Environmental Health Through Biologically Integrated Farming Systems. Poster presentation at the International Congress on Ecosystem Health. August 1999, Sacramento, CA.

Professional History
2013 -Present
1999 – 2008
AECOM
Senior Wildlife Biologist

2008 – 2009
Birdlife Australia
Biological Field Station Manager

1995 – 1999
Point Reyes Bird Observatory
Terrestrial Program Biologist/Field Station Manager

1994 – 1995
Point Reyes Bird Observatory
Field Biologist

1993 – 1994
Orange County Marine Institute
Naturalist Instructor

Career Start: 1994
Total Years Experience: 15 (as of 2013)

Anne King is a wildlife biologist, specializing in ornithology, with 15 years of experience. She has served as senior biologist or project manager for a large number of CEQA/NEPA documents, endangered species and wetland permitting programs, biological constraints analyses, and biological survey and monitoring programs. Anne has extensive experience working with clients and design teams to balance project needs with biological resource and permitting opportunities and constraints. Her specialty is in development and management of avian survey and monitoring projects, but Anne has conducted habitat assessments and surveys for numerous other special-status wildlife species, including invertebrates, reptiles and amphibians, and mammals. Anne has prepared permit applications and engaged in agency consultation to ensure compliance with federal and state Endangered Species Acts, including preparation of biological assessments and Section 2081 permit applications. She has also been responsible for implementation of Habitat Conservation Plan mitigation programs and assisted in development of large-scale resource management plans.

Project Experience

California High-Speed Rail Authority, California High-Speed Train (HST) Project, Fresno and Madera Counties, CA. As senior biologist, assisted with various tasks related to Permitting Phase 1 of the Merced to Fresno Section of the HST Project. Tasks included development of supplementary submittals addressing Swainson's hawk, California tiger salamander, and listed plant species for existing and pending USFWS and CDFW take authorizations. Also prepared biological resources section of an EIR/EIS addendum for implementation of the proposed mitigation strategy and assisted with preparation of the Permittee-Responsible Mitigation Plan for PP1 and the Long-term Management Plan for the mitigation site.

California Department of Water Resources, Lower Feather River Corridor Management Plan, Yuba and Sutter Counties, CA. As senior biologist, assisted with preparation of multiple chapters of this management plan focusing on protection and maintenance of flood management facilities and floodways, while preserving and enhancing fish and wildlife habitat and ecosystem functions. The heart of the plan is a series of proposed actions that addresses flood management, ecosystem enhancement and management, recreation, and agricultural uses. Specific tasks focused on refinement of chapters describing existing conditions, hydrologic and hydraulic modelling results, and conceptual restoration planning.

Three Rivers Levee Improvement Authority, Yuba Goldfields 200-Year Flood Protection Project, Yuba County, CA. As senior wildlife biologist, prepared the biological resources section of an EIR that evaluates four alternatives to provide 200-year flood protection along the Lower Yuba River, east of Marysville. Key resource issues include potential impacts to the Yuba River and other waters of the U.S. and State, anadromous fish, Valley elderberry longhorn beetle, Swainson's hawk, and non-listed raptors and migratory birds.

Sacramento Area Flood Control Agency, American River Mile 0.5 Aquatic and Riparian Habitat Creation Project, Sacramento, CA. As senior biologist, prepared Biological Assessment addressing potential impacts to Chinook salmon, steelhead, and green sturgeon, and protected fish habitat, from implementation of a proposed habitat restoration project. The project would lower a portion of the north bank of the American River, just upstream from the Sacramento River, to create floodplain habitat that would be inundated on an annual basis and provide rearing habitat for anadromous fish species.

California Department of Water Resources, Georgiana Slough Floating Fish Guidance System Study, Sacramento County, CA. As senior wildlife biologist, prepared a document evaluating potential impacts on state-listed species from installation of a physical barrier in the Sacramento River, at the mouth of Georgiana Slough, designed to prevent out-migrating salmon from entering and becoming entrained in the slough. Key species evaluated include Chinook salmon, delta smelt, longfin smelt, and Swainson's hawk.

The Nature Conservancy, Lower Cosumnes River Floodplain Restoration Project, Sacramento, CA. As senior wildlife biologist, prepared a document evaluating potential impacts on state-listed species from a restoration project along the north bank of the Cosumnes River, just upstream of the Mokulumne River. The project would expose more than 500 acres to more frequent inundation by breaching several local levees and lowering a floodplain area immediately adajacent to the river. This would enhance floodplain habitat for various fish species, and a swale would be excavated to provide a means for fish to re-enter the river as floodwaters recede, thereby minimizing potential for stranding. Key species evaluated include Chinook salmon, delta smelt, giant garter snake, and Swainson's hawk.

California Department of Water Resources, Roaring River Distribution System (RRDS) Rehabilitation Project, Solano County, CA. As senior wildlife biologist, prepared a Biological Assessment evaluating potential effects on species regulated by the USFWS from replacement of a drain structure connecting Montezuma Slough and the RRDS. The RRDS is used to provide low-salinity water for circulation through the managed wetlands of Suisun Marsh and to drain the circulated water from the marsh, helping landowners control salinity levels in the southeastern portion of the marsh. Key species evaluated include delta smelt, California least tern, and saltmarsh harvest mouse.

Three Rivers Levee Improvement Authority, Feather River Levee Improvements Project, Yuba County, CA. As senior wildlife biologist, conducted surveys, prepared terrestrial biological resources section of an EIR, and prepared endangered species and wetland permit applications for in-place improvements to nearly 5 miles of existing levee and construction of a 6-mile-long setback levee in southwestern Yuba County. Also coordinated with project engineers and the contractor regarding impact minimization and avoidance measures and with natural resource agency staff to develop the mitigation program and facilitate issuance of necessary permits and take authorizations.

Sacramento Area Flood Control Agency, Natomas Levee Improvements Program, Sacramento and Sutter Counties, CA. As senior wildlife biologist, conducted preliminary evaluation of potential biological constraints, opportunities, mitigation needs, and costs for implementation of several alternatives to improve flood protection in the Natomas Basin, including in-place levee improvements and a setback levee. Prepared terrestrial biological resources sections for two EIRs and endangered species take permit applications addressing several components of the program. Also coordinated with project engineers regarding design and impact minimization and avoidance measures, and with USFWS and CDFW regarding project effects and mitigation strategies to facilitate issuance of take authorizations.

California Department of Corrections and Rehabilitation (CDCR), Statewide Electrified Fence Habitat Conservation Plan (HCP) Implementation, CA. As project manager, was responsible for implementation of the HCP prepared by AECOM for CDCR's Statewide Electrified Fence Project. The HCP was developed in response to unanticipated accidental electrocution of wildlife, primarily birds, resulting from operation of electrified fences at 25 state prisons throughout California. Through several years of studying the wildlife mortality impact and consulting with CDFW and USFWS, CDCR and AECOM developed a mitigation program that minimizes wildlife take and compensates for the portion of the mortality that cannot be avoided. Primary tasks included coordination with mitigation partners and agency staff to ensure compliance with HCP requirements, coordination of and participation in electrified fence mortality monitoring, and completion of annual reports.

San Francisco Public Utilities Commission, Calaveras Dam Replacement, CA. As wildlife biologist, assisted in preparation of CEQA documentation for the proposed replacement of the Calaveras Dam located in the Alameda Watershed. One of the key seismic upgrades for San Francisco Bay Area water supply facilities, the project involves replacement of the earth fill dam at a location downstream of the current dam. The EIR/EA addressed a wide range of biological resource issues, including fill of waters of the U.S., and potential take of California red-legged frog, California tiger salamander, Alameda whipsnake, and Callippe silverspot butterfly.

Three Rivers Levee Improvement Authority, Bear River Levee Setback, Yuba County, CA. As senior wildlife biologist, coordinated biological resources surveys, permitting, and construction monitoring for a setback levee project in southwestern Yuba County. Conducted protocol-level surveys and habitat evaluations for giant garter snake, Swainson’s hawk, burrowing owl, and Valley elderberry longhorn beetle. Prepared permit applications and obtained take authorization for federally and state listed species and impacts to wetlands. Conducted extensive coordination with USFWS and CDFW regarding potential impacts, construction techniques and timing, and mitigation. Also facilitated cooperative process with the client, engineers, and resource agency staff to refine project design and construction timing to minimize potential for take and incorporate mitigation needs.

Sacramento County Department of Public Works, Calvine Road Widening, Sacramento County, CA. As wildlife biologist, conducted field surveys and prepared Biological Assessment and engaged in consultation with USFWS staff for the widening of Calvine Road and installation of a new intersection traffic signal in Sacramento County. The project would result in the filling of several seasonal wetlands and vernal pools, as well as an expansion of the existing bridge over Laguna Creek. Key biological resource issues included effects to vernal pool crustaceans and giant garter snake.

California Department of Parks and Recreation, Bidwell-Sacramento River State Park General Plan, Butte County, CA. As wildlife biologist, assisted with preparation of the Preliminary General Plan and biological resources section of the associated EIR for the Bidwell-Sacramento River State Park in Butte County. Specific tasks included field surveys to characterize existing conditions, development of management goals and guidelines, and assessment of potential effects from implementation of the general plan, including development and enhancement of visitor facilities. Primary biological resource issues included valley elderberry longhorn beetle, anadromous fish, and various bird species, particularly Swainson’s hawk.

Solano County, Potrero Hills Landfill Expansion, Solano County, CA. As wildlife biologist, prepared terrestrial resources section of an EIR for expansion of a municipal solid waste landfill in Potrero Hills, Solano County. The project includes expansion of the existing landfill into approximately 200 acres of grazing land dominated by annual grassland with scattered ponds and drainages. The primary biological resource issues addressed were potential impacts to California tiger salamander, valley elderberry longhorn beetle, and vernal pool crustaceans.

Sacramento County Airport Systems, Sacramento International Airport Agricultural Study, Sacramento County, CA. As senior wildlife biologist, coordinated completion of a feasibility study for potential conversion of agricultural lands to managed grassland habitat. The study included a summary of existing habitat types, recent cropping patterns, and wildlife use. Conducted field surveys to document use of agricultural fields and other habitats within study area by foraging Swainson’s hawks and other raptors. Potential impacts to Swainson’s hawk foraging habitat that could result from conversion of the agricultural fields were evaluated. A preliminary analysis of airport use by birds that pose an air strike risk and preliminary management recommendations regarding vegetation and management of converted agricultural fields to reduce such use were also provided.

Sacramento County Airport Systems, Sacramento International Airport Resource Management Plan,

Sacramento County, CA. As wildlife biologist andassistant project manager, assisted with work on a variety of natural resource management issues for the Sacramento International Airport, including preliminary studies to support development of a comprehensive Resource Management Plan for the 5,407 acres of airport property and surrounding buffer lands owned by the County of Sacramento. Coordinated surveys for and prepared a Natural Resources Assessment for the plan area that described the status and distribution of plant and wildlife species, including special-status species and wildlife considered hazardous to aircraft operation.

RAMCO Enterprises, Burrowing Owl Monitoring for the Mace Ranch Development Project, Yolo County, CA. As wildlife biologist, assisted with surveys and monitoring of small burrowing owl population that had moved onto a site proposed for development. Monitoring results were used to develop a Mitigation Plan in coordination with CDFW.

San Jose Construction, Tracy Mitsubishi Burrowing Owl Surveys, San Joaquin County, CA. As project manager, coordinated implementation of burrowing owl take avoidance and minimization measures, in compliance with the San Joaquin County Multi-species Habitat Conservation and Open Space Plan. Project tasks included surveys to determine number and location of occupied burrows on the project site and adjacent parcel and installation and monitoring of one-way doors at burrow entrances to passively exclude burrowing owls from the project site. Additional measures to minimize potential disturbance of owls on adjacent property were also developed.

El Dorado Irrigation District, Bass Lake Tank and Water Line Project, El Dorado County, CA. As wildlife biologist, conducted pre-construction raptor and migratory bird nest surveys and construction monitoring. Consulted with CDFW during development and implementation of survey and monitoring protocol.

San Joaquin Council of Governments (SJCOG), San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), San Joaquin County, CA. As project manager and senior wildlife biologist, was responsible for on-call contract to provide biological services for implementation of the SJMSCP. Services include verification of existing vegetation maps, habitat assessments and pre-construction surveys for the ninety-seven species covered by the SJMSCP, determination of appropriate take minimization measures, and monitoring of compliance with take minimization measures.

PacifiCorp, Klamath Hydroelectric Project Relicensing, Siskiyou County, CA and Oregon. As wildlife biologist, conducted bird and reptile surveys to provide baseline information for preparation of the Klamath Hydroelectric Project License Application. Surveys were conducted along approximately 40 miles of the Klamath River, at four project reservoirs, and in the vicinity of other project facilities in Siskiyou County, California and Klamath County, Oregon. Bird point count censuses and reptile surveys were conducted at over 200 locations throughout the project area. A variety of habitats were surveyed, including riparian, coniferous forest, oak woodland, scrub, and grassland.

Louis Berger Group/Federal Energy Regulatory Commission, El Dorado Hydroelectric Project, El Dorado, Alpine, and Amador Counties, CA. As wildlife biologist, prepared biological resources section of EIS for relicensing of the El Dorado Hydroelectric Project Number 184. The project is located on private lands and public lands administered by the Eldorado National Forest along the South Fork of the American River and its tributaries. Conducted reconnaissance-level field surveys to characterize the vegetation communities and identify areas that could support special-status species and sensitive habitats. Key issues evaluated in the EIS included loss of riparian habitat and impacts to sensitive amphibian species, particularly foothill yellow-legged frog and mountain yellow-legged frog, as well as consistency with U.S. Forest Service management policies.

Sacramento Area Flood Control Agency, North Area Flood Control Project, Sacramento County, CA. As wildlife biologist and project manager, successfully completed Endangered Species Act and Section 404 permitting for a flood control project in northern Sacramento County. Conducted wet-season vernal pool crustacean sampling and prepared a biological assessment for impacts to listed vernal pool crustaceans and giant garter snake. Conducted pre-construction surveys for Swainson's hawk, burrowing owl, white-tailed kite, herons and egrets, migratory songbirds, and western pond turtleand monitored compliance with avoidance and minimization measures set forth in natural resources permits. Also coordinated with USFWS on design of the re-aligned creek channel in order to create suitable aquatic habitat for giant garter snake.

Louis Berger Group / Federal Energy Regulatory Commission, Santa Ana River Hydroelectric Projects, San Bernardino County, CA. As terrestrial biologist, prepared terrestrial resources section of EA for relicensing of the Lytle Creek, Santa Ana River 1 and 3, and Mill Creek 2/3 Hydroelectric Projects. The projects are located on private lands and public lands administered by the San Bernardino National Forest along two creeks and one river in San Bernardino County. Conducted reconnaissance-level field surveys to characterize the vegetation communities and identify areas that could support special-status species and sensitive habitats. Key issues evaluated included loss of riparian habitat and impacts to sensitive wildlife species, particularly mountain yellow-legged frog, arroyo toad, and southwestern willow flycatcher, as well as consistency with U.S. Forest Service management policies.

Federal Energy Regulatory Commission/Louis Berger, Big Creek Hydroelectric Relicensing Project #4, Fresno County, CA. As wildlife biologist, prepared the biological resources section of the EIS for the relicensing of the Big Creek No. 4 Hydropower Project. The project is located on private lands and public lands administered by the Sierra National Forest. Key issues of concern evaluated in the EIS included loss of riparian habitat, impacts to sensitive amphibian species, and the spread of noxious weeds. Species of concern included the foothill yellow-legged frog and relictual slender salamander.

California Intelligent Communities, Joshua Hills Biological Inventory, Riverside County, CA. As wildlife biologist, assisted with mammal movement study on a 9,000-acre site located between Joshua Tree National Park and the Coachella Valley Preserve. This project was designed to develop a baseline inventory of the site. Participated in a mammalian track identification workshop conducted by the San Diego Tracking Team. Surveyed major drainages on the site for tracks and other signs by walking transects. Established and monitored 20 baited track plates and 5 baited camera stations. Identified tracks, scat, and/or photos of desert kit fox, gray fox, coyote, and other animals.

California Tahoe Conservancy/California Department of General Services, Upper Truckee River and Wetland Restoration Project, South Lake Tahoe, CA. As wildlife biologist, participated in various on-going aspects of a large-scale restoration and recreation planning effort for the downstream reach of the Upper Truckee River. Conducted wildlife surveys and assessment of suitable habitat for special-status species in support of preliminary planning, including focused surveys for nesting willow flycatchers and other migratory birds. Assisted client with establishment of a long-term bird-monitoring program for the first phase restoration area and the larger project area as a whole, including field training, guidance regarding methodologies and data analysis, and document review. Participated in a formal restoration planning and design charrette involving various stake-holders and technical experts.

California Department of Corrections and Rehablitation (CDCR)Songbird Monitoring and Cowbird Trapping, Colusa County, CA. As project manager and ornithologist, responsible for implementation of a songbird monitoring and cowbird trapping program, a component of the HCP developed by AECOM for CDCR's Statewide Electrified Fence Project. Three years of the program were implemented on Paul Wattis Audubon Sanctuary in Colusa County, and two years were implemented at Hedgerow Farms in Yolo County. Monitoring focused on riparian and grassland habitats and included general censusing and nest monitoring. Cowbird trapping protocols were developed in consultation with USFWS and organizations conducting trapping elsewhere in California, as well as in Texas. Results were reported annually to CDFW and USFWS.

California Department of Parks and Recreation, MacKerricher Coastal Trail Project, Mendocino County, CA. As wildlife biologist, assisted with preliminary activities for preparation of an EIS. Activities included focused western snowy plover surveys and preparation of a Feasibility Study evaluating five alternative trail alignments for creation of a multi-use recreational trail through coastal dune and wetland habitats. Plover surveys included mapping and counting of all individuals encountered and recording of color band combinations when present. Trail feasibility issues included impacts to listed plants and wildlife, wetland impacts, coastal erosion and dune dynamics, and consistency with statutory provisions and General Plan policies.

Mammoth Pacific, L.P., Casa Diablo 4 Geothermal Project, Mono County, CA. As wildlife biologist, prepared wildlife portion of biological resources section of an EIR addressing construction and operation of a geothermal plant near the town of Mammoth Lakes. Conducted reconnaissance-level field surveys to characterize wildlife habitats and identify areas that could support sensitive species. Key issues evaluated included potential impacts to sage grouse and migratory deer herds.

City of Lathrop, River Islands at Lathrop, San Joaquin County, CA. As wildlife biologist, prepared terrestrial resources section of a Subsequent EIR for a residential and mixed-use development on approximately 4,800 acres in Lathrop. The project area is surrounded by water on three sides by the San Joaquin River, Old, River, and Paradise Cut. Biological resource issues focused on potential impacts to special-status plants and wildlife, including Swainson's hawk, burrowing owl, valley elderberry longhorn beetle, and riparian brush rabbit, as well as compliance with the San Joaquin County Multi-Species and Open Space Plan.

Norcal Waste Systems of San Jose, San Martin Waste and Recycling Transfer Facility, Santa Clara County, CA. As wildlife biologist, conducted assessment of biological constraints related to expansion of an existing waste and recycling transfer facility in San Martin, adjacent to Llagas Creek. Included an assessment of potential impacts to special-status species and sensitive habitats, as well as recommendation of appropriate mitigation measures. Resources addressed in the analysis included California red-legged frog, western pond turtle, and least Bell's vireo. Also assisted with development of restoration plan for enhancement of the creek corridor that intersects the project site.

California Department of Corrections and Rehablitation (CDCR), Restoration Plan for the Paul Wattis Sanctuary, Colusa County, CA. As wildlife biologist, assisted with development of riparian restoration plan associated with the Habitat Conservation Plan developed by AECOM for CDCR's Statewide Electrified-Fence Project. Helped design the conceptual plan intended to serve as mitigation for impacts to songbirds through creation and enhancement of habitat on the Sanctuary. Also assessed impacts to special-status species that could result from implementation of the plan and developed feasible measures to avoid and minimize impacts.

Placer County, Miners Ravine Creek Restoration Project, Placer County, CA. As wildlife biologist, prepared biological resources section of CEQA document for the Miners Ravine Creek Restoration Project. Project included creek restoration, and floodplain and habitat improvements at the Miners Ravine Nature Reserve. Conducted reconnaissance-level field surveys to assess potential biological impacts from creation of flood plains at three sites, removal of non-native vegetation along the banks of the creek, removal of a concrete fish barrier, and stabilization of a sewer line. Primary biological issues included anadromous fish, nesting birds, and wetlands.

National Park Service, Marin Headlands and Fort Baker Transportation Infrastructure and Management Plan EIS, Marin County, CA. As wildlife biologist, prepared wildlife portion of biological resources section of an EIS addressing transportation alternatives for the Marin Headlands and Fort Baker portions of the Golden Gate National Recreation Area. The EIS evaluated several alternatives for improvement of approximately 14 miles of roadway and 22 miles of trails. The primary biological resources issues addressed included potential impacts to federally listed species, such as California red-legged frog, tidewater goby, and brown pelican. Feasible means to avoid and minimize potential impacts were provided, and opportunities for restoration of currently degraded habitats were identified.

County of Marin, Lucky Drive Levee Project, Marin County, CA. As wildlife biologist, conducted field survey and prepared biological resources section of an EIR for a project to improve flood protection through construction of a series of earthen levees and concrete floodwalls. The project site is bordered by tidal marshlands on two sides, and potential impacts to California clapper rail, California black rail, and saltmarsh harvest mouse represented the primary wildlife issues.

City of Lathrop, Water, Wastewater, and Reclaimed Water Master Plan, San Joaquin County, CA. As wildlife biologist, conducted field surveys and prepared biological resources section of an EIR for installation of approximately 40 miles of pipeline and 65 acres of facilities in Lathrop. The primary biological resource issues included analysis and mitigation of impacts to Swainson's hawk nesting and foraging habitat, burrowing owl, valley elderberry longhorn beetle, and wetlands. Also included analysis of compliance with San Joaquin County Multi-Species Habitat Conservation and Open Space Plan and an existing California Endangered Species Act Management Authorization for Swainson's hawk.

Del Puerto Water District, Quinto Farms Mitigation Bank Feasibility Study, Merced County, CA. As wildlife biologist, conducted field surveys and analysis of potential for property in western Merced County to serve as a mitigation bank. An assessment of existing suitable habitat for special-status species, including California red-legged frog, California tiger salamander, San Joaquin kit fox, western spadefoot, and burrowing owl was conducted, as well as an evaluation of the potential to restore suitable habitat for these species.

San Francisco Department of Public Works, San Francisco Municipal Railway Subterranean Ductbanks Installation, San Francisco County, CA. As wildlife biologist, conducted pre-construction survey to verify conclusions regarding potential impacts from installation of subterranean ductbanks under Mission and Islais Creeks, as presented in biological resources section of EIR/EIS for the Third Street Light Rail Project. Prepared pamphlet and conducted training for City employees and contractor personnel regarding implementation of avoidance and minimization measures for common and special-status wildlife species.

The Nature Conservancy (TNC), Jewett Creek Integrated Farm Plan, Tehama County, CA. As wildlife biologist, conducted evaluation of different natural habitats and agricultural crops that could be supported by the site for their value to wildlife, particularly songbirds. Worked closely with TNC personnel to determine the proportion of natural habitat and agricultural crops that would best balance wildlife value and economic objectives on the property.

National Park Service, Alcatraz Island Historic Preservation and Safety Construction Program EIS, San Francisco County, CA. As wildlife biologist, assisted with preparation of biological resources section of a NEPA document for twelve separate projects to restore historic buildings and repair structures that pose safety threats. Efforts focused on analysis of impacts to eight species of waterbirds that nest on the island. Field surveys were conducted to examine proximity of nest colonies and individually nesting birds to the project sites. Impact analysis and mitigation measures were developed in close consultation with Park Service staff.

Stanislaus County, Fink Road Landfill Expansion EIR, Stanislaus County, CA. As wildlife biologist, assisted with surveys in the proposed Fink Road Landfill expansion area, located in western Stanislaus County. Conducted general wildlife surveys as well as focused surveys for San Joaquin kit fox, including walking transects and operating camera stations.

USFWS/The Nature Conservancy (TNC), Sacramento River National Wildlife Refuge Bird Population Studies, Tehama and Butte Counties, CA. As project manager and ornithologist, implemented a monitoring project on the Sacramento River, in cooperation with the USFWS, TNC, and local farmers. The project was developed to study bird populations on the Sacramento River National Wildlife Refuge. Riparian sites were monitored to assess the status and success of breeding landbirds, including Swainson's Hawk, bank swallow, and Western yellow-billed cuckoo, as well as document other birds utilizing the forest during migration. Adjacent farmland, slated for conversion to native riparian vegetation, was surveyed in order to document changes through time, before, during and after restoration. In addition, other previously restored TNC sites , were monitored to assess their value to birds. [Prior to AECOM]

National Park Service (NPS)/U.S. Forest Service (USFS), Study of Avian Populations, Tehama, Plumas, and Lassen Counties, CA. As project manager and ornithologist, developed and implemented a three-year study of avian populations in the northern Sierra Nevada, in cooperation with the NPS and USFS. The study was designed to collect baseline information, as well as investigate effects of various management practices, such as selective logging, fuels reduction, and grazing. Methods employed include avian surveys, territory mapping, nest monitoring, mist netting, and vegetation assessment. [Prior to AECOM]

Salton Sea Authority/Environmental Protection Agency, Salton Sea Avian Inventory, Imperial County, CA. As ornithologist, established the landbird component of the inventory, including site selection and initiation of point count censuses and mist netting. Also assisted with comprehensive monthly waterbird surveys of the entire Salton Sea. The purpose of the project was to determine the status of all birds utilizing the Salton Sea. [Prior to AECOM]

National Park Service, Point Reyes National Seashore Inventory Project, Marin County, CA. As ornithologist, conducted systematic monthly waterbird surveys of the Point Reyes National Seashore. All seabirds, shorebirds, waders, and other waterbirds were identified and counted in order to inventory all such species wintering along the various Seashore beaches. [Prior to AECOM]

U.S. Fish and Wildlife Service, Southeast Farallon Island (SEFI), San Francisco County, CA. As wildlife biologist, assisted with field surveys of all birds, including seabirds, shorebirds, and landbirds, as well as marine mammals and great white sharks. SEFI is part of the Gulf of the Farallones National Marine Sanctuary, and year-round surveys of animals utilizing the island and surrounding waters are conducted as part of the Sanctuary's management program.. [Prior to AECOM]

Brynne Mulrooney
Biologist

Education
B.S, Wildlife Ecology and Conservation, University of Florida, 1998

Publications + Technical Papers
Langan, B. E. and J. J. Lorenz. 2007. Roseate Spoonbill Satellite Telemetry Project. Annual Report. The Batchelor Foundation, The Louis Wolfson Foundation, and The Ocean Fund. Miami, Florida, USA.

Lorenz, J. J., B. Langan, M. Korosy, A. Paul, K. Fisk, R. Heath, and A. Hodgson. 2004-2008. Roseate Spoonbills in Florida Bay, in South Florida Wading Bird Report. Vol. 10-14, G. E. Crozier, M. I. Cook, E. M. Call, and H. K. Herring, Eds., South Florida Water Management District, West Palm Beach, FL.

Lorenz, J.J., B. Langan Mulrooney, P. E. Frezza, R. G. Harvey, and F. J. Mazzotti. 2009. Roseate spoonbill reproduction as an indicator for restoration of the Everglades and the Everglades estuaries. Ecological Indicators.

Lott, C. A., B. E. Langan, M. B. Mulrooney, R. T. Grau, and K. E. Miller. 2005. Stopover ecology of Nearctic-Neotropical migrant songbirds in hardwood hammocks of the Florida Keys. Final Report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.

Trainings
Southwestern Willow Flycatcher Workshop (2002 and 2009)
EPA's Rules on Compensatory Mitigation for Impact on Wetlands, Streams and Other Waters Seminar (2010)
Quino Checkerspot Butterfly Test (passed in 2010 and 2012)

Professional History
2011 – Present
Design + Planning at AECOM
Biologist

2008 – 2011
HDR, Inc.
Biologist

2002-2008
National Audubon Society
Biologist

Brynne Mulrooney's qualifications as a biologist include 14 years of experience as a wildlife biologist specializing in avian studies. More recently, Ms. Mulrooney has expanded her experience to include botany and wetland delineations. Ms. Mulrooney has worked in a variety of locations including Florida, Texas, Arizona, Mississippi, Alabama, New Jersey and California

Ms. Mulrooney currently works as a biologist conducting wildlife habitat assessments, avian presence/absence surveys, vegetation mapping, rare plant surveys, wetland delineations, and biological monitoring on various construction projects.

Project Experience

San Diego Gas and Electric (SDG&E) Natural Communities Conservation Plan On-Call Biological Services, San Diego, CA
As a biologist, conducting field surveys and reporting to SDG&E Land Planning and Natural Resources for habitat enhancement and monitoring associated with impacts as a result of routine operation and maintenance activities associated with electricity transmission and distribution line within the SDG&E service area. Specific duties include field surveys for sensitive plants and wildlife, assessment and delineation of least-impact access routes and work areas, recommending mitigation measures, and wirting project specific reports. Project description: 150 words maximum, incorporate individual role in project within text, size (if applicable) and client name. [10/2011 – Present]

City of Carlsbad, Carlsbad Boulevard Realignment and Land Exchange Project San Diego County, CA
Ms. Mulrooney conducted a habitat assessment for special status wildlife species and vegetation within the 700-acre

project area. Ms. Mulrooney assisted with focused protocol surveys for listed vernal pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp) throughout the project area as a supervised biologist. [10/2011 – 1/2012]

NAVFAC Southwest, MCB Camp Pendleton Basewide Utilities Infrastructure Supplemental BAs and CERS and EIS, MCB Camp Pendleton, CA
Ms. Mulrooney assited with the preparation of supplemental Biological Assessments for BUI CERS projects. [12/2011 – 12/2012]

County of San Diego Department of Parks and Recreation, As-Needed Environmental Services, San Diego County, CA
Ms. Mulrooney assisted with on-call tasks involving nesting bird surveys and vegetation mapping for Mission Trails Regional Park. [02/2012 – 03/2012]

Olivenhain Municipal Water District San Elijo Lagoon Pilot Well Project, Encinitas, CA
Ms. Mulrooney provided environmental consulting services for the OMWD by conducting a general biological survey, nesting bird survey, and preparation of a biological constraints report. [03/2012 – 07/2012]

Willow Street Bridge Replacement Project
Chula Vista, CA
Ms. Mulrooney conducted nesting bird surveys and prepared a survey report for the Willow Street Bridge Replacement Project. [04/2012 – 08/2012]

Otay Truck Trail Road Expansion, Otay, CA
Ms. Mulrooeny conducted a habitat assessment and Western Burrowing Owl protocol surveys for the Otay Truck Trail Road Expansion project. [03/2012 – 08/2012]

Laurel Ridge Storm Drain Biological Assessment, San Diego, CA
Ms. Mulrooney directed the field surveys and conducted the habitat for the Laurel Ridge Storm Drain project. Ms. Mulrooney prepared a biological constraints report for the project. [02/12-current]

SDG&E Salt Creek Substation and Transmission Line Project, Chula Vista, CA
Ms. Mulrooney assisted with the general biological surveys and habitat assessments, Western Burrowing owl surveys, and assisted with the preparation of the PSR, PEA, and BTR. [02/2012 – current]

Otay Mesa Conveyance and Disinfection System Project, San Diego, Ca
Ms. Mulrooney conducted protocol Western Burrowing Owl, and least Bell's vireo surveys. Ms. Mulrooney prepared the Biological Technical Report for this project. [06/2013-Present]

San Diego County Water Authority Portal Reolcation Project, Chula Vista, CA
Ms. Mulrooney conducted biological monitoring and prepared the monitoring memo for the construction monitoring efforts involved with the portal relocation project. [07/2013 – 08/2013)

County of Los Angeles Department of Public Works, State Route126 and Commerce Centre Drive Freeway Interchange Project Wildlife Studies, Santa Clarita, CA
Ms. Mulrooney conducted pre-construction nesting bird surveys to determine potential breeding within the project area for a freeway interchange project. [07/2013-08/2013]

Iberdrola Renewables, Tule Wind Farm Project, County of San Diego, CA.
As a biologist, Ms. Mulrooney conducted a wetland delineation, rare plant survey and Quino Checkerspot butterfly survey (as a supervised assistant); prepared the Jurisdictional Wetland Delineation Report; and, assisted with the preparation of the Biological Technical Report for this project. [08/2009 – 12/2010]

Element Power - High Desert Solar Project, County of Kern, CA. As a biologist, Ms. Mulrooney has conducted a rare plant survey, general biological survey including an assessment of jurisdictional features and prepared the Biological Technical Report for this project. [05/2010 – 12/2010]

Marine Corps Base Camp Pendleton – Avian Power Line Protection Plan, Camp Pendleton, CA. Ms. Mulrooney created an Avian Power Line Protection Plan (APP) for Marine Corps Base Camp Pendleton (MCBCP). The APP developed strategies for reducing power line impacts on avian species on MCBCP as well as outlined a framework for implementation of such guidelines for reducing raptor electrocutions. [12/2008 – 02/2010]

City of San Diego Contract Services Division, Florida Canyon Drainage and Erosion Improvements Project, San Diego, CA. Ms. Mulrooney conducted a nesting bird survey, provided biological monitoring during the construction process, assisted with a wetland delineation and rare plant survey and assisted with the completion of the Biological Technical and Revegetation reports. [03/2009 – 10/2010]

Riverside County Transportation Commission, I-15 Corridor Environmental Planning, Riverside County, CA. Ms. Mulrooney conducted focused rare plant surveys for all Narrow Endemic Plant Species and Criteria Area plant species along both sides of Interstate 15 from Norco to Murrieta, CA. [12/2008 – 09/2010]

San Diego Co. General Services Department, Ramona Branch Library, On-Call Environmental Support, Ramona, CA. Ms. Mulrooney conducted a pre-construction avian nesting survey and report for the Ramona Branch Library. [4/2010 – 08/2010]

Callaway Golf, Callaway Golf Monitoring, Carlsbad, CA. Ms. Mulrooney conducted biannual monitoring of the revegetation site and prepared the annual monitoring report for this project. [12/2008 – 09/2010]

Environmental Land Solutions, Deer Canyon Conservation Bank, San Diego, CA. Ms. Mulrooney conducted biannual general biological assessment surveys to identify impacts to biological resources, monitored the general condition of the conservation bank and prepared an annual monitoring report per the agreement of the management plan. [12/2008 – 09/2010]

La Costa Resort and Spa, Jurisdictional Wetland Delineation, Carlsbad, CA. Ms. Mulrooney assisted with the wetland delineation survey and report for this project. [05/2010 – 06/2010]

Moulton Niguel Water District, Jurisdictional Wetland Delineation, Orange County, CA. Ms. Mulrooney assisted with the wetland delineation survey and report for this project. [05/2010 – 06/2010]

North County Transit District, Railway Improvement, San Diego County, CA. Ms. Mulrooney conducted a nesting bird survey, presented an Environmental Worker Awareness Training Program, and monitored construction activities for this project. [08/2010 – 12/2010]

City of Highland, Street Improvement Project, Highland, CA. Ms. Mulrooney assisted with the wetland delineation and general biological survey for this project. [05/2010 – 08/2010]

San Bernardino Associated Governments, Railway Improvement, Redlands, CA. Ms. Mulrooney conducted a general biological survey, opportunities and constraints survey, and prepared the associated reports, for this project. [05/2010 – 11/2010]

Roseate Spoonbill Monitoring Project, Tavernier, FL. As Field Crew leader, Ms. Mulrooney handled hiring, training and scheduling of seasonal field crew; performed data entry and analysis as well as report writing; maintained databases; deployed satellite transmitters on adult spoonbills; formatted hourly data transmissions and created maps using ArcGIS; surveyed and monitored breeding colonies by small boat, kayak and on foot; banded nestlings and resighted color banded birds throughout the state; conducted flight-line counts as well as surveys of colonies and adult foraging flights via fixed-wing aircraft; gave presentations to local groups. [11/2002 – 08/2008]

Florida Keys Stopover Ecology Study of Neotropical Migrant Birds, Cudjoe Key and Key Largo, FL. Ms. Mulrooney mist-netted and banded fall migrants; recorded age, sex, wing chord, and fitness; conducted foraging observations, analyzed diet via fecal samples; conducted prey availability studies; conducted vegetation surveys; recorded and entered data. [08/2002 – 10/2003]

Least Bell's Vireo and Southwestern Willow Flycatcher Monitoring Projects, San Diego, CA. Ms. Mulrooney mist-netted and banded adult LBVI's using playback; resighted color-banded birds; conducted nest searching and monitoring; mapped territories (spot-mapping); banded nestlings; assisted with video-monitoring study; surveyed SWFL's on MCB Camp Pendleton; recorded and entered data. [03/2003 – 08/2003]

Santa Margarita River Watershed Avian Surveys, San Diego, CA. Ms. Mulrooney conducted point counts for all bird species throughout the Santa Margarita watershed. [04/2003 – 07/2003]

Least Bell's Vireo and Southwestern Willow Flycatcher Surveys, San Diego, CA. Ms. Mulrooney conducted point counts for all bird species in Cleveland National Forest, MCB Camp Pendleton and Santa Margarita Ecological Reserve; surveyed fixed-transects for LBVI and SWFL's in Cleveland National Forest; mist-netted and banded passerines at MAPS stations; conducted vegetation surveys; recorded and entered data. [03/2002 – 08/2002]

Fall Migration Study of Neotropical Migrant Birds, Cape May, NJ. Ms. Mulrooney mist-netted and banded fall migrants; recorded age, sex, wing chord, and fitness; conducted vegetation surveys; conducted prey availability studies; recorded and entered data. [09/2000 – 11/2001]

Fragmentation Study of Breeding Birds on the San Pedro River, Fairbank, AZ. Ms. Mulrooney Conducted nest searching and monitoring for over 20 species of birds, focused mainly on Yellow-Breasted Chat, Bell's Vireo, and Abert's Towhee; conducted point counts; conducted prey availability studies; conducted vegetation surveys. [06/2001 – 08/2001]

Endangered Species Study of Golden-Cheeked Warbler, Fort Hood, TX. Ms. Mulrooney mist-netted and banded GCWA using playback; conducted nest searching and monitoring; resighted color-banded birds; mapped territories (spot-mapping); collected nest and habitat use data through vegetation surveys; recorded data. [03/2000 – 06/2001]

Fall Migration Study of Neotropical Migrant Birds, Fort Morgan, AL. Ms. Mulrooney mist-netted and banded fall migrants; recorded age, sex, wing chord, and fitness; **assisted** with radio-telemetry project on Chuck-Will's Widow; assisted with behavioral experiments on Gray Catbird and Blue-Gray Gnatcatcher; recorded and entered data. [09/1999 – 10/1999]

Avian Community Dynamics and Conservation Study on Noxubee NWR and Tombigbee National Forest, Starkville, MS. Ms. Mulrooney mist-netted and banded breeding birds; conducted vegetation surveys; recorded and entered data. [07/1999 – 09/1999]

Rufous-crowned Sparrow Habitat Fragmentation Study, San Diego, CA. Ms. Mulrooney Conducted nest searching and monitoring; resighted color-banded birds; assisted with netting and color banding; mapped territories; conducted point counts and predator surveys; conducted insect transects and placed pit-fall traps; conducted vegetation surveys; recorded and entered data. [03/1999 – 07/1999]

Reynaldo A. Pellos
Environmental Scientist

Education
B.S.E., Environmental Engineering, 2001
Minor, Environmental Science
Magna Cum Laude, Mercer University, Macon, GA

Accreditation
OSHA 40-hr HAZWOPER Certified March 2008 (8-hr Refresher October 2011)
Engineer-in-Training, Georgia, 2001
Basic CEQA Training October 2010

Name: Reynaldo A. Pellos
BL/Dept: PDD/EEP-SD
Employee No.: 659573

Reynaldo Pellos has 3 years of experience as an environmental scientist. His experience includes wet and dry weather storm water monitoring, field noise monitoring and observations, electronic field data collection, wetland delineation, documentation for analysis, technical report preparation, biological surveys, biological monitoring, and botanical surveys.

Project Experience

Marine Corps Base Camp Pendleton, Storm Sewer Engineering Study, Camp Pendleton, CA
In order to recommend improvements for the storm water drainage infrastructure within several camps (Las Flores, Horno, Margarita, Las Pulgas, Del Mar, School of Infantry, and San Mateo) within the base, Mr. Pellos conducted field reconnaissance, modeling of the existing system in StormCAD, proposed improvements to fix system deficiencies, figure preparation, draft preparation and coordination among several staff and offices, and authored sections of the study.
[12/2010 – Ongoing]

San Elijo Lagoon Conservancy, San Elijo Restoration Project, Environmental Impact Report (EIR), San Diego, CA
Mr. Pellos authored the water quality and hydrology sections of this EIR. Mr. Pellos also conducted the noise monitoring to establish baseline ambient noise levels that will be uses to determine potential noise impacts as a result of the proposed project. This document analyzed the environmental impacts of the proposed restoration of the

lagoon that would increase tidal influence and habitat diversity. [07/2012 – Ongoing]

Olivenhain Municipal Water District, Unit AA Raw Water Pipeline Project, San Marcos, CA
Mr. Pellos conducted biological monitoring at least weekly of the entire project site. This required inspection of BMPs, monitoring of construction activities, coordination between client and construction crew, noise monitoring for impacts to nesting birds and sensitive wildlife (California Gnatcatcher and Least Bell's Vireo). Each visit was followed by a monitoring report that summarized project activities and level of environmental compliance. [11/2011 – Ongoing]

Sunrise Powerlink Transmission Line Restoration Project, San Diego County, CA
Mr. Pellos conducted botanical surveys as a part of pre-impact surveys, post-impact surveys, and other supportive tasks in an effort to restore impacted habitat as a result of the installation of a high-voltage transmission line going from Imperial Valley to San Diego. The project study area includes many sensitive biological resources such as bighorn sheep, desert tortoise, banded gecko, etc. [06/2011 – Ongoing]

San Diego Gas & Electric (SDG&E), Widget Services On-Call, San Diego County, CA
Mr. Pellos has monitored for many different SDG&E activities where sensitive biological resources may be impacted. This has included monitoring activities such as pole replacements by helicopter and vegetation trimming. Each monitoring activity was accompanied by a monitoring report prepared by Mr. Pellos. [04/2011 – Ongoing]

US Postal Service, Pacific Area Stormwater Monitoring, Chula Vista and San Diego, CA
In the effort to fulfil the requirements of the Water Quality Monitoring Plan for the USPS, Mr. Pellos collected wet weather storm water samples from two USPS maintenance facilities. He also collected field measurement data such as pH, total dissolved solids, conductivity, and temperature. [10/2012 – Ongoing]

South Bay Expressway (SBX), State Route 125 Storm Water Quality Monitoring, Chula Vista, CA
In the effort to fulfil the requirements of the Water and Sediment Quality Monitoring Plan for the SBX, Mr. Pellos collected wet weather storm water samples from 10 actively monitored best management practice (BMP) stations along the toll road. He also collected field measurement data such as pH and temperature, and regularly inspect all 64 BMPs associated with the state route. In addition, he collected receiving water samples upstream and downstream at the Sweetwater and Otay Rivers to assess influences from the toll road. [12/2009 – 11/2012]

Orange County Transit Authority, I-5 HOV Lanes Expansion Project WQAR, Santa Ana, CA
Mr. Pellos prepared a Water Quality Assessment Report using the Caltrans format to assess the potential impacts of the project on water quality in the Santa Ana River basin. Mr. Pellos also scheduled, coordinated, and conducted the field effort required to determine the potential noise impacts of the proposed project with two other staff.
[09/2011 – 11/2012]

City of Escondido, Citracado Parkway – Andreasen Drive to West Valley Parkway Hydromodification Management Plan Study, Escondido, CA
In order to assist the City of Escondido with the new HMP requirements, Mr. Pellos wrote the initial draft of the study. The study determined the appropriate HMP implementation strategies, identified roadway design elements to support the HMP, needed easement areas, cost considerations, and drainage system concepts. The HMP Study considered the southern pavement widening portion of the project and the northern roadway extension portion of the project. [09/2011 - 11/2011]

County of San Diego Department of Parks and Recreation, Ramona Grasslands Preserve Project, Ramona, CA
This project involved conducting vernal pool hydrological monitoring, vernal pool floral monitoring, hydro geomorphic monitoring, and riparian and upland vegetation monitoring surveys for vernal pool and riparian mitigation parcels under long term management by the County. Mr. Pellos conducted a Real Time Kinematic (RTK) survey in support of these efforts. [04/2012]

Southern California Edison, San Onofre Vernal Pool Restoration Project, San Onofre, CA
Mr. Pellos conducted a RTK survey in preparation for LIDAR mapping. This technique allow high resolution contour mapping of the vernal pools to aide in the restoration process. [04/2012]

SDG&E, Road Grading on Marine Corps Base Camp Pendleton, CA

Mr. Pellos monitored road grading activities and helped SDG&E maintain compliance with existing regulations. Also surveyed for sensitive biological resources such as nesting birds, sensitive plants, and hydrologic features. Upon completion of the surveys, prepared a Daily Monitoring Report discussing all issues. [03/2011 – 07/2011 and 05/2012-08/2012]

Caltrans, State Route 905 Construction Monitoring, San Diego, CA
Mr. Pellos conducted biological monitoring during the construction phase of State Route 905. This required an inspection of construction activities; a survey of sensitive biological resources, including nesting birds; and inspection for Storm Water Pollution Prevention Plan compliance. At the end of each day, he prepared a report describing any issues and activities. [05/2011 – 05/2012]

County of San Diego Department of Parks and Recreation, Ramona Grasslands Preserve Residual Dry Matter Project, Ramona, CA
Mr. Pellos conducted a residual dry matter survey in order to assist the County in prescribing appropriate management practices related to livestock grazing within the preserve and native annual density and diversity. [10/2011]

Conxentrix Solar, Noise, San Diego, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of a noise impact analysis. Key issues included existing noise sources, and proximity of noise-sensitive receptors (e.g., residents). [10/2011]

City of San Diego, Maddox Dog Park Noise Study, Boulevard, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of a noise impact analysis. Key issues included existing noise sources, and proximity of noise-sensitive receptors (e.g., residents). [10/2011]

City of Escondido, Hydromodification Management Plan (HMP) Compliance Technical Review, Escondido, CA
In order to assist the City of Escondido with the new HMP requirements, Mr. Pellos reviewed developers HMP documentation to determine whether they met the new requirements and submitted recommendations for improvement to the City. These recommendations were then given to the developers and the issues were addressed. [09/2011 - 11/2011]

Caltrans, Clybourn Avenue Grade Separation Preliminary Environmental Study (PES), Los Angeles, CA
Mr. Pellos authored the water quality and hydrology sections of this PES. This document analyzed the environmental impacts of the proposed naval activities. [10/2011]

U.S. Navy, Environmental Impact Statement (EIS) for Renewal of Naval Air Weapons Station China Lake Public Land Withdrawal, Naval Air Weapons Station China Lake, CA
Mr. Pellos authored the water quality and hydrology sections of this EIS. This document analyzed the environmental impacts of the proposed naval activities. [09/2011]

Ocean Discovery Institute, Living Lab Project, San Diego, CA
Mr. Pellos conducted noise monitoring and a biological survey of the project site that identified plant and wildlife species, plant communities, the potential for sensitive biological resources, jurisdictional wetlands, and potential impacts to the proposed project. Mr. Pellos also prepared a Biological Survey Letter for submittal to the City of San Diego that disclosed the findings of the biological survey. [08/2011 – 09/2011]

City of Los Angeles, Century Boulevard Project, Noise, Los Angeles, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of a noise impact analysis. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (e.g., residents, sensitive species). [07/2011]

City of Torrance, Torrance Wellfield Project, Noise, Torrance, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of a noise impact analysis. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (e.g., residents, sensitive species). [07/2011]

Metropolitan Water District, Wetland Delineation, Los Angeles, CA
Mr. Pellos delineated wetlands in the field in support of permitting for facility maintenance activities. [06/2011 – 07/2011]

Naval Facilities Engineering Command (NAVFAC), Botanical Surveys, Camp Pendleton, CA
Mr. Pellos surveyed for thread leaved Brodiaea (*Brodiaea filifolia*) in specific areas of Marine Corps Base Camp Pendleton to determine presence/absence. [05/2011]

City of Imperial Beach, Imperial Beach Environmental Impact Report, Noise, Imperial Beach, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of a noise impact analysis. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (e.g., residents, sensitive species). [05/2011 – 06/2011]

County of San Bernardino, Shadow Mountain Grade Separation, Noise, Helendale, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of a noise impact analysis. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (e.g., residents, sensitive species). [03/2011 – 04/2011]

San Diego Association of Governments (SANDAG), Regional Transportation Plan (RTP) Environmental Impact Report (EIR), San Diego, CA
Mr. Pellos authored the water quality and hydrology section of this EIR. This document specified the detailed analysis for the horizon years of 2020, 2035, and 2050 described in the RTP. [02/2011 – 04/2011]

California Department of Parks and Recreation, Ocotillo Wells State Vehicular Recreation Area (SVRA) General Plan Hydrology Report, Ocotillo Wells, CA
Mr. Pellos updated the hydrology report to include several changes in the project that included a larger project footprint that potentially impacted other resources. [03/2011]

Los Angeles County Department of Parks and Recreation, Storm Water Pollution Prevention Plans, Los Angeles, CA
Mr. Pellos was an integral member of the Integrated Pest Management (IPM) Plan development team. He prepared the draft IPM Plan and assisted in preparing training presentations and conducting compliance training to more than 200 regional, district, and recreational department staff. [12/2010 – 03/2011]

City of San Diego, St. Paul's Cathedral and Residences Uptown Community Planning Area EIR, Energy, San Diego, CA
Mr. Pellos prepared the existing conditions of the energy section for this EIR. [02/2011 – 03/2011]

County of San Diego, Fallbrook Community Airpark Aircraft Noise Analysis, Fallbrook, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of the noise impact analysis for this project. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (i.e., residents, sensitive species). [11/2010 – 01/2011]

Barona Band of Mission Indians, Barona Master Plan Environmental Evaluation, Barona, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of the noise impact analysis for this project. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (i.e., residents, sensitive species). [11/2010 – 01/2011]

D&D Habitat Restoration, Dennery Canyon Vernal Pool Restoration, National City, CA
Mr. Pellos assisted in the propagation of plants used in vernal pool restoration projects, as needed. [07/2010 – 11/2010]

Solar Millennium, Palen Solar Project Fall Botanical Survey, Blythe, CA
Mr. Pellos conducted botanical surveys in the Mojave Desert for the fall germination of sensitive annual plant species. [10/2010 – 12/2010]

Los Angeles County Department of Public Works, Bouquet Canyon Road Administrative Draft Initial Study/Mitigated Negative Declaration, Santa Clarita, CA
Mr. Pellos wrote the floodplains section and the hydrology and water quality section of the Environmental Study/Initial Study/Mitigated Negative Declaration. [10/2010 – 12/2010]

City of Escondido, Escondido RCM Permitting Phase I, Escondido, CA
Mr. Pellos conducted wetland delineations in all of Escondido's open storm water drains and channels by recording plant species, examining soil pits, and recognizing

other hydrologic conditions indicative of a wetland. He used a Toughbook for data entry and GPS positioning. He also digitized wetland delineation vegetative community data on ArcGIS maps. [07/2010 – 10/2010]

California State Parks, Noise Impact Analysis Los Angeles State Historic Park Master Plan Development, Los Angeles, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of the noise impact analysis for this project. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (e.g., residents, sensitive species). [07/2010 – 10/2010]

Marine Corps Base Camp Pendleton, Shrimp Habitat Monitoring Plan Design, Camp Pendleton, CA
Using a sub-foot GPS positioning device with a stationary relay base station, Mr. Pellos assisted in the process of mapping vernal pools within several training areas of Camp Pendleton. [07/2010 – 02/2011]

Southern California Edison Company, Falcon Ridge Substation Project, Fontana, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of the noise impact analysis for this project. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (e.g., residents, sensitive species). [07/2010 – 12/2010]

City of Escondido, On-Call Storm Water and Environmental Compliance Support, City of Escondido, CA
In addition to assisting with dry-weather storm water sampling, Mr. Pellos inspected and mapped storm water structures owned and operated by the City of Escondido. He also performed quality control for the electronic database. [12/2009 – 07/2010]

T.Y. Lin International, West Mission Bay Drive Bridge Widening Noise Impact Analysis, San Diego, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of the noise impact analysis for this project. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (e.g., residents, sensitive species). [03/2010 – 07/2010]

Metropolitan Water District, Padre Dam Construction Monitoring, Lakeside, CA
Mr. Pellos performed noise monitoring and recorded observations during construction. Key issues included existing noise sources, noise level exceedances, and proximity of noise-sensitive receptors (e.g., residents). [06/2010 – 12/2010]

US Department of Transportation (DOT), California DOT, Cities of Anaheim and Placentia, Orangethorpe Grade Separation Project, Orange, CA
Mr. Pellos wrote the Hydrology and Floodplains section and the Water Quality and Storm Water Runoff section of the Addendum to the Environmental Impact Report (EIR)/Environmental Impact Statement (EIS). [04/2010 – 06/2010]

Renewable Resources Group, Photovoltaic Solar Project, Rosamond, CA
Mr. Pellos contributed to the preparation of the Flooding and Drainage Study for this project by authoring portions of the study and researching potential hydrological impacts. [05/2010 – 06/2010]

San Diego Association of Governments, Regional Beach Sand Project II, San Diego County, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of the noise impact analysis for this project. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (e.g., residents, sensitive species). [05/2010 – 01/2011]

South Bay Expressway, State Route 125 Restoration Site Monitoring, Chula Vista, CA
Mr. Pellos assisted with monitoring the restoration site's animal population through pit trap monitoring and fairy shrimp populations through vernal pond monitoring. [04/2010 – 12/2011]

City of Escondido, Citracado Parkway Extension Project, Escondido, CA
Mr. Pellos contributed to the preparation of the Hydrology and Water Quality section of the Environmental Impact Report (EIR) for this project by authoring portions of the chapter and researching potential hydrological impacts. [03/2010 – 04/2010]

Simon Wong Engineering, Willow Street Widening Project Noise Impact Analysis, Chula Vista, CA
Mr. Pellos performed baseline noise monitoring and observations, and data downloading and documentation for the preparation of the noise impact analysis for this project. Key issues included existing noise sources, traffic volumes, and proximity of noise-sensitive receptors (e.g., residents, sensitive species). [03/2010 – 06/2010]

City of San Diego, Storm Water Pollution Prevention Program, San Diego, CA
Mr. Pellos collected dry weather water samples from storm water drains; measured pH, conductivity, and temperature of the water samples in the field; documented the area around the storm drains for visual and trash assessment; performed quality control for the field data sheets and electronic database; analysed samples for parameters such as nitrate, ammonia, phosphate, detergents, and turbidity; and exceeded client expectations for data quality and production. [Prior to AECOM; 05/2008 – 07/2008]

Local Government Unit, Kibungan, Benguet, Philippines
Mr. Pellos worked with the Municipal Agricultural Office, Municipal Planning and Development Office, and Municipal Engineering Office, and coordinated activities of the School of Living Traditions in Kibungan: ClayWorks (SLT). In addition, he prepared professional documentation (paper and video) of the SLT, trained engineers and workers in the design and construction of ferrocement water tanks, and coordinated the construction of the ferrocement water tanks. [Prior to AECOM; 05/2005 – 05/2007]

US Peace Corps, Kibungan, Benguet, Philippines
Mr. Pellos worked with the Municipal Agricultural Office and co-founded the School of Living Traditions in Kibungan: ClayWorks (SLT). He won funding for the project through the National Commission for Culture and the Arts, and conducted skill development trainings for Rural Improvement Clubs throughout Kibungan. [Prior to AECOM; 02/2002 – 02/2005]

Biology Department, Mercer University, Macon, GA
As a student researcher, Mr. Pellos worked on four significant projects:

- Baseline population estimates for reptiles and amphibians using pit traps and drift fences in the Piedmont National Wildlife Refuge (PNWR)
- Habitat delineation of predators and prey in pond shorelines of the PNWR
- Population and distribution estimates of amphibians by nocturnal audio sampling in the PNWR
- Tadpole testing to determine effects of household pesticides

[Prior to AECOM; 08/1997 – 03/2001]

Lance Woolley
Botanist

Education
BS, UC Santa Cruz, 1998
MA, Botany, Humboldt State University, 2006

Professional Affiliation
Member, California Native Plant Society

Certification
10(a)(1)(A) Endangered Species Permit TE 820658-5.3 for Listed vernal pool branchiopods

Papers + Presentations
Woolley, L., and T.W. Henkel. 2005. The Role of the Heart Rot Fungus Phellinus spp. and Shoot Turnover in the Long-Term Development of the Tropical Monodominant Tree Dicymbe Corymbosa (Caesalpiniaceae). Contributed presentation at the Mycological Society of America Annual Meeting, July 30–August 5, 2005, Hilo, Hawaii.
Henkel, T.W., J. Mayor, and L. Woolley. 2005. Mast Fruiting and Seedling Survival of the Ectomycorrhizal Dicymbe Corymbosa (Caesalpiniaceae) in Guyana. *New Phytologist* 167:543–556.
Woolley, L., T.W. Henkel, and S.C Sillett. 2008. Reiteration in the Monodominant Tropical Tree Dicymbe Corymbosa (Caesalpiniaceae) and its Potential Adaptive Significance. *Biotropica* 40: 32–43.

Lance Woolley has more than 7 years of professional experience as a botanist. Mr. Woolley has conducted ecological and botanical field studies for various projects in California. His expertise includes rare plant and floristic surveys, vegetation classification and mapping, and monitoring of vernal pool habitat. He has conducted surveys on more than 12,000 acres of desert habitat and more than 3,000 acres of vernal pool and associated grassland habitat. Mr. Woolley has also conducted rare plant surveys for plants restricted to serpentine soils on more than 2,000 acres of Shasta-Trinity National Forest.

Project Experience

InterConnect, Cellular Tower Surveys, San Bernardino County, CA
As biologist, participated with the botany field effort, including vegetation mapping and a focused rare plant survey for five cellular tower sites located throughout the Mojave Desert. Approximately 1,000 acres of land was surveyed. Prepared the Botanical Survey Reports for each of the cellular sites. [2013]

ACE Phoenix, Power Generation, Inyo County, CA
As biologist, participated with the botany field effort, including vegetation mapping and a focused rare plant survey for the project site and 500-foot buffer within the northern Mojave Desert. Approximately 500 acres of land was surveyed. Prepared the Botanical Survey Report. [2012–2013]

City of San Diego, Maple Canyon Storm Drain Biological Assessment, San Diego, CA
As biologist, conducted floristic inventory, rare plant surveys, and vegetation mapping. Completed the Biological Memorandum and impact analysis. [2013]

County of San Diego, Sweetwater Phase III Trail Improvement Biological Assessment, San Diego, CA
As biologist, conducted floristic inventory, rare plant surveys, and vegetation mapping. Completed the Biological Memorandum and impact analysis. [2013]

City of San Diego, Alberhill Storm Drain Biological Assessment, San Diego, CA
As biologist, conducted floristic inventory, rare plant surveys, and vegetation mapping. Completed the Biological Memorandum and impact analysis. [2013]

Municipal Water District (MWD), Programmatic Permitting Project, Orange County, CA
As biologist, conducted vegetation mapping and habitat assessments, and assisted with wetland delineations along the MWD right-of-way. Assisted with the preparation of the Jurisdictional Delineation report. [2013]

Naval Facilities Engineering Command, Naval Outlying Landing Field (NOLF) Imperial Beach, Fence Environmental Assessment, San Diego County, CA
As biologist, conducted a floristic inventory, rare plant survey, and vegetation mapping within the NOLF project area. [2013]

City of Escondido, Lake Wohlford Dam Replacement, San Diego County, CA
As biologist, participated with the botany field effort, including vegetation mapping and a focused rare plant survey for the project site and 500-foot buffer. Assisted in the preparation of the Botanical Survey Report. [2013]

United States Fish and Wildlife Service, Santa Ana River Marsh Restoration, Orange County, CA
As biologist, conducted a floristic inventory and vegetation mapping within the Santa Ana River Marsh Restoration Area. [2013]

California Department of Transportation, Otay Sweetwater Revegetation Project, Otay, CA
As biologist, conducted point intercept vegetation transects throughout the restoration site. [2013]

City of San Diego, Otay Conveyance Pipeline Project, San Diego County, CA
As biologist, assisted with rare plant surveys and vegetation mapping. [2013]

City of San Diego, Rue Cheaumont Storm Drain Biological Assessment, San Diego, CA
As biologist, conducted floristic inventory, rare plant surveys, and vegetation mapping. Completed the Biological Memorandum and impact analysis. [2013]

Southern California Edison, Victor to Kramer Telecommunications Line, Mojave Desert, San Bernardino County, CA
As biologist, participated with the botany field effort, including vegetation mapping and a focused rare plant survey for a 35-mile-long section of transmission line within the Mojave Desert. Approximately 700 acres of land was surveyed. Prepared the Botanical Survey Report. [2011]

Imperial Irrigation District, Path-42 Transmission Line Surveys, Riverside and Imperial County, CA
As biologist, conducted floristic inventory, focused rare plant surveys, and vegetation mapping along a linear transmission line. Coordinated field staff, survey schedule, data management, and reporting. [2011]

Invenergy Wind California, Rare Plant and Vegetation Mapping Protocol Surveys, Campo, CA
As biologist, helped organize and conducted floral inventory, focused rare plant surveys, and vegetation mapping at the Campo Reservation. Wrote sections of the Biological Technical Report. [2010]

Naval Facilities Engineering Command, Continuing Environmental Review Studies for Basewide Utility Infrastructure Improvements, Marine Corps Base Camp Pendleton, CA
As biologist, conducted focused rare plant surveys for listed plant species (thread-leaved brodiaea, spreading navarretia, and San Diego button-celery). Conducted habitat assessments and focused protocol surveys for listed vernal pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp) throughout the Base as part of continuing environmental review studies. Drafted habitat assessment and biological assessment documents. [2010–2011]

Naval Facilities Engineering Command, Basewide Water Improvements and Stuart Mesa Bridge Replacement Project, Marine Corps Base Camp Pendleton, CA
As biologist, conducted focused rare plant surveys for listed plant species (thread-leaved brodiaea, spreading navarretia, and San Diego button-celery). Conducted habitat assessments and focused protocol surveys for listed vernal

pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp) throughout the Base as part of continuing environmental review studies. Drafted habitat assessment documents and biological assessments. Wrote sections in several biological documents. [2010–2012]

Naval Facilities Engineering Command, Basewide Fuel Optimization Program, Marine Corps Base Camp Pendleton, CA
As biologist, conducted focused protocol surveys for listed vernal pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp). Completed the US Fish and Wildlife Service 10a 90-day listed branchiopod report. [2011]

Abengoa Solar, Solar Project, San Bernardino County, CA
As biologist, conducted a floristic inventory, rare plant survey, and vegetation mapping within a proposed solar power generating facility in the Mojave Desert. Assisted with the preparation of the Biological Constraints Report. [2008]

Enel Green Power, Wind Power Project, San Bernardino County, CA
As biologist, conducted a floristic inventory, rare plant survey, and vegetation mapping within a proposed wind power generating facility. Prepared the Biological Constraints Report. [2011]

Beacon Solar, Energy Project, San Bernardino County, CA
As biologist, conducted floristic inventory, focused rare plant surveys, and vegetation mapping. Coordinated data management and assisted with writing the Biological Technical Report. [2011]

Ogilby Solar, Solar Energy Project, Imperial County, CA
As biologist, conducted floristic inventory, focused rare plant surveys, and vegetation mapping. Assisted with data management and wrote the Botanical Survey Report. [2011]

Concentrix, Solar Project, Rare Plant Surveys, Boulevard, CA
As biologist, assisted with the floristic inventory, focused rare plant surveys, and vegetation mapping. Assisted with data management and writing of biological technical reports. [2011]

Imperial Irrigation District, Dixieland to Imperial Valley Substation Transmission Line Project, Imperial County, CA
As biologist, conducted floristic inventory, focused rare plant surveys, and vegetation mapping to assess impacts of a 230-kilovolt transmission line and substation expansion project. Assisted with data management and writing the biological technical report. [2010]

US Navy, Naval Air Weapons Station China Lake, Ridgecrest, CA
As biologist, toured the North Range and helped prepare a Preliminary Draft Environmental Impact Statement for the renewal of the public land withdraw from the Bureau of Land Management. [2011]

City of Laguna Niguel, Sulphur Creek Restoration Project, Laguna Niguel, CA
As biologist, performed vegetation mapping, annual vegetation surveys, and data collection. Project was designed to create, restore, and enhance wetland and riparian communities, and establish a native sage scrub buffer along a 1.5-mile stretch of Sulphur Creek in the Aliso Creek Watershed. [2011–2013]

San Diego County Water Authority, Escondido Creek Wetland/Riparian Enhancement Project, Escondido, CA
As biologist, assisted in the monitoring of 21 acres of wetland/riparian enhancement within a conservation easement established within the 100-year floodplain of Escondido Creek. [2009]

California Department of Transportation, Dennery Canyon Vernal Pool Restoration Project Seed Bulking and Plant Propagation, Otay Mesa, CA
As biologist, conducted focused protocol surveys for listed vernal pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp). Conducted floristic inventories of the 40 vernal pools on-site, and assisted with upland point intercept vegetation transects. Completed the US Fish and Wildlife Service 10a 90-day listed branchiopod report. Project consists of enhancement and construction of 40 vernal pools and adjacent upland habitat for Quino checkerspot butterfly. [2009–2013]

Naval Facilities Engineering Command Southwest, San Onofre Vernal Pool Conservation Plan, San Onofre State Beach, CA
As biologist, conducted focused protocol surveys for listed vernal pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp). Assisted with the floristic inventory of all vernal pools occurring within the project area. [2011]

Naval Facilities Engineering Command, Marine Corps Forces Special Operations Command Environmental Assessment, Marine Corps Base Camp Pendleton, CA
As biologist, conducted vegetation mapping and focused rare plant surveys for listed and proposed listed plant species (thread-leaved brodiaea and Pendleton button-celery). Conducted focused protocol surveys for listed vernal pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp) throughout the project area. Prepared written biological assessments. [2013]

US Navy, Silver Strand Training Complex South (SSTC-S), Naval Base Coronado, CA
As biologist, conducted a floristic inventory, focused rare plant surveys, and vegetation mapping within the SSTC-S. Assisted with the preparation of a Preliminary Draft Environmental Impact Statement. [2012]

San Diego Association of Governments, San Dieguito Lagoon Restoration Project, San Diego County, CA
As biologist, conducted floristic inventory, focused rare plant surveys, and vegetation mapping along a linear transmission line. Assisted with data management and reporting. [2013]

San Diego Association of Governments, Buena Vista Lagoon Restoration Project, San Diego County, CA
As biologist, conducted a floristic inventory, focused rare plant surveys, and vegetation mapping within the lagoon restoration area. Coordinated field staff, survey schedule, data management, and reporting. [2013]

City of San Diego, Otay Truck Trail Road Expansion, San Diego County, CA
As biologist, conducted focused protocol surveys for listed vernal pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp). Completed the US Fish and Wildlife Service 10a 90-day listed branchiopod report. [2013]

Digital 395, Fiber-Optic Cable Project, Bishop, CA
As biologist, conducted pre-construction surveys and construction monitoring for the installation of a fiber-optic cable. [2013]

San Diego Gas & Electric (SDG&E), Sunrise Powerlink Restoration Services, San Diego County, CA
As biologist, conducted a floristic inventory at all SDG&E tower sites before towers were constructed. The pre-construction survey served as documentation for the restoration efforts following tower construction. Performed post-impact surveys to determine the area of impact. [2011]

US Army Corps of Engineers-Los Angeles District, Santa Ana Nonnative Vegetation Removal Project, Orange County, CA
As biologist, conducted vegetation monitoring surveys as part of a 5-year study to measure the effects of invasive nonnative vegetation removal within a 250-acre section of the Santa Ana River Valley on the establishment and diversity of native plant species. [2011]

Naval Facilities Engineering Command, Inventory of Pendleton Button-Celery, Marine Corps Base Camp Pendleton, CA
As biologist, participated in the second year of Basewide surveys for *Eryngium pendletonense* in outlying areas along MACS road to further quantify the extent of its population. [2011]

San Diego Association of Governments, San Elijo Lagoon Restoration Project, San Diego, CA
As biologist, conducted a floristic inventory, focused rare plant surveys, and vegetation mapping within the lagoon restoration area. Completed the Botanical Survey Report. [2010]

San Diego Association of Governments, San Diego Regional Vegetation Map, San Diego CA
As biologist, conducted vegetation classification and mapping in accordance with the California Department of Fish and Wildlife vegetation mapping system for the western portion of San Diego County. Vegetation mapping data was used to create a fine-scale vegetation map for approximately 450,000 acres of Habitat Preserve and Conserved Lands in western San Diego County. [2010–2012]

City of Carlsbad, Carlsbad Boulevard Realignment and Land Exchange Project San Diego County, CA
As biologist, conducted a floristic inventory, focused rare plant surveys, and vegetation mapping within the 700-acre project area. Conducted focused protocol surveys for listed vernal pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp) throughout the project area. Wrote the Botanical Survey Report and the US Fish and Wildlife Service 10a 90-day listed branchiopod report. [2011– 2013]

Confidential Client, Confidential Solar Project, Kern County, CA
As biologist, participated with the botany field effort during a focused rare plant survey for six special-status plants that had the potential to occur within the impact area of a planned solar energy project located in the western Mojave Desert. More than 2,000 acres of land was surveyed for the target rare plant species, in addition to a 1-mile buffer zone. Vegetation mapping and inventorying of any special-status wildlife were also conducted. [2008, 2010]

Solar Millennium, Blythe, Palen, and Ridgecrest Solar Power Projects, Mojave Desert, Riverside/Kern County, CA
As biologist, participated with the botany field effort during a focused rare plant survey for 12 special-status plants that had the potential to occur within the impact area of a planned solar energy project located in the Sonoran and Mojave Deserts. More than 9,000 acres of land was surveyed for the target rare plant species, in addition to a 1-mile buffer zone. Vegetation mapping and inventorying of any special-status wildlife were also conducted. [2009, 2010]

Mojave Solar, Harper Lake Solar Energy Project, San Bernardino County, CA
As biologist, assisted with vegetation mapping and surveying for rare plants within the Mojave Desert. Assisted with writing and preparing the Harper Lake Botanical Report. [2008]

California Department of Transportation and South Bay Expressway, State Route 125 South Quino Checkerspot Butterfly and Vernal Pool Restoration, San Diego County, CA
As biologist, participated in conducting Quino checkerspot butterfly focused protocol adult surveys on the Johnson Canyon mitigation site and Johnson Canyon Open Space Preserve in Otay Mesa. [2008]

California Department of Transportation, Johnson Canyon Open Space Preserve Habitat Management Plan for State Route 125 South, San Diego County, CA
As biologist, conducted focused protocol-level surveys for listed vernal pool branchiopods. [2008]

Marine Corps Base Camp Pendleton (MCBCP), Fairy Shrimp Vernal Pool Field Surveys, MCBCP, CA
As biologist, participated with a large team of biologists in a protocol survey of the distribution, abundance, and presence of two endangered fairy shrimp species in approximately 900 vernal pools for Base-wide management of the vernal pool resource by the Land Management Branch at Environmental Security, Camp Pendleton. [2008–2009]

Marine Corps Base Camp Pendleton (MCBCP), Grow the Force Environmental Studies, MCBCP, CA
As biologist, conducted focused rare plant surveys for listed plant species (thread-leaved brodiaea, spreading navarretia, San Diego button-celery). Conducted habitat assessments and focused protocol surveys for listed vernal pool branchiopods (San Diego fairy shrimp and Riverside fairy shrimp) throughout the Base as part of continuing environmental review studies. Drafted habitat assessment documents and biological assessments. Wrote sections in several biological documents. [2007–2011]

California Department of Transportation, Old Road-Hill Crest Parkway to Lake Hughes Road, Santa Clarita, CA
As biologist, conducted rare plant surveys and vegetation mapping along Old Road-Hill Crest Parkway. Contributed to the preparation of the Natural Environment Study**.** [2007]

County of San Diego, San Diego River Nonnative Vegetation Removal, Lakeside, CA
As biologist, conducted vegetation mapping and noxious weed survey within the San Diego River. Assisted with the preparation of the Biotechnical Report. [2009]

San Diego Gas & Electric (SDG&E), Natural Community Conservation Plan Natural Resources & Water Resources, San Diego County, CA
As biologist, conducted surveys for sensitive biological resources along SDG&E utility line corridors for three large pole replacement projects. Estimated impacts to resources associated with maintenance and pole replacement activities. Prepared Pre-Activity Study Reports for the associated projects. [2009]

San Diego Gas & Electric (SDG&E), 2007 Firestorm Emergency Monitoring Services, San Diego County, CA
As biologist, assisted SDG&E with emergency response efforts following the fires that occurred in San Diego County during fall 2007 (Firestorm 2007). Performed assessments of natural habitats surrounding power poles burned during Firestorm 2007 before and after repair work was performed by SDG&E staff. Accompanying these assessments, prepared summary reports documenting essential information regarding the status of each work site visited. [2007]

US Department of Agriculture, US Forest Service, Shasta-Trinity National Forest, CA
As biological technical assistant, collected, organized, and analyzed botanical and ecological data. Assisted in plot selection and characterization of plant associations, rare plant surveys, weed eradication, and seed collection. Prepared reports, diagrams, charts, and maps for biological reports. [Prior to AECOM; 2006–2007]

Wetlands Consulting, Anderson Preserve, Santa Rosa, CA
As biologist, conducted rare plant surveys, vegetation mapping, and floristic inventories. Performed botanical surveys and floristic inventories of vernal pools and associated grasslands. [Prior to AECOM; 2007]

Wetlands Consulting, Gobbi Preserve, Santa Rosa, CA
As biologist, conducted vegetation and rare plant surveys addressing the potential impacts of cattle grazing. [Prior to AECOM; 2007]

Wetlands Consulting, Slippery Rock Preserve, Santa Rosa, CA
As biologist, performed botanical surveys and floristic inventories of vernal pools and associated grasslands. [Prior to AECOM; 2007]

Wetlands Consulting, Woodbridge Preserve, Santa Rosa, CA
As biologist, performed botanical surveys and floristic inventories of vernal pools and associated grasslands. [Prior to AECOM; 2007]

Humboldt State University, Botany 105, General Botany, Arcata, CA
As an instructor, developed lectures and demonstrations to facilitate student understanding of the diversity of plant, fungal, protistan, and prokaryotic life on Earth. Assisted students in developing a working vocabulary of botanical terminology and acquiring basic concepts of anatomy, morphology, reproduction, and ecology of these organismal groups. [Prior to AECOM; 2007]

Humboldt State University, Botanical Research Expedition, Pakaraima Mountains, Guyana
As a student, collected and compared macrofungal (basidiomycetes and ascomycetes) communities among mixed and monodominant Dicymbe corymbosa (Caesalpiniaceae) forest types. Established three long-term forest study plots in D. corymbosa forest to monitor tree reproduction, growth, and development. [Prior to AECOM; 2005, 2006]

The Nature Conservancy, Eugene, OR
As biologist, assisted with plant surveys, habitat restoration, and invasive plant eradication. [Prior to AECOM; 2002]

Peace Corps, Membrillo, Coclé, Republic of Panamá
As biologist, worked with subsistence farmers to improve diets and increase income through farming techniques consistent with environmental conservation. Implemented agroforestry techniques to improve soil and water conservation. [Prior to AECOM; 1999–2001]

APPENDIX E

HAZARDOUS MATERIALS
TECHNICAL STUDY

Ninyo & Moore
Geotechnical and Environmental Sciences Consultants

HAZARDOUS MATERIALS TECHNICAL STUDY CHOLLAS TRIANGLE SAN DIEGO, CALIFORNIA

PREPARED FOR:
AECOM
1420 Kettner Boulevard, Suite 500
San Diego, California 92101

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
5710 Ruffin Road
San Diego, California 92123

November 1, 2012
Project No. 107138001

Ninyo & Moore
Geotechnical and Environmental Sciences Consultants

November 1, 2012
Project No. 107138001

Ms. Yara Fisher
AECOM
1420 Kettner Boulevard, Suite 500
San Diego, California 92101

Subject: Hazardous Materials Technical Study
Chollas Triangle
San Diego, California

Dear Ms. Fisher:

Ninyo & Moore has performed a Hazardous Materials Technical Study (HMTS) of the above-referenced site. The attached report presents our methodology, findings, opinions, and conclusions regarding the environmental conditions at the site.

We appreciate the opportunity to be of service to you on this project.

Sincerely,
NINYO & MOORE

Draft

Stephan A. Beck, PG 4375
Manager, Environmental Sciences Division

CC/AO/SB/gg

Distribution: (1) Addressee (via e-mail)

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San Diego ▪ Irvine ▪ Los Angeles ▪ Rancho Cucamonga ▪ Oakland ▪ San Francisco ▪ Sacramento
Las Vegas ▪ Phoenix ▪ Tucson ▪ Prescott Valley ▪ Denver ▪ El Paso ▪ Houston

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1. INTRODUCTION

In accordance with your request, Ninyo & Moore has performed a Hazardous Materials Technical Study (HMTS) for the Chollas Triangle project area located along and within Chollas Parkway on the southeast, University Avenue on the north, and 54th Street on the west in San Diego, California. The purpose of this HMTS is to document the presence of properties, which may have been impacted by hazardous materials or wastes, and to document, with respect to the California Environmental Quality Act (CEQA), the significance of impacts from the project area with respect to hazardous materials and wastes, and to discuss measures that can be implemented to reduce or mitigate the potential impacts.

Ms. Caren Carlson of Ninyo & Moore performed the site reconnaissance, historical and regulatory research. Mr. Stephan Beck of Ninyo & Moore performed project oversight and quality review.

2. SCOPE OF WORK

Ninyo & Moore's scope of work for this HMTS included the activities listed below.

- Reviewed readily available maps (e.g., topographic, geologic, etc.) and environmental reports pertaining to the project area. Documented the existing environmental setting based on available information.

- Performed a project area reconnaissance to document areas of readily apparent, possibly contaminated surficial soil or surface water, improperly stored hazardous materials and wastes, possible sources of polychlorinated biphenyls (PCBs), and possible sources of contamination from activities in the project area and adjacent properties.

- Reviewed readily available historical documents, including aerial photographs, fire insurance maps (where available), reverse city directories, and topographic maps, to document the presence or likely presence of hazardous materials or wastes.

- Reviewed federal, state, and local regulatory agency databases for the project area and vicinity to ASTM International standard search distances. The purpose of this review was to document the locations of facilities with unauthorized releases of hazardous materials or wastes to soil and/or groundwater as well as the regulatory status, where available.

- Reviewed the State Water Resources Control Board (SWRCB) GeoTracker website and the California Department of Toxic Substances Control (DTSC) EnviroStor website, to supplement information in the database report and provide a brief description of open unauthorized release cases, regulatory status and/or contaminated properties in the project area vicinity.

- Evaluated the findings with respect to Questions A, B, and D of Section 8, "Hazards and Hazardous Materials" within Appendix G, "Environmental Checklist Form" of the "Guidelines for Implementation of CEQA."

- Prepared this HMTS report documenting findings and providing opinions and recommendations regarding possible environmental impacts to the project area from potential releases of hazardous materials or wastes and potential impacts from hazardous materials or wastes from future development in the project area. Provided programmatic and mitigation measures for identified impacts, where applicable.

The following, which is not intended to be all inclusive, represents out-of-scope items with respect to this HMTS, and, therefore, were not addressed: human health risk assessment, asbestos-containing materials, underground pipelines, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic risk, industrial hygiene, health and safety, ecological resources, endangered species, mold, indoor air quality (including vapor intrusion), underground pipelines, and high-voltage power lines. In addition, Ninyo & Moore will not address interpretations of zoning regulations, building code requirements, or property title issues.

3. GENERAL SITE CHARACTERISTICS

The Chollas Triangle project study area is approximately 52 acres and is generally bound by Chollas Parkway on the southeast, University Avenue on the north and 54th Street on the west (Figure 1). Also included in the project area are a vacant open space parcel located southeast of Chollas Parkway and seven commercial parcels located north of University Avenue. The street addresses, Assessor Parcel Numbers (APN), tenants observed during the July 13, 2011 reconnaissance, and reported acreage of the parcels (where provided), as obtained from the Regional Economic Development Information system website, http://redi.sandag.org, are summarized in the following table.

Table 1 – Project Area Parcels

Address*	APN*	Tenants (on 7/13/11)	Acres*
5490 University Ave	472-400-18-00	Far Janna Market (addressed 5498)	n/a
5502 University Ave	472-410-01-00	Apartments and Hong's Massage	n/a
5530 University Ave	472-410-02-00	Colina Veterinary Hospital	n/a
5520 University Ave	472-410-03-00	Alvarado Parkway Institute Outpatient Services	n/a
5556 University Ave	472-410-05-00	Quality Auto Sales	n/a
5570 University Ave	472-410-13-00	Vacant building	n/a
5590 University Ave	472-410-12-00	Vacant and boarded building	n/a
5591 University Ave	472-520-04-00	New Ark of the Covenant Church (addressed 5577)	n/a
none	472-520-05-00	Liquor store	n/a
5595 University Ave	472-520-06-00	DN Autobody	n/a
5555 University Ave	472-520-08-00	Deeper Life Christian Store	1.01
3771 54th Street	472-520-10-00	Camino A Damasco Church	n/a
5401 University Ave	472-520-11-00	Shell Gasoline Station	n/a
none	472-520-12-00	Shell Gasoline Station	n/a
none	472-520-15-00	Undeveloped land	n/a
none	472-520-16-00	Undeveloped land	n/a
5584 Chollas Parkway	472-520-17-00	Undeveloped land	n/a
5599 University Ave	472-520-18-00	Undeveloped land	n/a
none	472-520-19-00	Parking lot for 5450 Lea Street	n/a
5404 University Avenue 3893 54th Street	472-520-20-00	Kmart Lucky Star Restaurant	9.96
none	472-590-02-00	Electrical substation	0.78
3701 54th Street	472-590-03-00	Single family home	n/a
3691 54th Street	472-590-04-00	Single family home	n/a
3687 54th Street	472-590-05-00	Single family home	n/a
5450 Lea Street	472-590-09-00	Teen Challenge International	2.42
5410 Lea Street	472-590-21-00	Two apartment buildings (5410 and 5420)	n/a
none	472-600-19-00	Open space park or preserve	2.99

***Source:** http://redi.sandag.org/
n/a = Not available

The project area is located in a mixed use area. Single and multi-family residences are located west of 54th Street and southeast of Chollas Parkway. Commercial businesses, medical offices, and residential apartments are located along the north side of University Avenue (Figure 2).

4. SITE HISTORY AND LAND USE REVIEW

Selected historical records were reviewed to evaluate the likelihood that the project area was historically developed with land uses of potential environmental concern. Historical sources reviewed included aerial photographs for select years between 1953 and 2005, United States Geological Survey (USGS) topographic maps dated between 1904 and 1996, and select historical city directories between 1903 and 2006. Historical sources were provided by Environmental Data Resources Inc. (EDR). Copies of historical sources reviewed are provided in Appendix A. Relevant information is summarized below.

4.1. Topographic Maps

According to the 1904 Southern California Sheet 2 60’ Series topographic map, the project area is located in the “Las Choyas Valley” and is depicted as undeveloped. The 1930 San Diego 15’ Series topographic map depicts the project area as being generally undeveloped. University Avenue is depicted north of the project area, terminating at Chollas Creek. 54th Street is present west of the project area with two potential residential dwellings depicted on the east side.

The 1944 National City 7.5’ Series topographic map depicts a creek along the southeastern project area border (presently known as Chollas Creek). The 1953 National City 7.5’ Series topographic map depicts development along University Avenue, within the project area. Multiple streets are depicted in a developed area on the west side of 54th Street.

The 1967 National City 7.5’ Series topographic map depicts Camero, Bergman, and Lea Streets within the project area with a large structure on the north side Lea Street (present day 5450 Lea Street building). Additional development is depicted along University Avenue. Chollas Parkway is depicted along the southeastern portion of the project area, beyond which is Chollas Creek and multiple streets depicted as developed. Villa View Hospital is depicted on the north side of University Avenue.

The 1975 National City 7.5’ Series topographic map depicts a large structure in the central portion of the project area (present day 5404 University Avenue building). Similar conditions are depicted in the 1991 San Diego 15’ Series topographic map. The 1996 National City 7.5’ Series topographic map depicts the project area as developed. Camero Street is no longer depicted.

4.2. Aerial Photographs

Table 2 provides a summary of information obtained from the historical aerial photos reviewed for this assessment.

Table 2 – Aerial Photograph Review Summary

Year	University Avenue	54th Street	Chollas Parkway
1953	University Ave is apparent. Several small structures are apparent on the north and south sides in the vicinity of the project area.	54th St is apparent. Properties to the west of 54th St appear primarily as vacant land, residential properties are apparent on the west side of 54th St. Residences on the southeast end of the project area are apparent.	Chollas Creek is apparent. Undeveloped land is apparent northwest of the creek and apparent wetlands are present southeast of the project area.
1964	Additional development is apparent on the north and south sides of University Ave. The central portion of the project area appears as a vacant graded lot. The hospital building is apparent northeast of the project area.	Grading of parcels is apparent on the east side of 54th St. Residential development on the west side of 54th St appears to have been completed.	Chollas Pkwy is apparent. Apartments and residences are apparent southeast of Chollas Pkwy. Lea St is apparent to the north. The 5450 Lea St building is apparent. The electrical substation is apparent on the south side of Lea St. Properties on the northeastern portion of Chollas Pkwy, within the project area, appear to be used as storage lots.
1974	Structures on the south side, fronting University Ave, are no longer apparent with the exception of the gasoline station on the west end and four structures on the south end. The 5404 University Ave building is apparent with parking to the north and west. Apartments are apparent on the northeast corner of University and 54th.	The 3771 54th St building is apparent on the east side of 54th St.	Conditions appear similar to 1964.
1989	Conditions appear similar to 1974.	The 3893 54th St building and two apartments are apparent on the east side of 54th St.	Conditions appear similar to 1974.
1994	Conditions appear similar to 1989.		
2002	Conditions appear similar to 1994.		
2005	Conditions appear similar to 2002.		

4.3. City Directories

City directories for University Avenue and 54th Street were reviewed for select years between 1903 through 2006. No listings were identified for the project area addresses between 1903 and 1940. A general summary of information obtained from the city directories is provided below.

University Avenue

- 5401: Shell gas station (1984, 1980, 1975), American Oil gas station (1970)
- 5423: Restaurants (1952, 1948).
- 5429: McGrath Material and Garden Supply (1966, 1961), Individuals (1952, 1948)
- 5447: Individual (1952, 1961)
- 5451: McGrath Garden Supply (1948)
- 5465: Black Angus Freezer Meats (1966)
- 5467: Drapery Corner (1966, 1961), University Showcase & Fixture (1948, 1952)
- 5485: Farmers Insurance (1966, 1961), Plumber (1952, 1948)
- 5493: McKee Cabinet Shop and Construction (1966, 1961, 1952)
- 5494: Niks Garage (1966-1984), Mels Service auto repair (1961, 1952)
- 5496: Georges Tire Shop (2000, 1992, 1989)
- 5498: Market (1989-2006), Wymans Photography (1984), The Pit Stop self service gas station (1980, 1975), Speedway Cleaners (1980), The Pop Place (1980)
- 5502, 5504, 5508: Individuals (1961-2006)
- 5506: Hongs (2006), Jorges Bar & Grill (1992), Oriental Massage (1989), Cloud Nine Tavern (1965-1989), Wilson Duke Floor Co contractors (1952-1970)
- 5515: UFA Towing and storage (1961), Ralph Bell gasoline station (1948)
- 5520: M&G Offset Lithographers Inc printers (1975-1984), Fast Print printer (1970, 1966), Giffords furniture (1961)
- 5530: Colina Veterinary Hospital (1970-2006)

- 5538: Kings Garden Restaurant (1989-2006), M&G Offset Lithographers Inc printers (1975-1984), Professional offices (1952-1970)

- 5555: Payless Shoes (1980-2000), Ralphs 24 Hour Towing and Garage (1970), Battery Exchange (1966), Security Auto Storage (1966, 1961)

- 5556: Auto Sales (1980-2006), Individuals (1952-1970)

- 5570: Auto Doctor (1989-2006), Tuxedo rentals (1975-1984), Master Cleaners Inc plant (1970), Tavern (1961)

- 5571: Acupuncture (1989), The Gap do ret (1980, 1975)

- 5572: Individual (1961)

- 5576: Master Cleaners storage only (1966, 1961)

- 5577: Church (2006), medical offices (1989-2000)

- 5579: Urgent Care (1992), Southern California Excavating Co (1980)

- 5580: Individual (1961)

- 5582: Individual (1984)

- 5586: Church (1992), Appliance sales and service (1975-1984), Master Cleaners Inc (1961-1970)

- 5590: Individuals (1952-2006)

- 5591: New Way ministry, professional landscape (2000, 1992), Liquor (1992, 1989), Baker Electricians contractors (1980, 1975), Louis Markov Sheet Metal Works (1952-1970)

- 5595: Trans Auto Sales (1992, 1989), Pats Appliances sales and repair (1984), College Secretarial Services (1980, 1975), Bayon construction (1961), Individual (1952)

54th Street

- 3687, 3691, and 3701: Multiple individuals, appear residential in nature (1952-2006).

- 3771: Apostouc Assembly (2006), Moments of Blessings (1992), Momentum Graphics (1992).

- 3893: Lucky Star Seafood Restaurant (2006)

Lea Street

- 5410: Multiple individuals, appear residential in nature (1992-2006).
- 5450: Teen Challenge (2006, 2000), Parkway Medical Group (1961 through 1989)
- 5458: D&L Autobody (2006, 2000), Yard (1992), Steel Concrete Structures (1989)
- 5462: Individual names (1992, 1989)
- 5464: Walter Moore Sandblasting (1989)
- 5466: Dragona Auto Sales (2006), Phillips Appliance Recycling and Freon (2000), Johnson Excavating (1989)

5. ENVIRONMENTAL SETTING

The following sections include discussions of the topographic, geologic, and hydrogeologic conditions in the study area and vicinity.

5.1. Topographic Conditions

Based on a review of the United States Geological Survey (USGS), 1996 National City, California, 7.5-minute quadrangle map, the project area elevation ranges from 320 feet MSL on the northern end to approximately 280 feet MSL along Chollas Parkway. Drainage in the vicinity of the site is toward the southeast. Chollas Creek is located along the southeastern project area boundary and runs parallel to Chollas Parkway.

5.2. Geologic Conditions

According to the Geologic Map of the San Diego 30’ x 60’ Quadrangle, California, dated 2008, the project area is primarily underlain by the Mission Valley Formation, characterized by predominantly light-olive-gray, soft and friable, fine- to medium-grained marine and nonmarine sandstone containing cobble conglomerate tongues. The geology in the immediate vicinity of Chollas Creek is characterized as young alluvial flood plain deposits of the Holocene and late Pleistocene era, consisting of poorly consolidated, poorly sorted, permeable flood plain deposits.

Soils encountered during the 2007 investigation performed at 5586 University Avenue consisted of dense siltstone from ground surface to approximately 15 feet below grade, underlain by a gravel/cobble layer to the maximum explored depth of 55 feet below grade (Murex, 2011).

A more detailed analysis of geologic conditions, including faults, landslides, or other geologic hazards, will be reported under a separate cover.

5.3. Hydrogeologic Conditions

According to the Regional Water Quality Control Board (RWQCB) Basin Plan (1994), the site is located in the Chollas Hydrologic Subarea of the San Diego Mesa Hydrologic Area of the Pueblo San Diego Hydrologic Unit. The Basin Plan indicates that the San Diego Mesa Hydrologic Area is exempted from potential municipal use.

Depth to groundwater beneath the 5586 University Avenue property ranged from 18.4 to 27.4 feet below grade in November 2010 and flowed towards the southwest at an average gradient of 0.015 foot per foot (Murex, 2010).

Chollas Creek is present on the southeastern portion of the project area. Beneficial uses include recreational, warm, and wildlife habitats. This waterbody is excepted from municipal use.

6. PROJECT AREA OBSERVATIONS

Observations of the project area and adjacent properties were made from public rights-of-way (e.g., streets, sidewalks) by Ms. Caren Carlson during a reconnaissance on July 13, 2011. It should be noted that access to properties in the project area was limited to observations made from public rights-of-way and the exteriors of properties. Occupants observed during the reconnaissance were previously summarized on Table 1.

The majority of the project area is occupied by Kmart, located at 5404 University Avenue. Other commercial business in the Kmart shopping center included a Shell gasoline station (at 5401 University Avenue), Lucky Star restaurant, two churches, a Christian bookstore, a liquor store, and autobody shop (at 5595 University Avenue, DN Autobody).

Businesses within the project area on the north side of University Avenue, from east to west, included two abandoned buildings, an automobile sales lot, a medical outpatient services facility, veterinary hospital, an apartment complex with a massage business, and a food market.

Properties on the southern end of the project area, along Lea Street and Chollas Parkway consisted of single and multi-family residences, an electrical substation, the Teen Challenge center, and vacant parcels.

The following sections discuss other potential environmental concerns generally noted during the reconnaissance.

6.1. Polychlorinated Biphenyl (PCB) Containing Transformers

Two large pad-mounted transformers were observed on the south side of Lea Street and associated with the electrical substation. Several smaller transformers were observed throughout the project area. The transformers are owned and operated by San Diego Gas & Electric (SDG&E). SDG&E states that it is responsible for ensuring that its transformers comply with EPA regulations. SDG&E states that it has not specified PCB transformers for its electrical distribution system; however, some older (pre-1980) mineral transformers could have been inadvertently contaminated with PCBs by the manufacturer. Based on SDG&E’s statistical sampling and testing program, SDG&E states that it is unlikely that its transformers are PCB-contaminated. The only way to know with certainty is by actually obtaining and testing a sample of the fluid from the specific transformer, which may result in a fee from SDG&E.

6.2. Treated Wood

Wooden infrastructure (e.g., older residential dwellings and other structures) may be treated with chemical preservatives to prevent rotting due to mold, mildew, and insects. Chromated copper arsenate (CCA) contains arsenic, chromium, and copper and has been widely used in outdoor settings since the 1930s. CCA may leach from the wood into surrounding soil. Alternatives to CCA, such as Alkaline Copper Quaternary (ACQ) and copper azole, and other wood preservatives such as bis-(n-cyclohexyldiazeniumdioxy)-copper (copper HDO) also contain copper and other chemical compounds. Acid copper chromate (ACC) contains hexavalent chromium, which is a skin irritant and sensitizer and a known human carcinogen when inhaled.

Chlorinated phenols, such as pentachlorophenol, tetrachlorophenol, and trichlorophenol, are wood preservatives that have been in use since the 1930s. Chlorinated phenols have potentially toxic effects resulting from exposure due to inhalation and skin absorption. Creosote is a wood preservative containing polycyclic aromatic hydrocarbons (PAHs). Sampling and analysis of wood would be needed to confirm whether it has been treated.

Several older residences and commercial buildings were observed throughout the project area. These properties have the potential for low levels of pesticides to be present in shallow soils surrounding and/or underlying these structures.

6.3. Asbestos-Containing Materials (ACMs)

Given the age of many of the structures within the project area (pre-dating the early 1980s), ACMs are likely present. Commonly encountered potentially asbestos-containing materials in street rights-of-way (ROWs) include pipe insulation on subsurface natural gas lines and cementitious water lines (e.g., transite).

6.4. Lead-Based Paint (LBP)

Given the age of many of the structures within the project area (pre-dating the early 1980s), LBP is likely present. Painted curbs and poles and roadway striping were noted in the street ROW and may also contain LBP.

6.5. Miscellaneous Hazardous Materials

Materials falling under the Universal Waste Rule (UWR) requirements may be present at the intersections, including, but not limited to: potentially mercury-containing switches and fluorescent light tubes, potentially PCB-containing light ballasts, and hi-intensity vapor lights and associated ballasts.

7. ENVIRONMENTAL DATABASE SEARCH

Computerized, environmental information database searches were performed by EDR. The EDR search included federal, state, and local databases. A summary of the environmental databases searched, their corresponding search radii, and number of noted sites of environmental concern, is presented in the associated EDR reports along with a complete description of the assumptions and approach to the database search. The databases searched and their respective search radii were generally consistent with those described in the American Society for Testing and Materials (ASTM) Standard for Phase I Environmental Site Assessments and the United States Environmental Protection Agency (EPA) All Appropriate Inquiry (AAI) regulation.

The review was conducted to evaluate whether the project area, or properties within a specified distance of the boundaries of the project area have been identified as having experienced unauthorized releases of hazardous substances or other events with potentially adverse environmental effects. A copy of the database report, dated July 12, 2011, is provided in Appendix B.

The database search identified several properties of potential environmental concern on various databases. In addition, unmapped properties were identified in the vicinity of the project area. Based on the address information provided and/or the types of databases on which these properties were listed, there is a low likelihood that the environmental integrity of the project area has been adversely affected by these off-site sources.

The following paragraphs describe the individual databases that identified properties of potential environmental concern, and includes a discussion of the regulatory status of the facilities and potential environmental impact to the project area. The groundwater gradient information provided indicates whether the individual facility is upgradient of, downgradient from, or crossgradient to the project area in terms of groundwater flow. The direction of groundwater flow in the vicinity of the project area is assumed to be to the southwest, based on groundwater monitoring information for 5586 University Avenue.

EPA RCRA Generator List

This database identifies EPA-listed facilities that report generation of reportable quantities of hazardous waste under the RCRA program for the identification and tracking of hazardous waste. The list consists of properties that generate hazardous waste, and is not necessarily indicative of sites where a release of hazardous substances has occurred.

One facility was identified in the project area: Shell Service Station at 5401 University Avenue was listed as a small quantity generator (SQG) of RCRA waste. SQGs generate between 100 and 1,000 kilograms of hazardous waste per month. No RCRA violations were reported for this facility.

Three SQG facilities within 1/4-mile radius of the project area were identified; none of which were located on adjoining properties. The closest SQG was Donny’s Transmission at 5295 University Avenue. No violations were reported.

DTSC ENVIROSTOR Database

The DTSC Site Mitigation and Brownfields Reuse Program’s Envirostor database identified facilities that have known contamination or for which there may be reasons to investigate further.

Facilities within the project area were not identified on this database. Five facilities within a 1-mile radius of the project area were identified. Four of the listings were for the evaluation of potential or actual school sites. The last listing was over 3/4-mile from the project area. Based on the distance to the project area and type of listing, these properties are not anticipated to have had an adverse impact on the project area.

Multiple Agency – Release Databases

The Leaking Underground Storage Tank (LUST) Information System is maintained by the SWRCB, pursuant to Section 25295 of the Health and Safety Code, and contains information on leaking USTs. The SWRCB also maintains the Spills, Leaks, Investigations and Cleanup (SLIC) database, which contains similar LUST information as well as information regarding other spills or releases, which may not involve USTs. Also described below are facilities within a 1/2-mile of the project area that fall under the jurisdiction of the Local Oversight Program for unauthorized releases by the County of San Diego Department of Environmental Health (DEH) Site Assessment and Mitigation (SAM) Program.

Two facilities were identified within the project area. Additional information regarding releases within the project area is provided in GeoTracker Section 8.1.

> M. Brammer Inc, Shell Station (Brammer Shell) at 5401 University Avenue. This facility has had two release cases; both are reported as case closed.
>
> 2-B Rentals at 5586 University Avenue. This facility has an open release case.

A summary of facilities within a 1/2-mile radius of the project area with documented releases are summarized in the following table.

Table 3 – Documented Release Summary

Address	Comments	Concern?
Classic Car Wash 5985 University Ave	A gasoline release to soil was reported in 1988 (case no. H28275-001); the case was closed in 1988. Another gasoline release to soil was reported in 1988 (case no. H28275-002); the case was closed in 1991.	No
SDUSD Crawford High School 4191 Colts Way	A diesel or fuel oil release was reported in 1988 (case no. H14074-001); the case was closed in 2000.	No
Westburne Pipe & Supply 5150 University Ave	A diesel release to soil was reported in 1988 (case no. H05330-001); the case was closed in 1998. A gasoline release to soil was reported in 1989 (case no. H14074-002); the case was closed in 1998.	No
Nu's Auto Repair & Body 3095 54th St	A waste oil release to soil was reported in 1995 (case no. H15015-001); the case was closed in 1999.	No

In summary, identified releases outside of the project area do not appear to have the potential to impact the project area, due to their distance (1/4-mile or greater) to the project area and/or the reported case status (i.e. closed or soil impact only).

Multiple Agency – UST and Aboveground Storage Tank (AST) Registration List

Information regarding underground and aboveground storage tanks registered with the California SWRCB is provided on the agency's UST list and AST list. Also listed are facilities within a 1/4-mile of the project area that fall under the jurisdiction of the DEH's UST program. The UST and AST lists consist of properties that have registered tanks, and are not necessarily indicative of properties where a release of hazardous substances has occurred.

Within the project area, one active UST listing was identified: Brammer Shell at 5401 University Avenue. Two additional historical UST facilities were identified: Kmart Enterprises at 5404 University Avenue (waste oil UST installed in 1969) and 2-B Rentals at 5586 University Avenue. LUST cases were reported at 5401 and 5586 University Avenue.

EDR Historical Auto Stations

The EDR Historical Auto Stations database has been compiled by EDR during searches of national collections of business directories.

Six historical auto stations were identified in the project area.

> University Frame & Axle at 5404 University Avenue was listed in the 1952 historical business directories. This address was listed in the UST database (under Kmart Enterprises) but not listed in the LUST database.
>
> University Frame & Axle at 5405 University Avenue was listed in the 1961 historical business directory. This address was not listed in the UST or LUST databases.
>
> Nik’s Garage and/or Mel’s Service at 5494 University Avenue was listed in the 1952 through 1984 historical business directories. This address was not listed in the UST or LUST databases.
>
> Ed’s Self Service Shell at 5401 University Avenue was listed in the 1970 through 1984 historical business directories. This address was listed on the UST and LUST databases.
>
> Ralph’s Garage at 5555 University Avenue was listed in the 1970 historical business directory. This address was not listed in the UST or LUST databases.
>
> The Pit Stop at 5498 University Avenue was listed in the 1975 and 1980 historical business directories. This address was not listed in the UST or LUST databases.

EDR Historical Cleaners

The EDR Historical Cleaners database has been compiled by EDR during searches of national collections of business directories. Based on facility names, these businesses may have operated as dry cleaning establishments.

Two potential historical cleaners were identified in the project area.

> Master Cleaners Inc at 5586 University Avenue was listed in the 1970 historical business directories. This address was listed in the LUST database.
>
> Speedway Cleaners at 5498 University Avenue was listed in the 1980 historical business directory. This address was not listed in the UST or LUST/SLIC databases but was identified as a potential historical auto station (The Pit Stop).

8. ONLINE ENVIRONMENTAL DATABASES

Online regulatory databases were reviewed by Ninyo & Moore to supplement the environmental database search conducted by EDR. The following is a summary of pertinent information.

8.1. SWRCB Geotracker Database

The SWRCB Geotracker database contains information on properties that impact or have the potential to impact groundwater, including those that require groundwater cleanup as well as permitted facilities such as operating USTs and land disposal sites. The Geotracker database was used to supplement the information in the environmental database report (Section 7) and provide additional information on open release cases identified within the project areas. Following is a brief summary of available information.

2-B Rentals at 5586 University Avenue (Figure 3). 2-B Rentals was identified as an open LUST case (H32242-001). According to GeoTracker, this case was opened based on observations made during the removal of five USTs in June 1992.

A Sensitive Receptor Survey was performed by Murex Environmental, Inc. (Murex), report dated April 20, 2011. According to this report, the property was used for automotive sales (5556 University Avenue), residential purposes (5590 and 5592 University Avenue), as an auto repair shop (5570 University Avenue), and contains two vacant buildings (5586 and 5582 University Avenue), which were historically occupied by a dry cleaning business (Master Cleaners, from 1954 to 1970).

In June 1992, five USTs and associated piping were removed from the property. One or more of the USTs was reportedly used for the storage of gasoline between 1970 and 1992. Soil beneath the USTs was impacted with Stoddard Solvent at concentrations up to 14,430 mg/kg.

Initial assessment of the UST release was performed in September 1992 and included seven borings advanced to 15 feet below grade. Stoddard Solvent was detected in soil samples at concentrations up to 13,723 mg/kg. Two additional borings were installed in April 1993; Stoddard Solvent was detected in soil samples at concentrations up to 5,479 mg/kg.

In 2007, six soil borings were installed to a maximum depth of 55 feet below grade. Five of the borings were completed as groundwater monitoring wells. Soils encountered during the investigations consisted of dense siltstone from ground surface to approximately 15 feet below grade and were underlain by a gravel/cobble layer to the maximum depth explored. Total petroleum hydrocarbons (TPH) in the gasoline, diesel and Stoddard Solvent range were detected in soil samples. Gasoline constituents benzene, toluene, ethyl benzene and xylenes (BTEX) and other volatile organic compounds (VOCs) were also detected.

Potential receptors identified during the Sensitive Receptor Survey included on-site residents and workers. A soil-gas investigation was proposed at 5586 University Avenue.

Three quarters of semi-annual groundwater monitoring has been performed at the property. The latest groundwater monitoring report available was reviewed (Murex, 2010). During the second half of 2010, four additional groundwater monitoring wells were installed. A total of nine groundwater monitoring wells were sampled in November 2010. Depth to groundwater beneath the property ranged from 18.4 to 27.4 feet below grade and flowed towards the southwest at an average gradient of 0.015 foot per foot. TPH in the gasoline and diesel ranges were detected in groundwater samples at concentrations up to 8.6 and 1.9 mg/L, respectively. TPH in the Stoddard Solvent range was not detected above the reporting limits. BTEX as well as the dry cleaning solvent tetrachloroethene (PCE) were detected in one or more groundwater samples. The report concluded that although the horizontal extent of groundwater impact has not been fully delineated, extrapolation of current data suggests that groundwater impact is limited to the property boundaries.

Brammer Shell at 5401 University Avenue. Brammer Shell was identified as a closed LUST case (H03209-001). According to GeoTracker, this case was opened based on a failed UST integrity test and closed in November 1988; no other information was provided. A second release was listed (case no. H03209-002) for a gasoline release to soil discovered during the UST removal in May 2003. Approximately 1,100 cubic yards of petroleum-impacted soil were excavated and disposed of offsite during the UST removal. Subsequent assessment activities were performed in 2004 and 2005. The extent of impacted soil was delineated (estimated 96 cubic yards remaining on the property) and soil vapor beneath the property was evaluated. Detected concentrations of soil vapors were determined not to pose a threat to the property occupants. Case no. H03209-002 was closed by the DEH on April 26, 2006. This property is also identified as an active permitted UST facility.

8.2. DTSC EnviroStor Database

The EnviroStor database is an online search and Geographic Information System tool for documenting properties with known or potential contamination, and properties where DTSC's environmental oversight or review has been requested or required. A review of the EnviroStor database found three school evaluation properties in the site vicinity. There was no indication of a significant release at any of these properties. These properties are not considered to be an environmental concern to the project area.

8.3. CALRECYCLE Solid Waste Information System

The SWIS database contains information on solid waste, operations, and disposal facilities throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. No disposal facilities were mapped in the project area vicinity. The former North and South Chollas Landfills are mapped southeast of the project area, near College Grove Drive. According to available information, these former landfills are located downgradient of the project area and being managed under local regulatory oversight.

9. SUMMARY OF FINDINGS AND OPINIONS

Based on the results of this HMTS, the following findings and opinions are provided:

- The project area consists of approximately 52 acres of mixed use properties located within and along Chollas Parkway, 54th Street, and University Avenue in San Diego, California. Current tenants include retail shops, restaurants, single- and multi-family residences, an electrical substation, a young adult center, religious facilities, a gasoline station, and an automotive repair facility.

- University Avenue and 54th Street were present prior to 1930. The project area was initially developed between the 1940s and 1950s with numerous small commercial buildings and residential properties. Chollas Parkway was constructed sometime between 1953 and 1964, adjacent to Chollas Creek.

- The two main buildings at the project area are 5404 University Avenue (present day Kmart) and 5450 Lea Street (present day Teen Challenge facility). The 5450 Lea Street building was constructed in the late 1950s/early 1960s and was historically used as a medical office building. The 5404 University Avenue building was constructed between 1967 and 1974.

- Several smaller businesses historically operated along University Avenue. Tenants of potential environmental concern included the following automotive shops, dry cleaning facilities, and other potential businesses of concern:

    - 5401 University Avenue - Gasoline station since at least 1970. Current UST facility and RCRA-SQG. Has two closed LUST cases.

    - 5404 University Avenue - Automotive repair in 1952.

    - 5404 University Avenue - UST registered to Kmart Enterprises, reported installed in 1969. No current documentation regarding this UST was identified in the databases reviewed.

    - 5405 University Avenue - Automotive repair in 1961.

    - 5464 University Avenue - Sandblasting contractor in 1989. Sandblasting waste may contain elevated concentrations of metals or other compounds of concern.

  - 5466 University Avenue - Excavating contractor in 1989. Service of heavy equipment may have been performed on the property.
  - 5494/96 University Avenue- Automotive repair between approximately 1952-1984.
  - 5498 University Avenue - Gasoline station between 1975-1980, dry cleaners in 1980.
  - 5515 University Avenue - Gasoline station in 1948, towing service in 1961.
  - 5555 University Avenue - Battery service in 1966, garage in 1970.
  - 5570 University Avenue - Dry cleaners in 1970, automotive repair between 1989-2006.
  - 5579 University Avenue - Excavating contractor in 1980. Service of heavy equipment may have been performed on the property.
  - 5586 University Avenue - Dry cleaners between 1961-1970. Identified as a historic UST facility. Has an open LUST case.
  - 5591 University Avenue - Metal works shop between 1952-1970.
  - 5595 University Avenue - Auto body shop in 2011.
  - 5458 Lea Street - Auto body shop between 2000-2006.

- Releases have been reported at the following two project area properties:
  - Bramm Shell located at 5401 University Avenue was reported to have had two release cases. The first case involved a failed UST integrity test and was closed in 1988. The second case involved a gasoline release to soil discovered in 2003. Approximately 1,100 cubic yards of impacted soils were excavated and disposed of offsite. Subsequent assessment indicated that approximately 100 cubic yards of impacted soils remain. The case was closed in April 2006. Should future plans include redevelopment of this area, an updated review of available documents is recommended to evaluate whether impact may be present in the proposed redevelopment area.
  - 2-B Rentals located at 5586 University Avenue was reported to have an open release case. This property includes several parcels, as depicted on Figure 3. In 1992, five USTs were removed from the property. Soil investigations performed in the early 1990s indicated concentrations of stoddard solvent up to 14,430 mg/kg. In 2007, five groundwater monitoring wells were installed and four additional wells were completed in 2010. The latest groundwater monitoring data indicate that groundwater is impacted with gasoline and diesel constituents, as well as the dry cleaning solvent PCE, but is not impacted by Stoddard solvents. The source area appears to be located near the southwest corner of the 5586 University Avenue building. Although delineation of groundwater impacts has not been completed, available information indicates that petroleum and solvent impacts are limited

to the property boundaries. Should future plans include redevelopment of this area, an updated review of available documents is recommended to evaluate whether impact may be present in the proposed redevelopment area.

Soils encountered during the 2007 investigation performed at 5586 University Avenue consisted of dense siltstone from ground surface to approximately 15 feet below grade and were underlain by a gravel/cobble layer to the maximum explored depth of 55 feet below grade (Murex, 2011). Depth to groundwater ranged from 18.4 to 27.4 feet below grade in November 2010 and flowed towards the southwest at an average gradient of 0.015 foot per foot (Murex, 2010).

- Numerous pad-mounted transformers were present throughout the project area, which are owned and maintained by SDG&E.

- Given the age of most of the structures within the project area (pre-dating the early 1980s), the potential for hazardous building materials such as LBP, ACMs, PCBs, treated wood, and other Universal Wastes is considered likely. There is also the potential for the presence of lead and pesticides in shallow soils adjacent to and/or beneath these structures (where crawl spaces are present) from pealing paint and/or application of pesticides. Hazardous building material evaluations should be performed prior to any renovation or demolition within the project area.

- Several properties outside the project area were listed in various regulatory databases. Four facilities were identified with historical releases within 1/2-mile of the project area. These identified releases do not appear to have the potential to significantly impact the project area at this time, due to their distance to the project area (greater than 1/4-mile) and case status (closed).

- Based on Ninyo & Moore's experience on similar projects in the region, illegal dumping or burning can occur on vacant land.

10. SIGNIFICANCE OF IMPACTS

In determining the significance of properties of potential environmental concern in a particular study area, the criteria to consider, as they relate to hazardous materials and public safety, are presented in a document titled "Appendix G: Environmental Checklist Form" of the CEQA Guidelines. The following is a list of projects/situations that would require consideration of potential hazardous materials/public safety impacts. These criteria were compared with each of the findings of this study to evaluate their impact significance to the proposed project. The results of this comparison are presented in Section 11.

1. Projects that would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

2. Projects that would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

3. Projects that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 1/4-mile of an existing or proposed school.

4. Projects that would be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

5. Projects located within an airport land use plan, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, that would result in a safety hazard for people residing or working in the project area.

6. For projects within the vicinity of a private airstrip, projects resulting in a safety hazard for people residing or working in the project area.

7. Projects that would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

8. Projects that would expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands.

It is our understanding that future development that may occur in the project area will not involve activities associated with Items 5, 6, 7, and 8 above. For this reason, these criteria are not addressed in this study. The remaining criteria are addressed in the following section.

11. ENVIRONMENTAL IMPACTS

Based on the above criteria and the results of this HMTS, potential environmental impact issues have been identified in the project area. The pertinent criteria, identified in Section 10 above, include properties which routinely transport, use, or dispose of hazardous materials (such as RCRA generators), and identified hazardous materials/waste sites (such as LUST properties).

Based on our review of the environmental database report, facilities appearing on the RCRA Generator, the UST, and/or the LUST or other release databases (SLIC and SAM) may be considered hazardous materials facilities and have the potential to create a significant hazard to the public or the environment. However, based on the information reviewed for this assessment, there is a low likelihood that the facilities appearing on these databases have had a negative impact on the environmental integrity of the project area, with the following two exceptions.

- Bramm Shell located at 5401 University Avenue was reported to have two closed release cases. Assessment activities have indicated that approximately 100 cubic yards of impacted soils remain beneath this property. This location presently operates as a gasoline station and is completely paved or covered with structures. As such, the present potential for exposure to any residual impact is limited.

- 2-B Rentals located at 5586 University Avenue has documented solvent and petroleum-based impact to soil and groundwater. Available information indicates that petroleum and solvent impacts are generally limited to the property boundaries. This property currently consists of vacant buildings, a used car lot (5556 University Avenue) and at least one residential unit (5592 University Avenue). A soil-gas survey has been proposed at 5586 University Avenue, where the highest groundwater impacts have been reported. The results are not posted on GeoTracker and/or the survey has not yet been performed. As such, the present potential for exposure to soil gas to onsite workers or residents is considered moderate.

Based on our review of online environmental databases and the environmental database report, solid waste disposal sites are not located within the project area or vicinity. There is low probability that unknown waste sites (burn sites) are present within the project area. If hazardous wastes sites within the project area are encountered during future construction activities (e.g., contaminated soil and burned waste), there is low likelihood that the disturbance would create a significant hazard to the public or the environment.

12. MITIGATION MEASURES

In accordance with the significance determination criteria discussed in Section 10, and environmental impacts presented in Section 11, the following mitigation measures are recommended:

- There is a moderate potential that soil vapor, soil and/or groundwater within the boundaries of the project area, as identified in the body of this report, are contaminated to various degrees. If soil or groundwater contamination exists, there is a moderate to high potential that the excavation activities in these areas will be impacted by this contamination. The following precautions should be observed during excavation activities associated with the improvements conducted during redevelopment:

    - Pre-project activities (e.g., planning or early design) should include site-specific environmental evaluation to address hazardous materials concerns related to worker and community health and safety, waste generation and disposal, and regulatory requirements.

    - Caution should be taken during excavation activities near the facilities associated with unauthorized releases, because of the potential for encountering documented and undocumented releases of contaminants and hazardous materials or wastes that may have occurred within or adjacent to these sites. Excavation and/or soil monitoring should be conducted by professionals trained in the identification and management of hazardous materials or wastes, such as contaminated soil or groundwater.

    - Appropriate references to the potential to encounter contaminated soil or groundwater, illegally dumped waste, or burn waste should be included in construction specifications.

    - A Site Safety Plan should be prepared and implemented prior to initiation of construction activities within the boundaries of the project area to reduce potential health and safety hazards to workers and the public.

- If dewatering is necessary in instances where groundwater is encountered during construction activities, it should be noted that dewatering activities require obtaining a discharge permit from the city and/or state. The discharge permit requirements may include sampling, treatment, and appropriate storage and disposal of groundwater.

- During construction activities, it may be necessary to excavate existing soil, or to bring fill soils to the project area from off-site locations. In areas that have been documented as being contaminated or where soil contamination is suspected, appropriate sampling would be beneficial prior to disposal of excavated soil. Characterization of the soil is suggested prior to any excavation or removal activity. Contaminated soil should be properly disposed at an off-site facility. Fill soils also should be evaluated or sampled to document that imported soil is free of contamination.

- Prior to demolition or renovation activities, a hazardous building materials survey should be performed at buildings within the boundaries of the project areas that were constructed prior to the early 1980s. This type of survey typically addresses LBP, ACMs, PCBs in electrical equipment, mercury switches, and heating/cooling systems. Such a survey should be conducted under the direct supervision of a State of California certified asbestos consultant and certified lead inspector/assessor. Prior to demolition or renovation work, which would disturb identified ACMs, LBP, or other hazardous materials, a licensed abatement removal contractor should remove and properly dispose of the hazardous material(s) in accordance with applicable local, state and federal regulations. A certified consultant should prepare a bid specification document, perform abatement project planning, site and air monitoring, oversight and reporting activities.

- Caution should be taken during excavation activities near existing groundwater monitoring wells, so that they are not damaged. Existing groundwater monitoring wells may have to be abandoned and reinstalled if they are located in an area that is undergoing redevelopment.
- Based on Ninyo & Moore's experience on similar projects in the region, illegal dumping or burning can occur on vacant land. Potentially hazardous wastes should be appropriately disposed prior to initiating redevelopment activities.
- Any USTs that are removed during redevelopment activities should be removed under permit by the DEH. The soil and groundwater within the vicinity of the USTs should be adequately characterized and remediated, if necessary, to a standard that would be protective of water quality and human health, based on future site use.
- In the event that USTs or undocumented areas of contamination are encountered during future redevelopment activities, work should be discontinued until appropriate health and safety procedures are implemented and appropriate notifications should be made. A contingency plan should be prepared to address contractor procedures for such an event, to minimize the potential for costly construction delays. In addition, either the DEH or the RWQCB, depending on the nature of the contamination, should be notified regarding the contamination. Each agency and program within the respective agency has its own mechanism for initiating an investigation. The appropriate program (e.g., the DEH Local Oversight Program for tank release cases, the DEH Voluntary Assistance Program for non-tank release cases, the RWQCB for non-tank cases involving groundwater contamination, and the LEA/APCD for landfill-related contamination issues) should be selected based on the nature of the contamination identified. In general, LEA oversight/notification is needed for work conducted within 1,000 feet of a landfill. The contamination remediation and removal activities should be conducted in accordance with pertinent local, state, and federal regulatory guidelines, under the oversight of the appropriate regulatory agency.

13. LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Please note that this study did not include an evaluation of geotechnical conditions or potential geologic hazards.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information or has questions regarding the content, interpretations presented, or completeness of this document.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions and the referenced literature. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

14. REFERENCES

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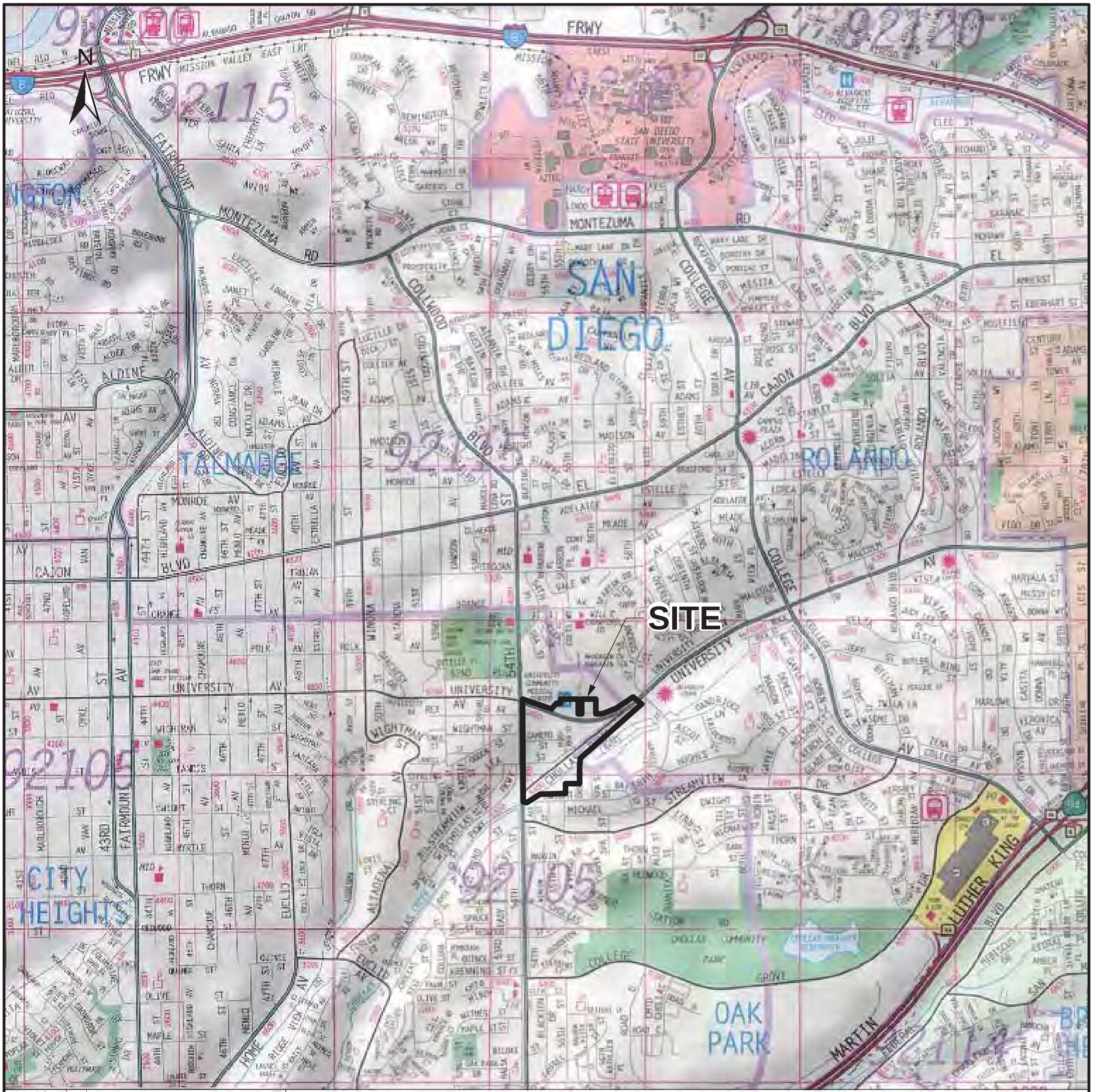

SOURCE: 2008 Thomas Guide for San Diego County, Street Guide and Directory; Map © Rand McNally, R.L.07-S-129

MAP EXTENT

SCALE IN FEET

0 1,200 2,400 4,800

NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE

Ninyo & Moore

SITE LOCATION

CHOLLAS TRIANGLE
SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE
107138001	11/12

FIGURE

1

fig1_107138001_sl.mxd

fig2_107138001_sv.mxd AOB

APPROXIMATE SCALE

0 100 200 400 FEET

N

LEGEND

SITE BOUNDARY

SOURCE: Aerial Imagery - Photo Date: Feb 11, 2010, ESRI, i-cubed, USDA FSA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGP.

NOTE: ALL DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE

Ninyo & Moore

PROJECT NO.	DATE
107138001	11/12

SITE VICINITY

CHOLLAS TRIANGLE
SAN DIEGO, CALIFORNIA

FIGURE

2

SOURCE: AERIAL IMAGERY - PHOTO DATE: FEB 11, 2010, ESRI, I-CUBED, USDA FSA, USGS, AEX, GEOEYE, GETMAPPING, AEROGRID, IGP.

MUREX ENVIRONMENTAL, INC., FORMER 2-B RENTALS SECOND SEMI-ANNUAL 2010 GROUNDWATER MONTORING REPORT, DATED DEC 30, 2010.

LEGEND

△ **MW-10** MONITORING WELL

N

SCALE IN FEET

0 30 60 120

NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE

SOURCE: MUREX ENVIRONMENTAL, INC., FORMER 2-B RENTALS SECOND SEMI-ANNUAL 2010 GROUNDWATER MONTORING REPORT, DATED DEC 30, 2010.

Ninyo & Moore

SITE PLAN, FORMER 2-B CLEANERS, 5586 UNIVERSITY AVENUE

CHOLLAS TRIANGLE
SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE
107138001	11/12

FIGURE

3

fig3_107138001_site.mxd AOB

APPENDIX A

HISTORICAL SOURCES

Chollas Triangle
Chollas Parkway and University Avenue
San Diego, CA 92105

Inquiry Number: 3121078.3
July 12, 2011

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EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

7/12/11

Site Name:
Chollas Triangle
Chollas Parkway and University
San Diego, CA 92105

EDR Inquiry # 3121078.3

Client Name:
Ninyo & Moore
5710 Ruffin Rd
San Diego, CA 92123

Contact: Caren Carlson

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Certified Sanborn Results:

Site Name: Chollas Triangle
Address: Chollas Parkway and University Avenue
City, State, Zip: San Diego, CA 92105
Cross Street:
P.O. # 107138001
Project: 107138001
Certification # 6E1A-4E24-9586

Sanborn® Library search results
Certification # 6E1A-4E24-9586

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Chollas Triangle
Chollas Parkway and University Avenue
San Diego, CA 92105

Inquiry Number: 3121078.4
July 12, 2011

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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with any questions or comments.

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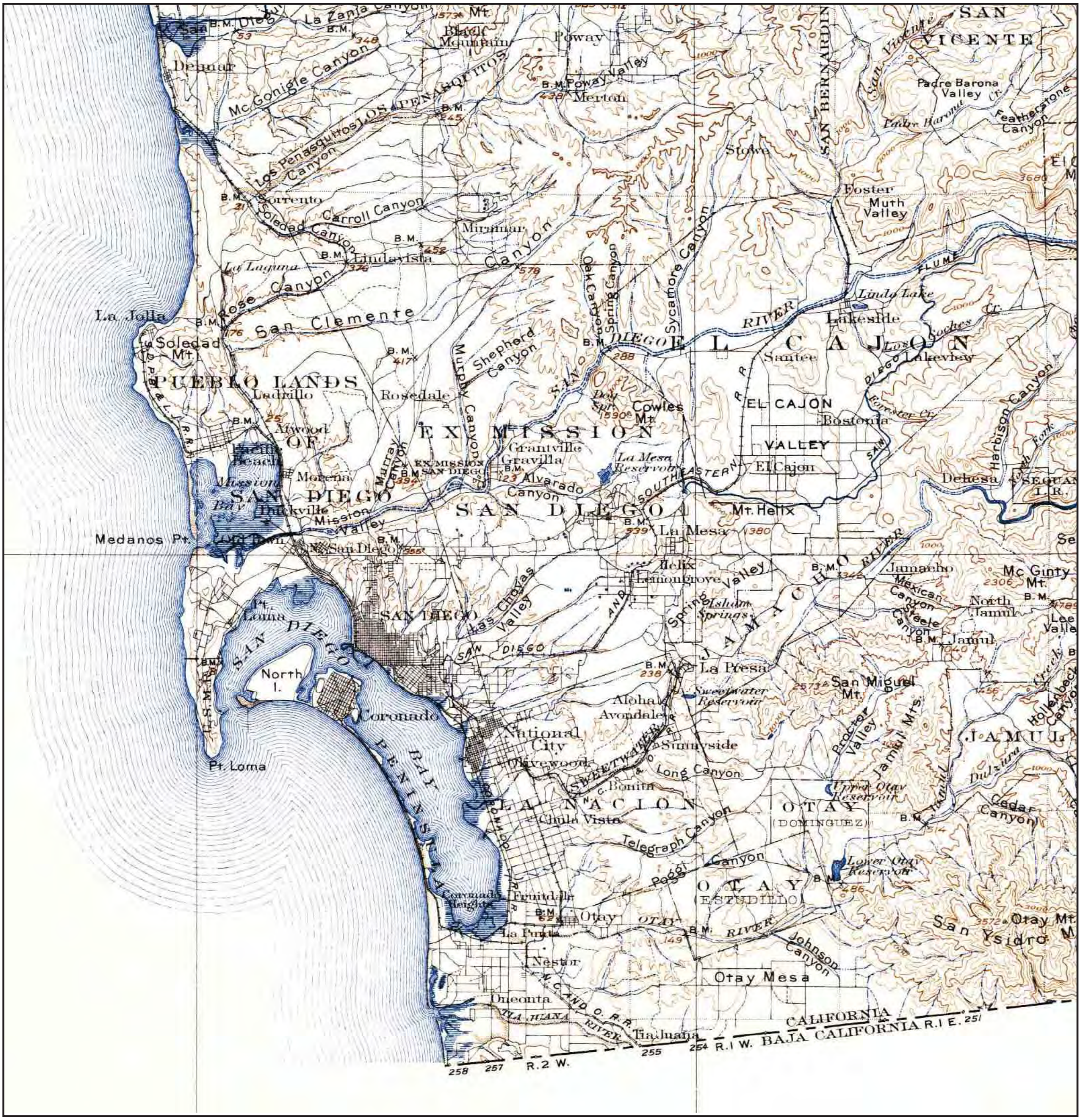


N

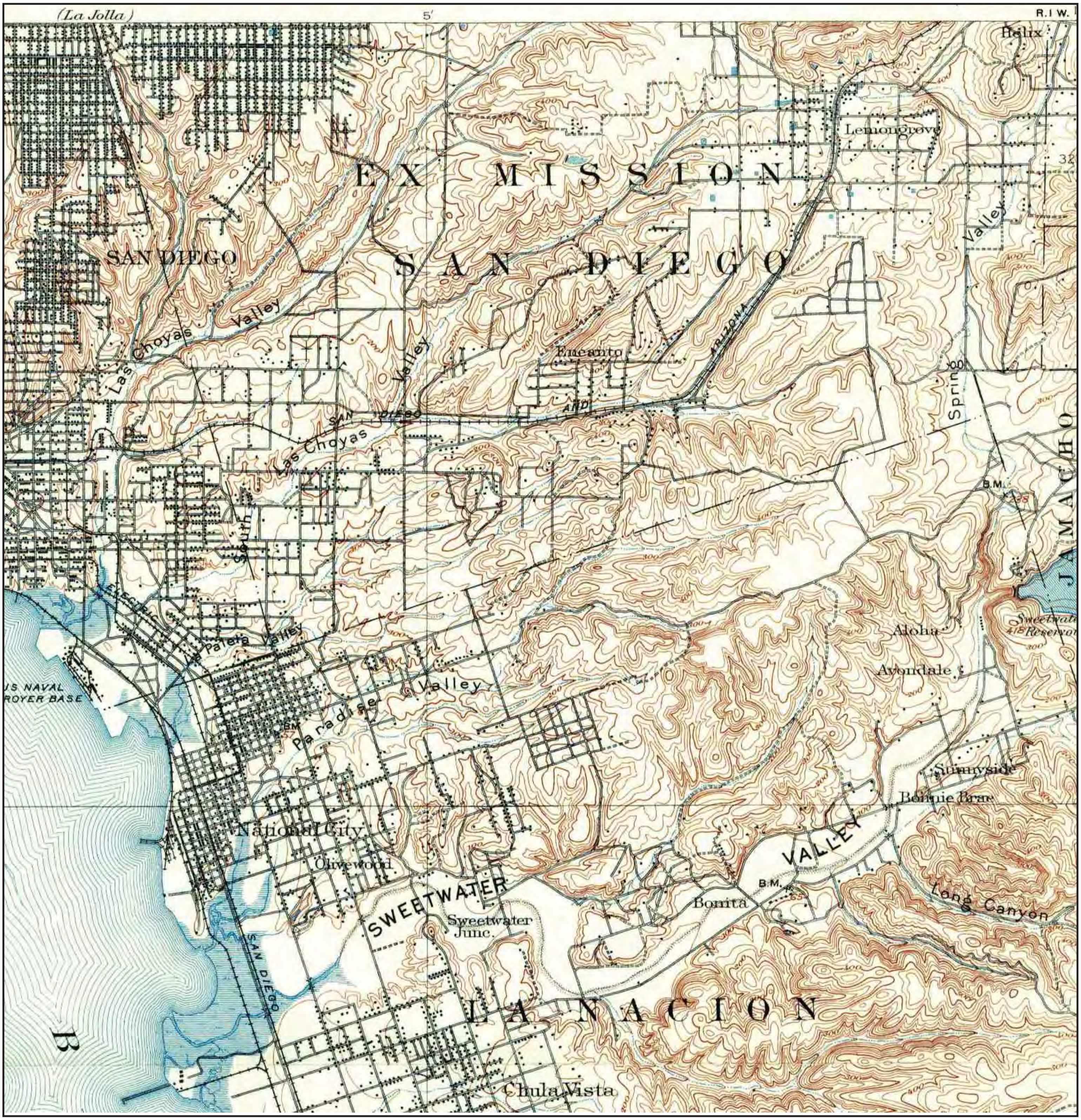
TARGET QUAD
NAME: SOUTHERN CA SHEET 2
MAP YEAR: 1904

SERIES: 60
SCALE: 1:250000

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map



N

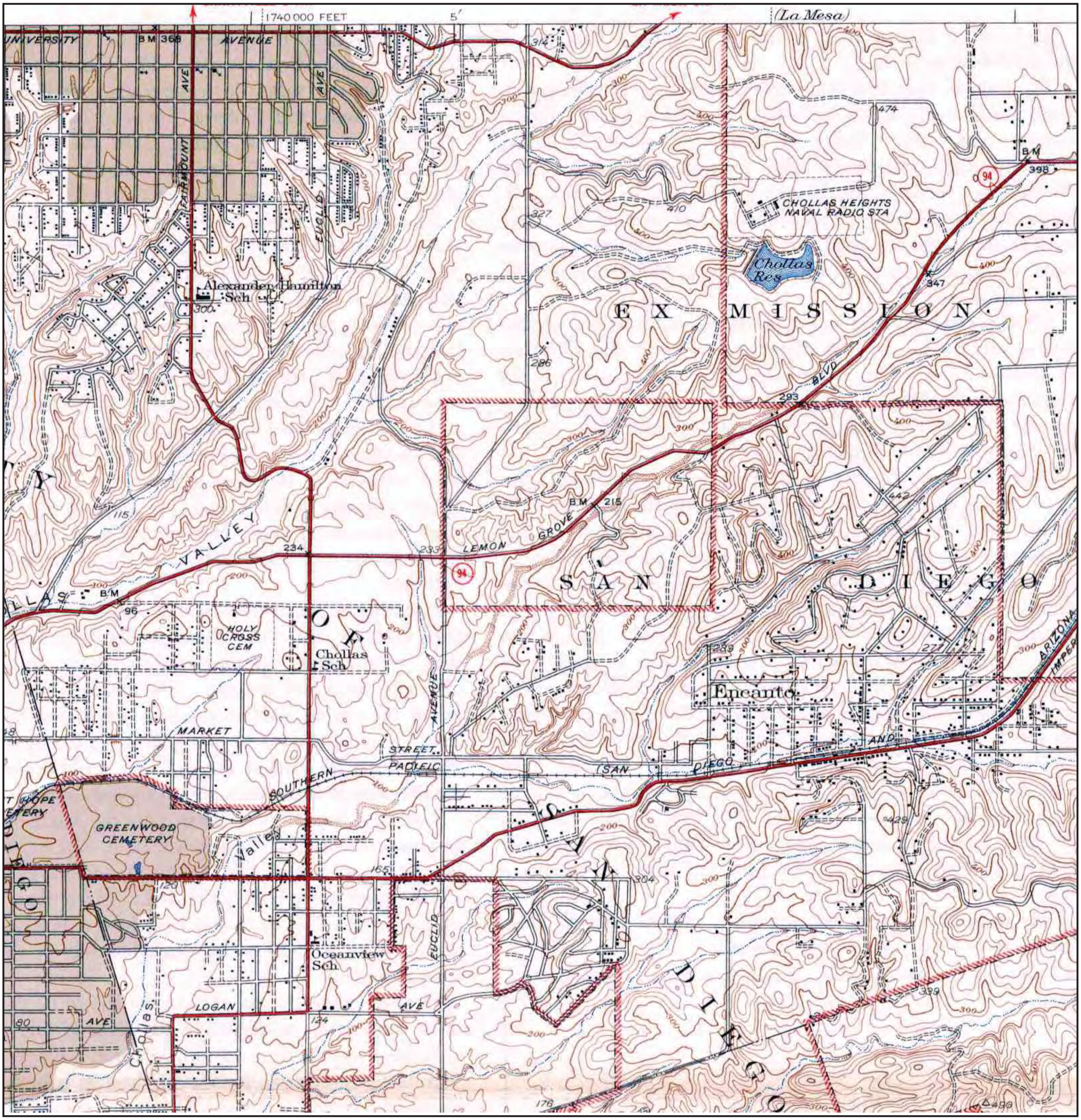
TARGET QUAD
NAME: SAN DIEGO
MAP YEAR: 1930

SERIES: 15
SCALE: 1:62500

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map



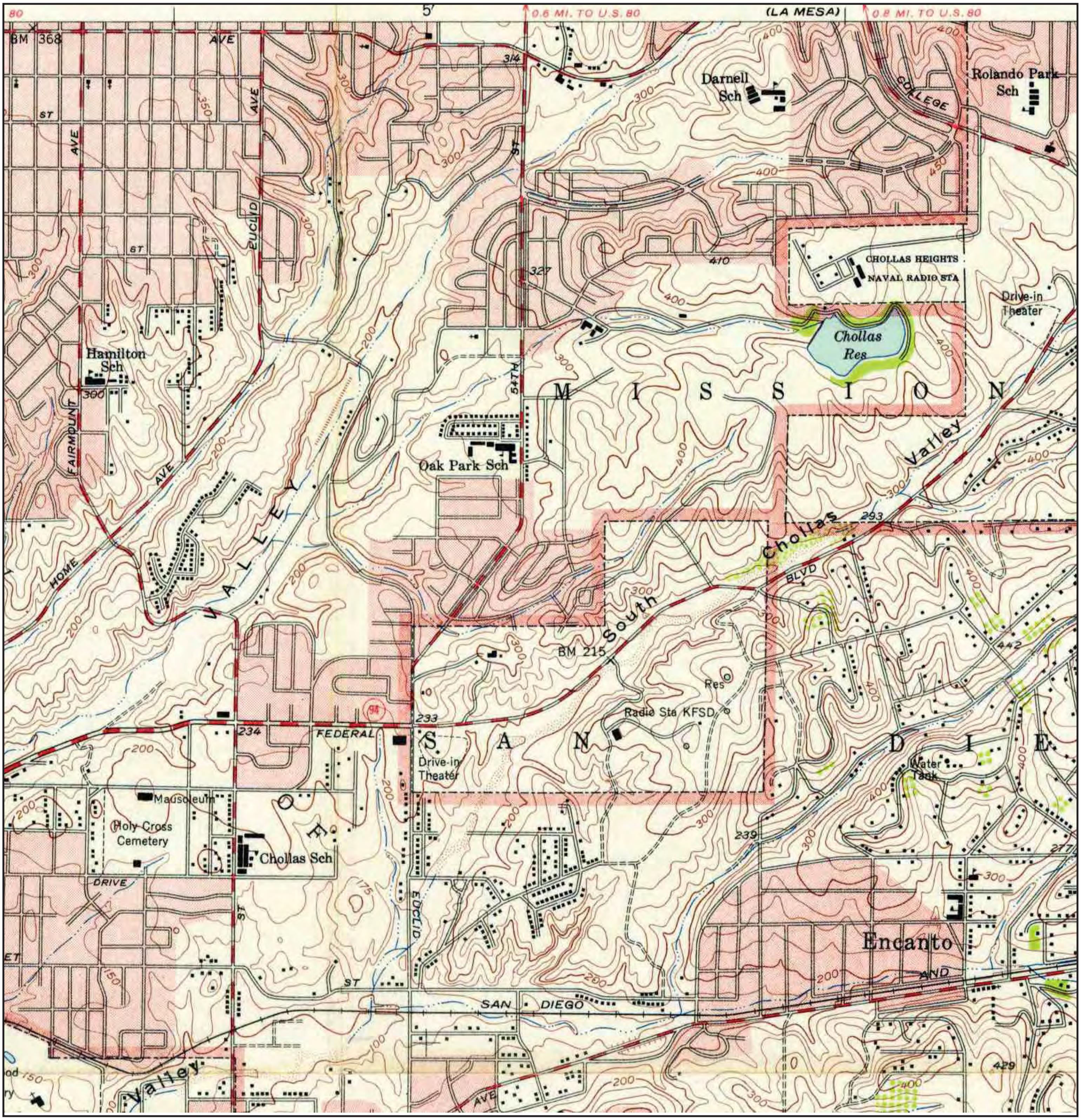
TARGET QUAD
NAME: NATIONAL CITY
MAP YEAR: 1944

SERIES: 7.5
SCALE: 1:31680

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map



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TARGET QUAD
NAME: NATIONAL CITY
MAP YEAR: 1953

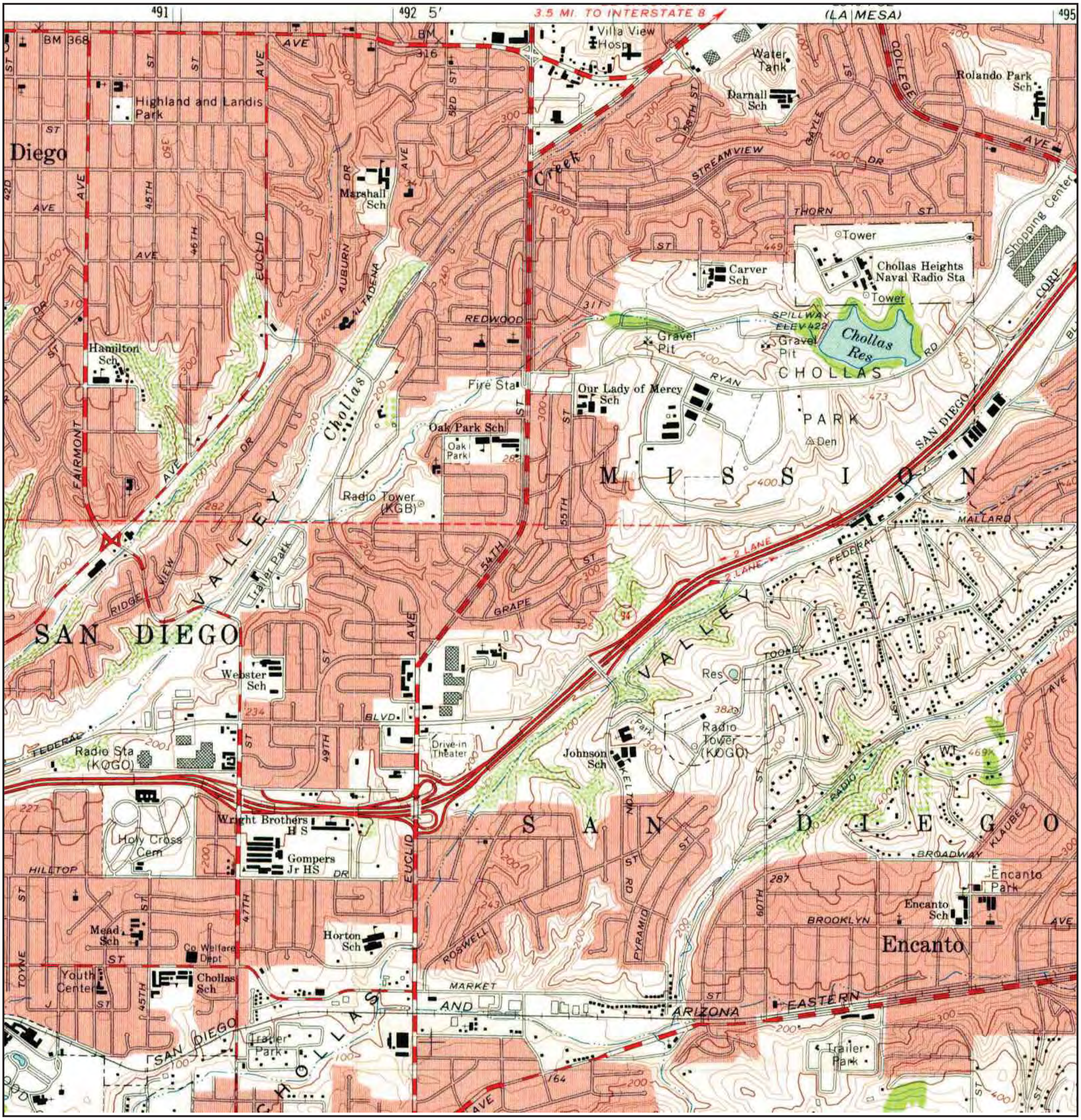
SERIES: 7.5
SCALE: 1:24000

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue

San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

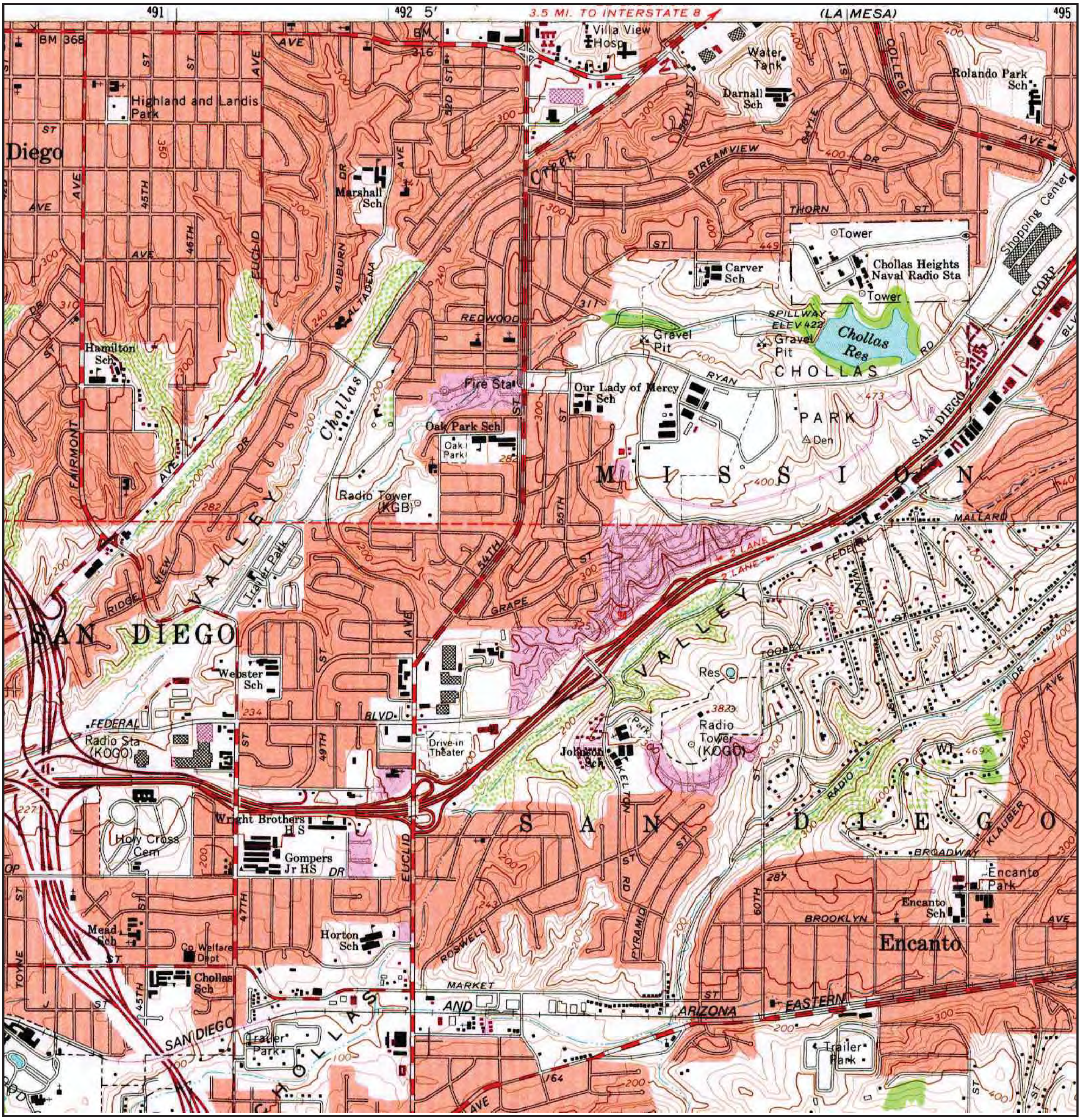
CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map



N	TARGET QUAD NAME: NATIONAL CITY MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Chollas Triangle ADDRESS: Chollas Parkway and University Avenue San Diego, CA 92105 LAT/LONG: 32.7469 / -117.0778	CLIENT: Ninyo & Moore CONTACT: Caren Carlson INQUIRY#: 3121078.4 RESEARCH DATE: 07/12/2011

Historical Topographic Map



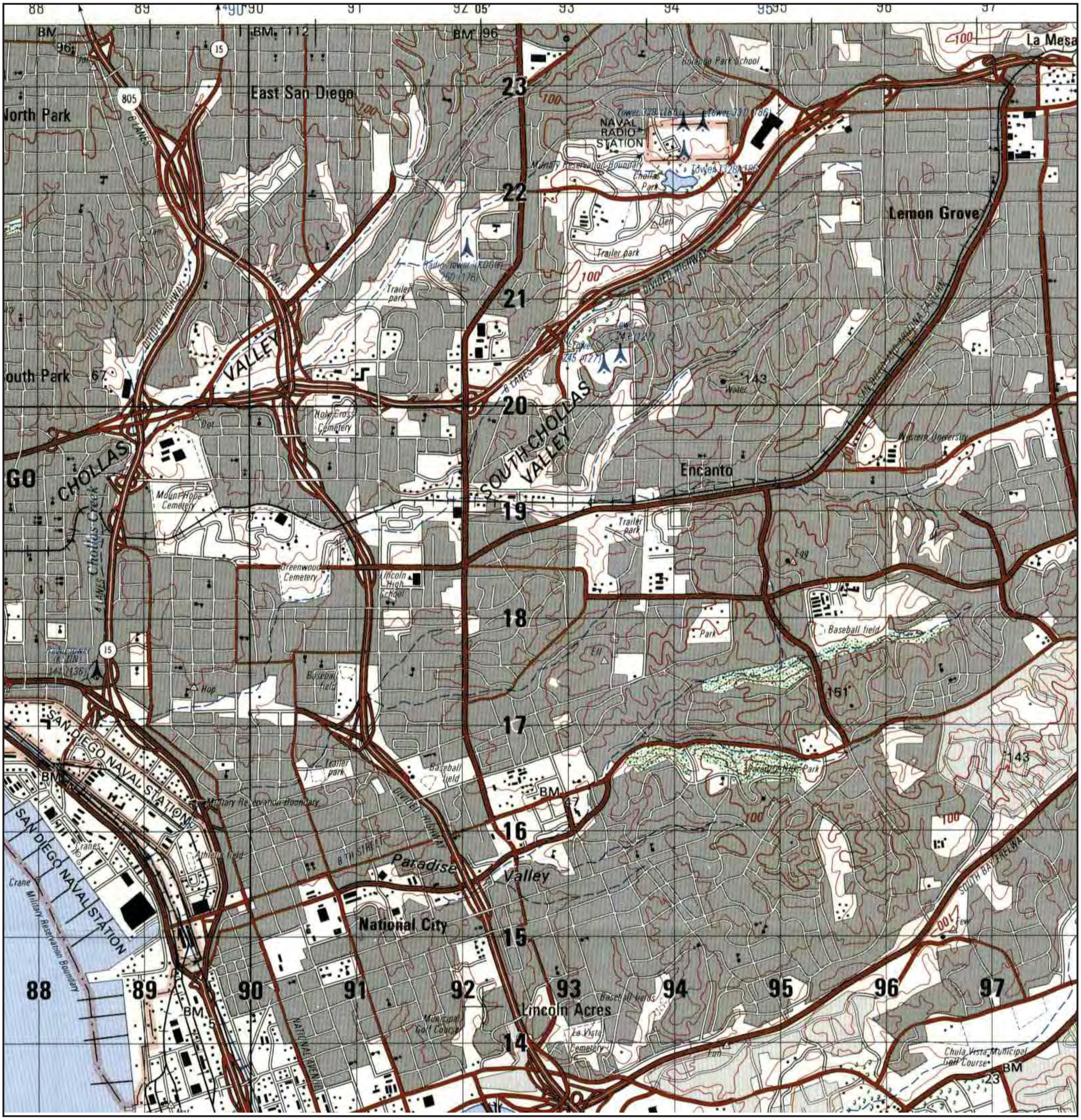
N

TARGET QUAD
NAME: NATIONAL CITY
MAP YEAR: 1975
PHOTOREVISED:1967
SERIES: 7.5
SCALE: 1:24000

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map



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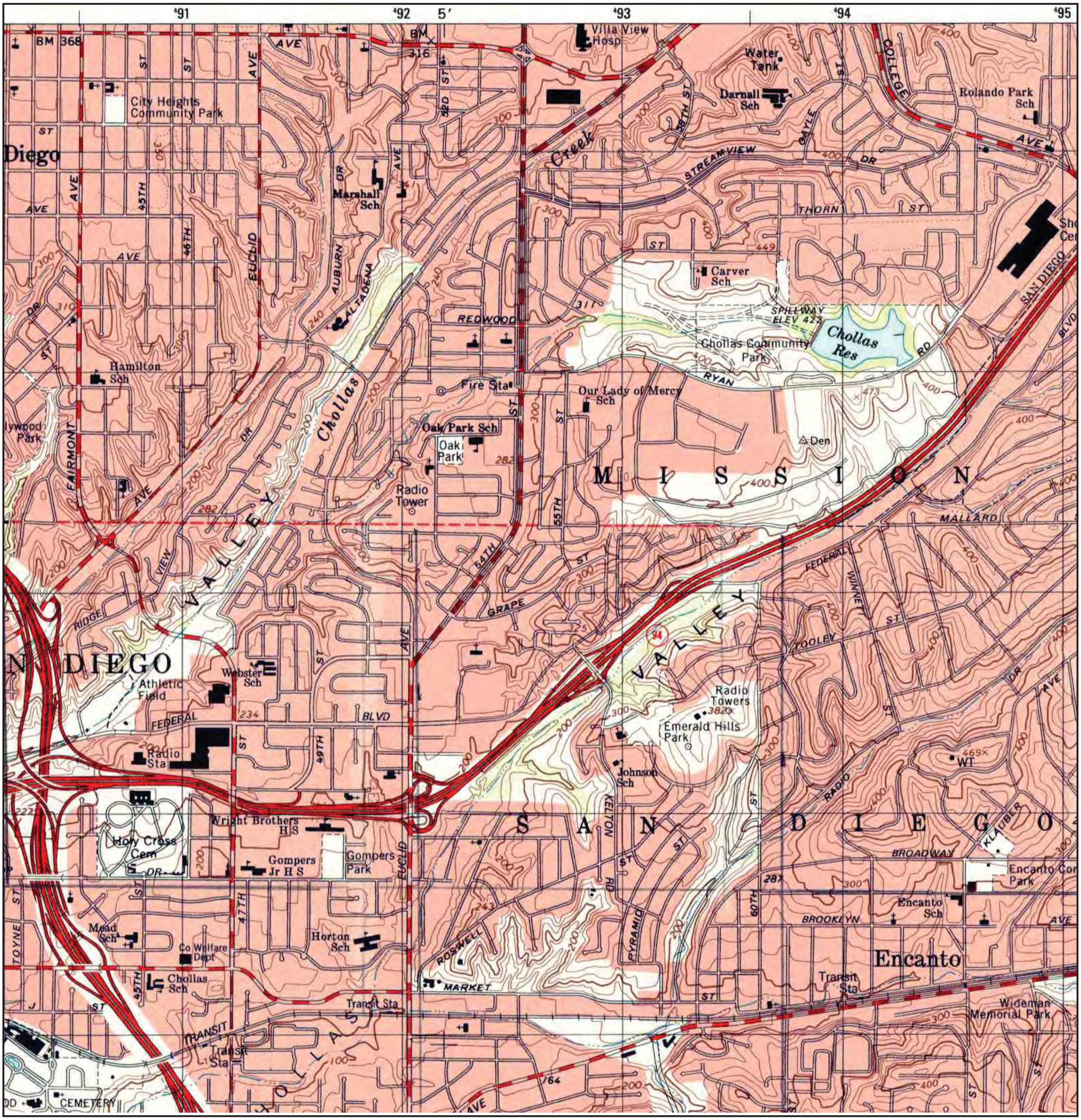
TARGET QUAD
NAME: SAN DIEGO
MAP YEAR: 1991

SERIES: 15
SCALE: 1:50000

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map

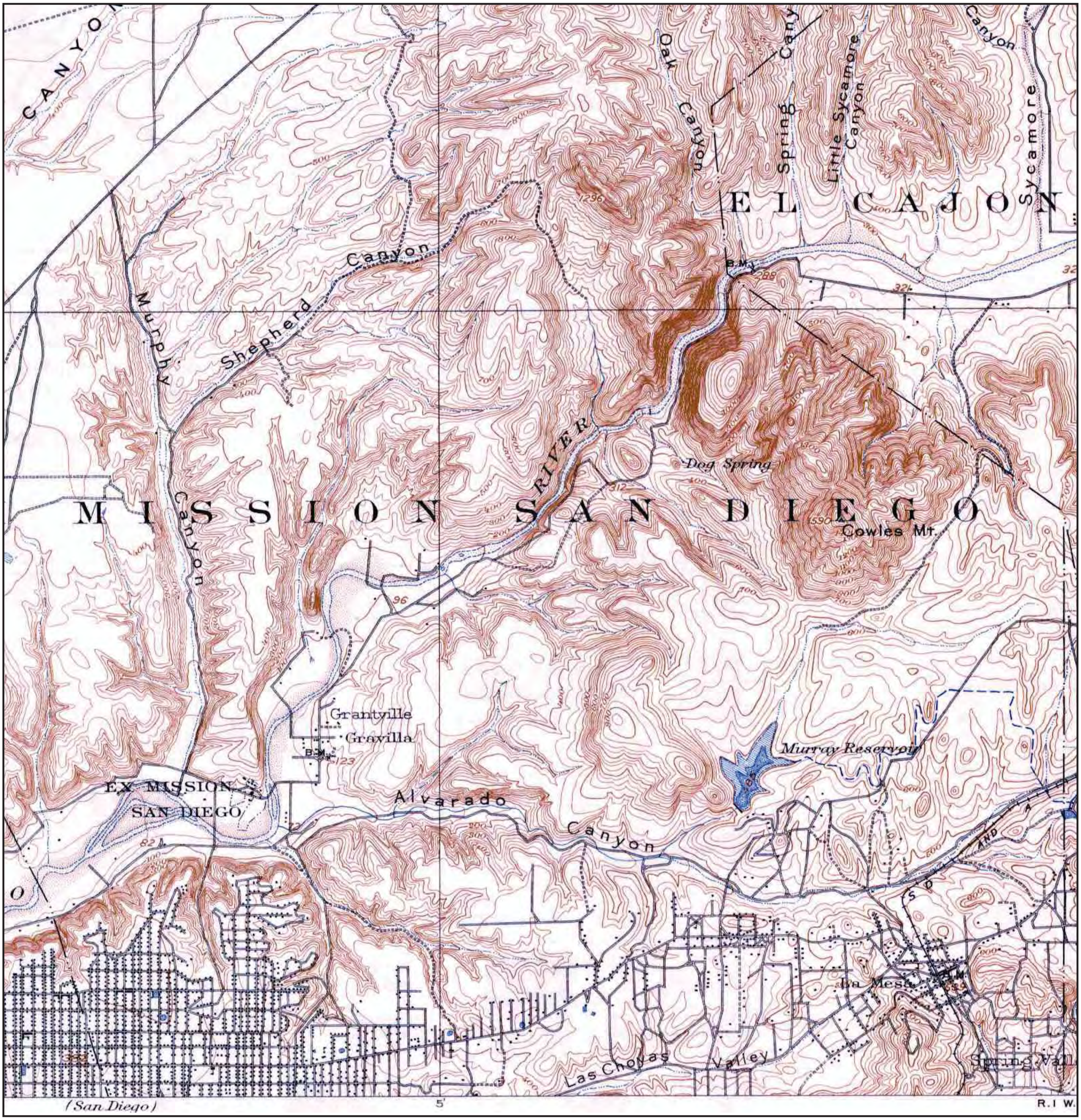


N	TARGET QUAD	
	NAME:	NATIONAL CITY
	MAP YEAR:	1996
	SERIES:	7.5
	SCALE:	1:24000

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map



N

ADJOINING QUAD
NAME: LA JOLLA
MAP YEAR: 1903

SERIES: 15
SCALE: 1:62500

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

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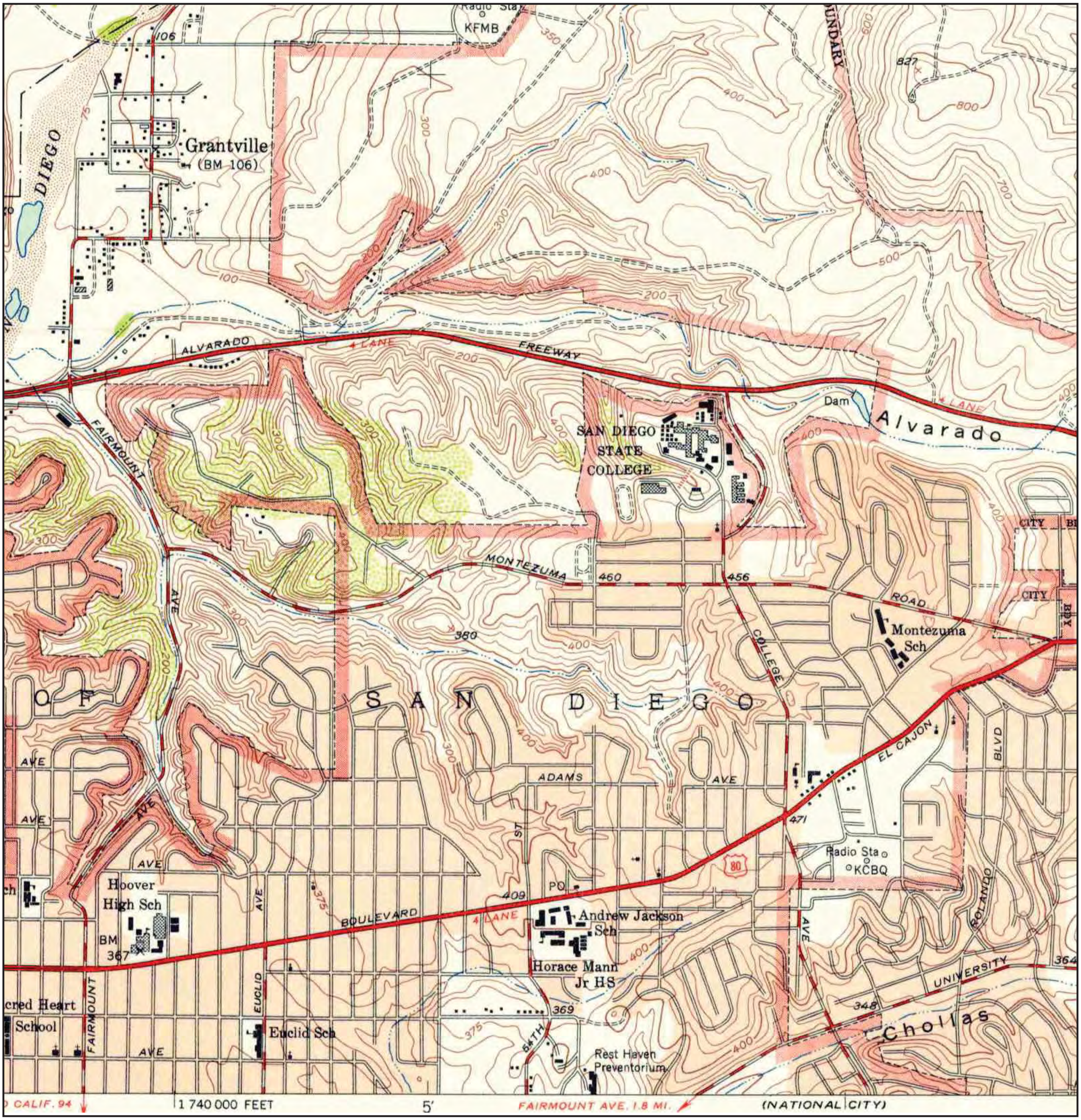


N

ADJOINING QUAD

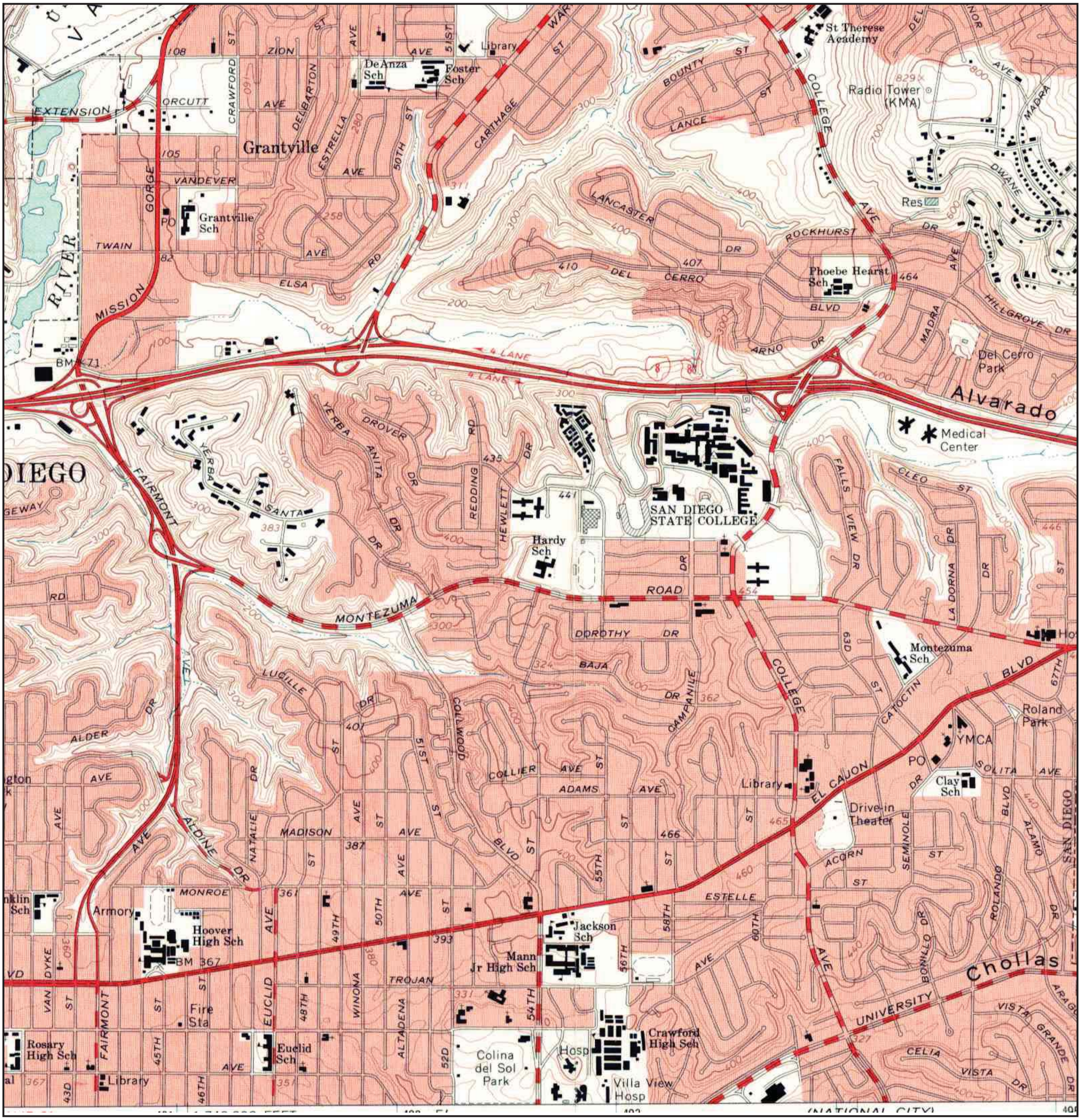
NAME: LA MESA
MAP YEAR: 1953

SERIES: 7.5
SCALE: 1:24000

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map



N	ADJOINING QUAD				
	NAME: LA MESA	SITE NAME:	Chollas Triangle	CLIENT:	Ninyo & Moore
	MAP YEAR: 1967	ADDRESS:	Chollas Parkway and University Avenue San Diego, CA 92105	CONTACT:	Caren Carlson
				INQUIRY#:	3121078.4
	SERIES: 7.5			RESEARCH DATE:	07/12/2011
	SCALE: 1:24000	LAT/LONG:	32.7469 / -117.0778		

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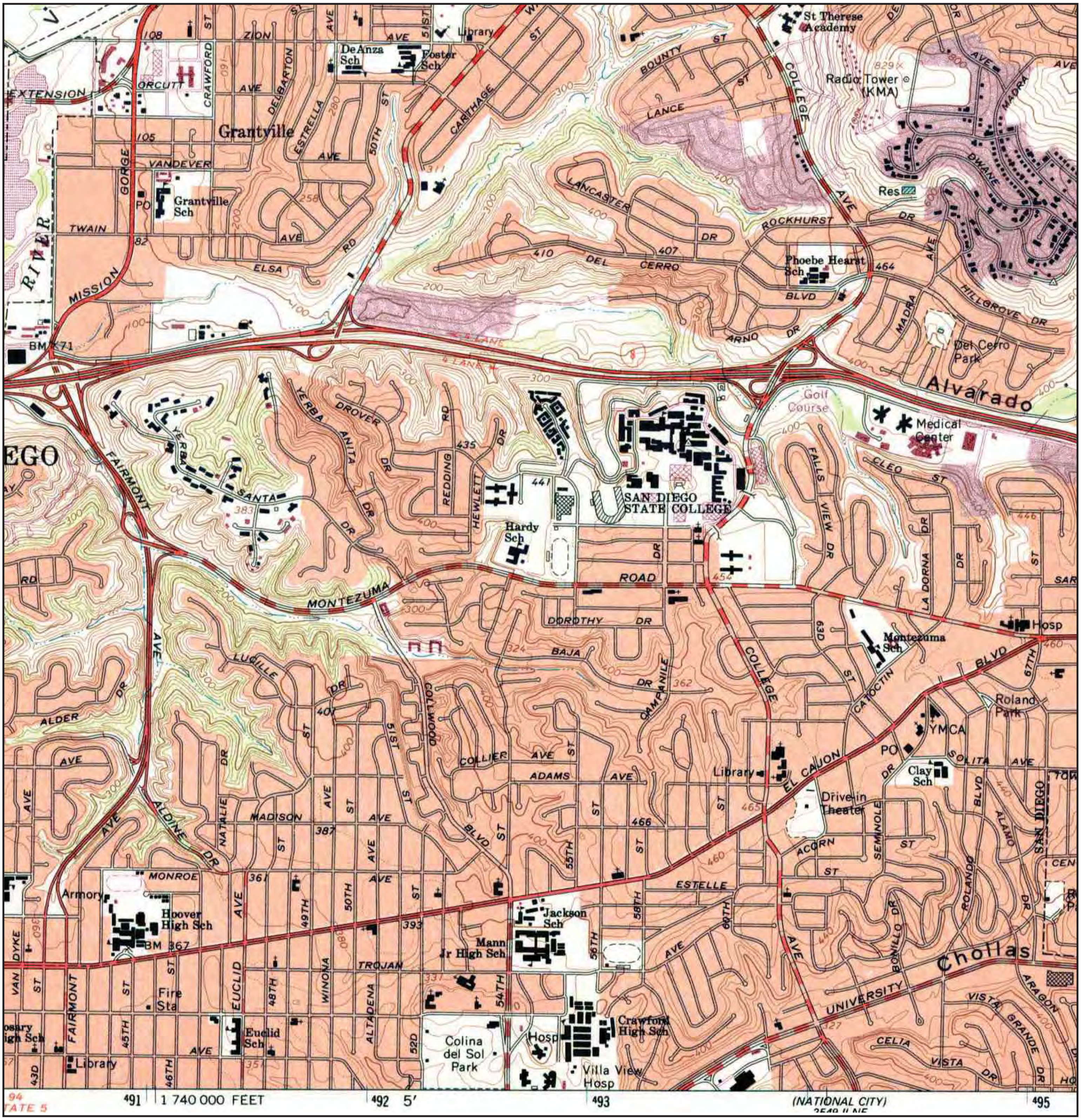

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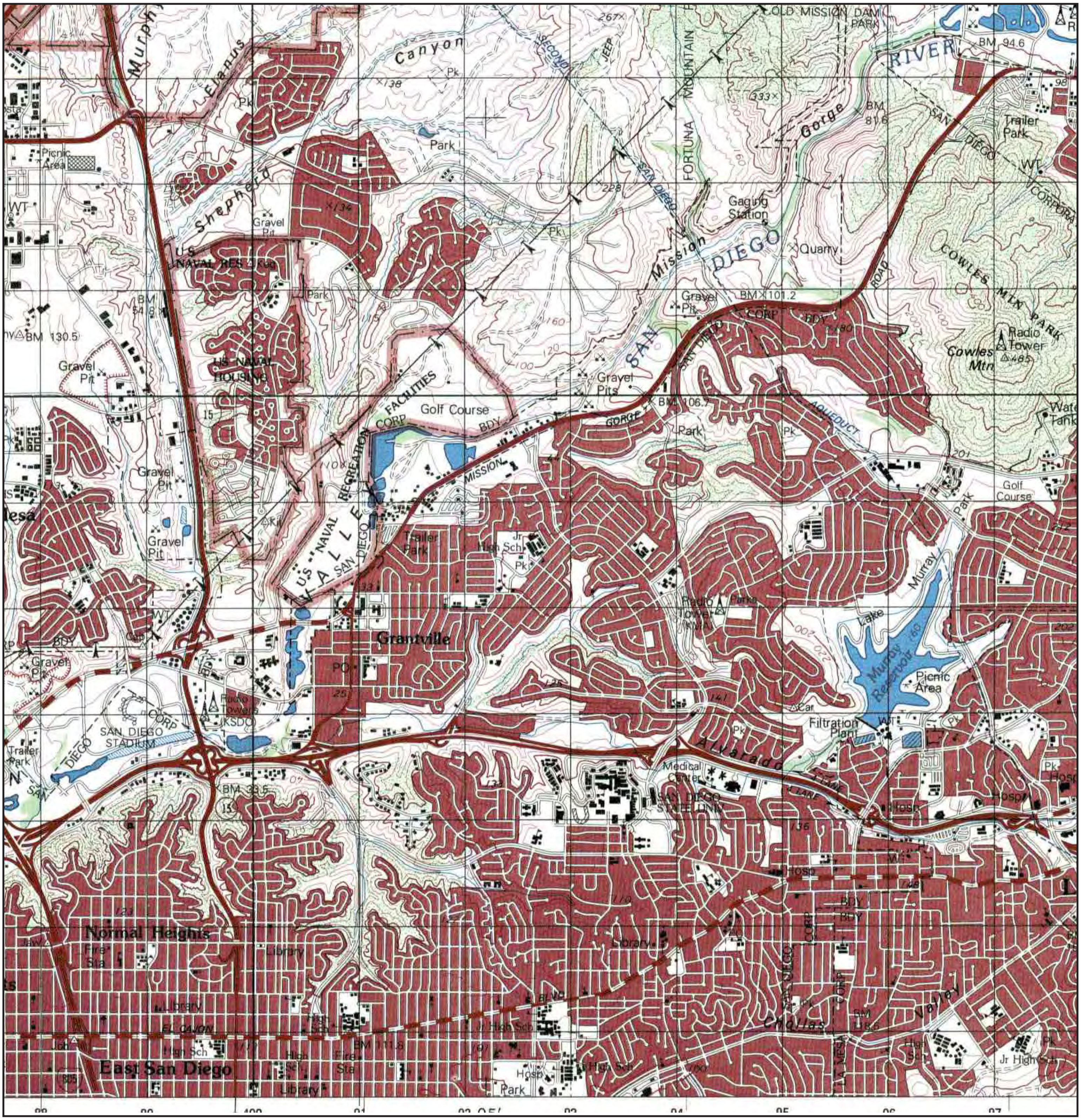
ADJOINING QUAD
NAME: LA MESA
MAP YEAR: 1975
PHOTOREVISED:1967
SERIES: 7.5
SCALE: 1:24000

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map



N ↑	ADJOINING QUAD	SITE NAME: Chollas Triangle	CLIENT: Ninyo & Moore

ADJOINING QUAD
NAME: LA JOLLA
MAP YEAR: 1975

SERIES: 15
SCALE: 1:50000

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Historical Topographic Map

N

ADJOINING QUAD
NAME: LA MESA
MAP YEAR: 1994

SERIES: 7.5
SCALE: 1:24000

SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego, CA 92105
LAT/LONG: 32.7469 / -117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY#: 3121078.4
RESEARCH DATE: 07/12/2011

Chollas Triangle
Chollas Parkway and University Avenue
San Diego, CA 92105

Inquiry Number: 3121078.5
July 15, 2011

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Date EDR Searched Historical Sources:

Aerial Photography July 15, 2011

Target Property:

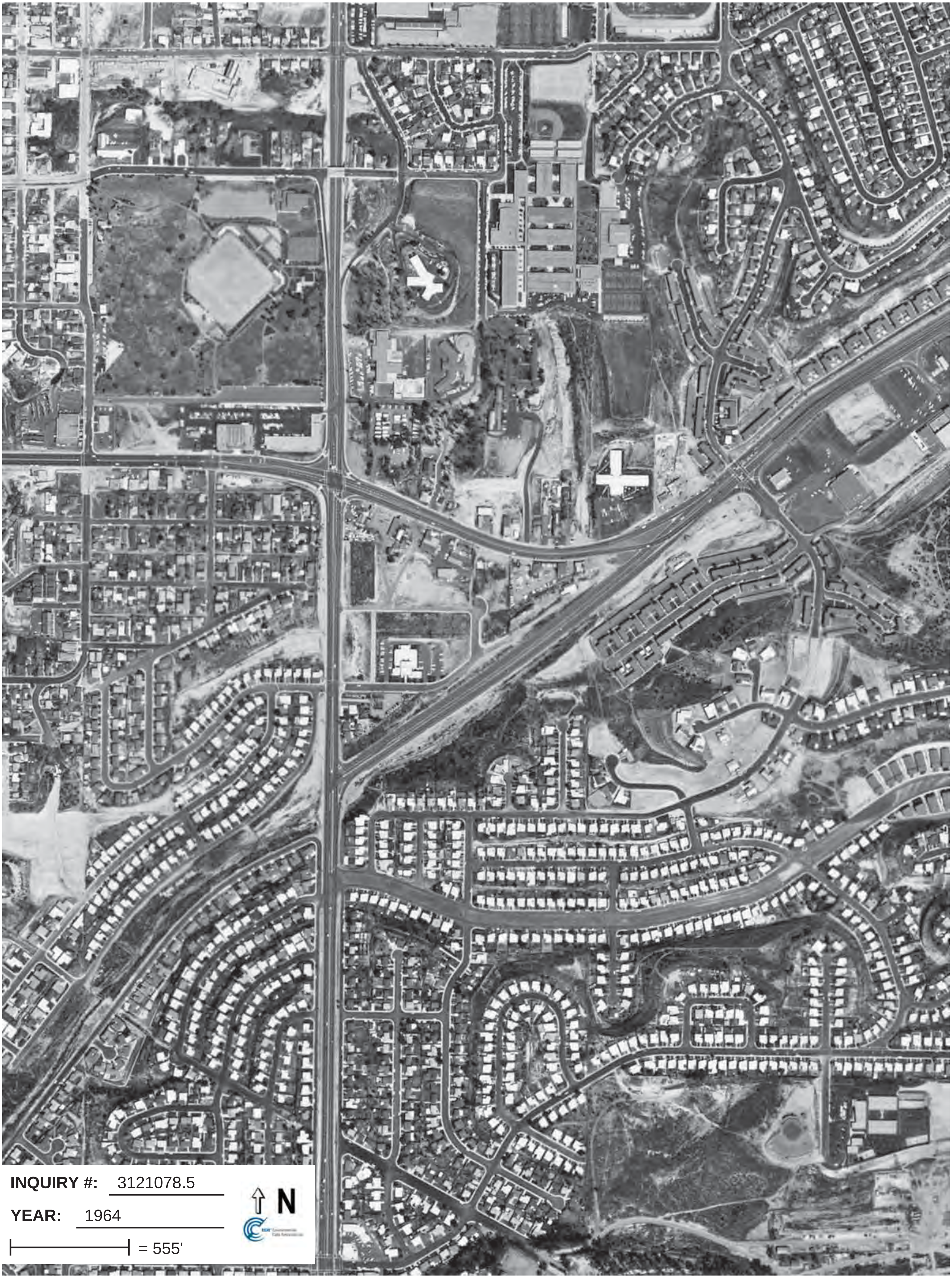
Chollas Parkway and University Avenue
San Diego, CA 92105

Year	***Scale***	***Details***	***Source***
1953	Aerial Photograph. Scale: 1"=555'	Flight Year: 1953 Best Copy Available from original source	Park
1964	Aerial Photograph. Scale: 1"=555'	Flight Year: 1964	Cartwright
1974	Aerial Photograph. Scale: 1"=600'	Flight Year: 1974	AMI
1989	Aerial Photograph. Scale: 1"=666'	Flight Year: 1989	USGS
1994	Aerial Photograph. Scale: 1"=604'	/Composite DOQQ - acquisition dates: 1994	EDR
2002	Aerial Photograph. Scale: 1"=666'	Flight Year: 2002	USGS
2005	Aerial Photograph. Scale: 1"=604'	Flight Year: 2005	EDR

INQUIRY #: 3121078.5

YEAR: 1953

= 555'



INQUIRY #: 3121078.5

YEAR: 1964

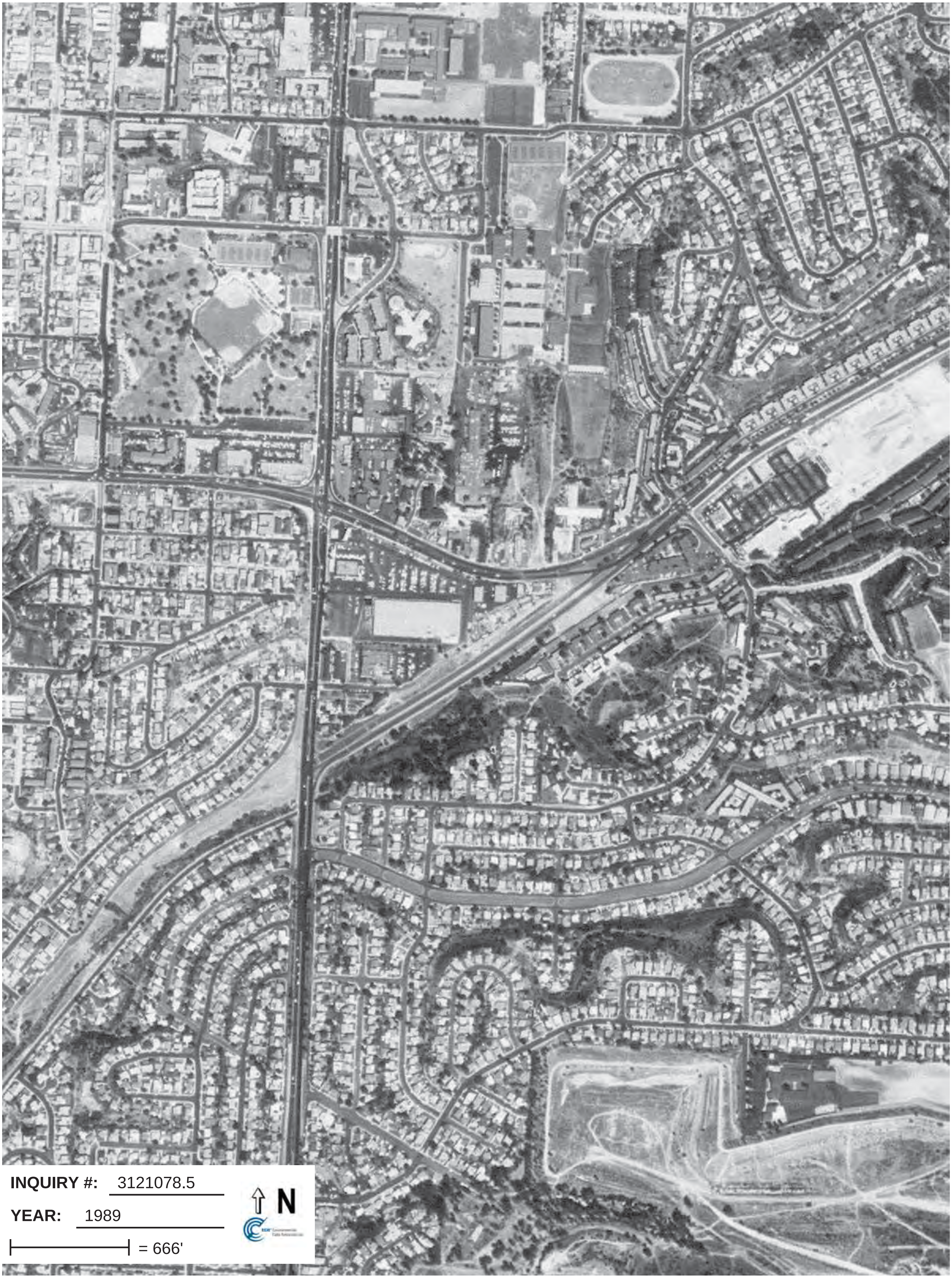
= 555'

N


INQUIRY #: 3121078.5

YEAR: 1974

= 600'



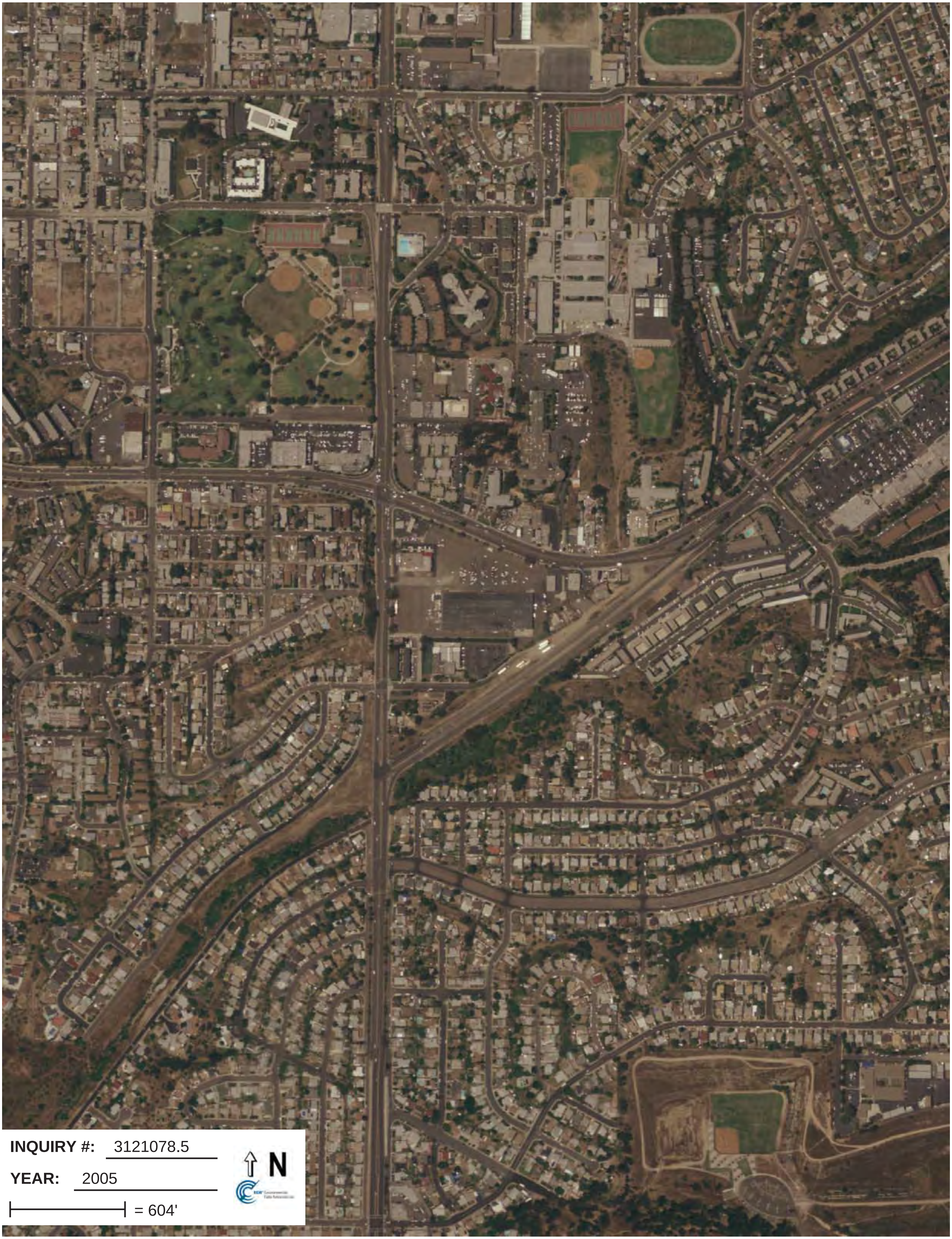
INQUIRY #: 3121078.5

YEAR: 1989

INQUIRY #: 3121078.5

YEAR: 1994


INQUIRY #: 3121078.5
YEAR: 2002
= 666'
N



INQUIRY #: 3121078.5

YEAR: 2005

= 604'

Chollas Triangle
Chollas Parkway and University Avenue
San Diego, CA 92105

Inquiry Number: 3121078.6
July 14, 2011

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Environmental Data Resources Inc

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.’s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR’s City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1903 through 2006. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	***Source***	***TP***	***Adjoining***	***Text Abstract***	***Source Image***
2006	Haines Company, Inc.	-	X	X	-
2000	Haines & Company	-	X	X	-
1995	PACIFIC BELL WHITE PAGES	-	X	X	-
1992	PACIFIC BELL WHITE PAGES	-	X	X	-
1991	PACIFIC BELL WHITE PAGES	-	X	X	-
1989	Pacific Bell	-	X	X	-
1985	PACIFIC BELL WHITE PAGES	-	X	X	-
1984	R. L. Polk & Co.	-	X	X	-
1980	R. L. Polk & Co.	-	X	X	-
1976	Luskey Brothers & Co., Inc.	-	-	-	-
1975	R. L. Polk & Co.	-	X	X	-
1971	Community Directory Co.	-	-	-	-
1970	John M. Ducy	-	X	X	-
1966	R. L. Polk & Co.	-	X	X	-
1965	Community Directory Co.	-	-	-	-
1962	Community Directory Co.	-	-	-	-
1961	R. L. Polk & Co.	-	X	X	-
1960	The Pacific Telephone Telegraph Co.	-	X	X	-
1956	R. L. Polk & Co.	-	-	-	-
1955	R. L. Polk & Co.	-	X	X	-
1952	R. L. Polk & Co. of California	-	X	X	-
1950	The Pacific Telephone & Telegraph Co.	-	-	-	-
1948	San Diego Directory Co.	-	X	X	-
1945	San Diego Directory Co.	-	X	X	-
1943	San Diego Directory Co.	-	X	X	-

EXECUTIVE SUMMARY

Year	*Source*	*TP*	*Adjoining*	*Text Abstract*	*Source Image*
1940	San Diego Directory Co.	-	-	-	-
1938	San Diego Directory Co.	-	-	-	-
1933	San Diego Directory Co.	-	-	-	-
1927	San Diego Directory Co.	-	-	-	-
1921	San Diego Directory Co. Inc.	-	-	-	-
1907	San Diego Directory Co.	-	-	-	-
1903	San Diego Directory Co.	-	-	-	-

EXECUTIVE SUMMARY

SELECTED ADDRESSES

The following addresses were selected by the client, for EDR to research. An "X" indicates where information was identified.

Address	***Type***	***Findings***
5401 University Avenue	Client Entered	X
5595 University Avenue	Client Entered	X
3893 54th Street	Client Entered	X
5586 University Avenue	Client Entered	X
5498 University Avenue	Client Entered	X

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

Chollas Parkway and University Avenue
San Diego, CA   92105

FINDINGS DETAIL

Target Property research detail.

No Addresses Found

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

54TH

3687 54TH

Year	***Uses***	***Source***
1952	Cicone F J jr	R. L. Polk & Co. of California

3691 54TH

Year	***Uses***	***Source***
1952	Reeves T L	R. L. Polk & Co. of California

3701 54TH

Year	***Uses***	***Source***
1952	Vacant	R. L. Polk & Co. of California

54TH ST

3687 54TH ST

Year	***Uses***	***Source***
2006	FLORESMisael	Haines Company, Inc.
1992	Khemmanivong Bo	PACIFIC BELL WHITE PAGES
1961	Cicone John	R. L. Polk & Co.
1960	Cicone Fred	The Pacific Telephone Telegraph Co.
1955	Cicone Fred	R. L. Polk & Co.

3691 54TH ST

Year	***Uses***	***Source***
2006	DYKEJames	Haines Company, Inc.
	HERNANDEZRatael	Haines Company, Inc.
1961	Makepeace Arth S	R. L. Polk & Co.
1960	Makepeace Arthur S	The Pacific Telephone Telegraph Co.
1955	Reeves Annina	R. L. Polk & Co.

3701 54TH ST

Year	***Uses***	***Source***
2006	No Current Listing	Haines Company, Inc.
1961	Warner Lelah Mrs	R. L. Polk & Co.
1943	Barton C C	San Diego Directory Co.

FINDINGS

3771 54TH ST

Year	***Uses***	***Source***
2006	APOSTOUC	Haines Company, Inc.
	ASSEMBLY EIGHTH	Haines Company, Inc.
1992	Moments Of Blessings	PACIFIC BELL WHITE PAGES
	Momentum Graphics	PACIFIC BELL WHITE PAGES

54th Street

3893 54th Street

Year	***Uses***	***Source***
2006	LUCKY STAR SEA	Haines Company, Inc.
	FOOD RESTAURANT	Haines Company, Inc.

LEA

5410 LEA

Year	***Uses***	***Source***
1992	Nguyen Mienthuy	PACIFIC BELL WHITE PAGES
	Pham Peter	PACIFIC BELL WHITE PAGES
	Pham Phu Duc	PACIFIC BELL WHITE PAGES
	Vo Hien Cong	PACIFIC BELL WHITE PAGES
	Vo Hue	PACIFIC BELL WHITE PAGES

5450 LEA

Year	***Uses***	***Source***
1992	Weiss Donald H MD	PACIFIC BELL WHITE PAGES

5458 LEA

Year	***Uses***	***Source***
1992	Yard	PACIFIC BELL WHITE PAGES

5462 LEA

Year	***Uses***	***Source***
1992	Poast JE..................	PACIFIC BELL WHITE PAGES
	Poare Arton	PACIFIC BELL WHITE PAGES
	Poat C	PACIFIC BELL WHITE PAGES

5466 LEA

Year	***Uses***	***Source***
1992	Line	PACIFIC BELL WHITE PAGES

FINDINGS

LEA ST

5410 LEA ST

Year	Uses	Source
2006	GUTIERREZ Robert A	Haines Company, Inc.
	MONROE Ricky	Haines Company, Inc.
	WOODS Angela	Haines Company, Inc.
2000	BOYDRegina	Haines & Company
	RYANGina M	Haines & Company
	TRAN Cua	Haines & Company

5420 LEA ST

Year	Uses	Source
2006	NGUYEN Anna	Haines Company, Inc.
2000	XXXX	Haines & Company

5450 LEA ST

Year	Uses	Source
2006	BUSCHMAN Robert	Haines Company, Inc.
	HINES Kent	Haines Company, Inc.
	TEEN CHALLENGE	Haines Company, Inc.
2000	TEEN CHALLENGE	Haines & Company
1989	Bell Robert H MD Parkway Medical Group	Pacific Bell
	Coburn David A MD Parkway Medical Group	Pacific Bell
	Easler Kenneth R MD Parkway Medical Group	Pacific Bell
	Goodhead Bernard MD Parkway Medical Group	Pacific Bell
	Greer Scott D MD Parkway Medical Group	Pacific Bell
	Heilbrunn Howard MD Parkway Medical Group	Pacific Bell
	Katz Shelby N MD Parkway Medical Group	Pacific Bell
	Mallis Seymour MD Parkway Medical Group	Pacific Bell
	Moffatt George E MD Parkway Medical Group	Pacific Bell
	Parkway Medical Group	Pacific Bell
	PARKWAY MEDICAL GROUP	Pacific Bell
	Parkway Medical Group Inc	Pacific Bell
	PARKWAY PHARMACY	Pacific Bell
	Pezanoski Edw H MD FACOG	Pacific Bell

FINDINGS

Year	***Uses***	***Source***
1989	Rowe John MD Parkway Medical Group	Pacific Bell
	Sargent C Rolland MD Parkway Medical Group	Pacific Bell
	Schulkind Leonard N MD Parkway Medical Group	Pacific Bell
	Smith Geoffrey MD Parkway Medical Group	Pacific Bell
	Song S Y Thomas MD Parkway Medical Group	Pacific Bell
	Steiner Sheldon H MD Parkway Medical Group	Pacific Bell
	Swartz Gary L MD Parkway Medical Group	Pacific Bell
	Watson W Steven MD Parkway Medical Group	Pacific Bell
	Wozniak Lance K MD Parkway Medical Group	Pacific Bell
1980	Parkway Medical Building	R. L. Polk & Co.
	Parkway Medical Group Inc	R. L. Polk & Co.
	Blount David H phys	R. L. Polk & Co.
	Easier Kenneth R phys	R. L. Polk & Co.
	Fisher Benj D optpm	R. L. Polk & Co.
	Parkway Pharmacy	R. L. Polk & Co.
	Dempsey James P phys	R. L. Polk & Co.
	Goodhead Bernard phys	R. L. Polk & Co.
	Heilbrunn Howard I phys Pezanoski Edw J phys	R. L. Polk & Co.
	Swartz Gary L phys	R. L. Polk & Co.
	Biondo Vincent F phys	R. L. Polk & Co.
	Fadell Matthew J phys	R. L. Polk & Co.
	Sarkisian James phys	R. L. Polk & Co.
	Sargent C Rolland phys	R. L. Polk & Co.
	Huhn David C dentist	R. L. Polk & Co.
	Jankowski Mark P dentist	R. L. Polk & Co.
	Luibel F J phys	R. L. Polk & Co.
	Professional Computer Service computer billing serv	R. L. Polk & Co.
	San Diego Safety Supply med sup	R. L. Polk & Co.
1975	Parkway Medical Building	R. L. Polk & Co.
	Parkway Medical Group Inc clinic	R. L. Polk & Co.
	Blount David H phys	R. L. Polk & Co.
	Easier Kenneth R phys	R. L. Polk & Co.

FINDINGS

Year	Uses	Source
1975	Fisher Benj D	R. L. Polk & Co.
	Jennings James T phys	R. L. Polk & Co.
	Punta Robt F phys	R. L. Polk & Co.
	Snyder Dean C phys	R. L. Polk & Co.
	Parkway Pharmacy	R. L. Polk & Co.
	Dempsey James P phys	R. L. Polk & Co.
	Goodhead Bernard phys	R. L. Polk & Co.
	Heilbrun Howard I phys Pezanoski Edw J phys	R. L. Polk & Co.
1970	PARKWAY MEDICAL BUILDING	John M. Ducy
	PARKWAY MEDICAL GROUP CLINIC	John M. Ducy
	BLOUNT DAVID H PHYS	John M. Ducy
	CONSTANTINE PAUL A PHYS	John M. Ducy
	EASLER KENNETH R PHYS	John M. Ducy
	FISHER BENJ 0 OPTOM	John M. Ducy
	JENNINGS WM A DENTIST	John M. Ducy
	JENNINGS JAMES T PHYS	John M. Ducy
	LOWDERPJOHN W PHYS	John M. Ducy
	PUNTA ROBT F PHYS	John M. Ducy
	REITHMAYER EDWIN PHYS	John M. Ducy
	SNYDER DEAN C PHYS	John M. Ducy
	PARKWAY PHARMACY	John M. Ducy
1966	PARKWAY MEDICAL BUILDING	R. L. Polk & Co.
	JENNINGS WM A DENTIST	R. L. Polk & Co.
	JENNINGS JAMES T PHYS	R. L. Polk & Co.
	SNYDER DEAN C PHYS	R. L. Polk & Co.
	PARKWAY PHARMACY	R. L. Polk & Co.
1961	Blount David H phys	R. L. Polk & Co.
	Parkway Med Group	R. L. Polk & Co.

5455 LEA ST

Year	Uses	Source
2000	XXXX	Haines & Company

5458 LEA ST

Year	Uses	Source
2006	D&L AUTO BODY	Haines Company, Inc.
2000	D&LAUTOBODY	Haines & Company
1989	Steel Concrete Structures	Pacific Bell

FINDINGS

5462 LEA ST

Year	Uses	Source
2000	XXXX	Haines & Company
1989	Poare Arton	Pacific Bell

5464 LEA ST

Year	Uses	Source
2000	XXXX	Haines & Company
1989	Moore Walter Sandblasting	Pacific Bell

5466 LEA ST

Year	Uses	Source
2006	DRAGONAAUTO	Haines Company, Inc.
	SALES	Haines Company, Inc.
2000	RCYCLG PHILLIPS Richard	Haines & Company
	APPLIANCEAFREON	Haines & Company
1989	Johnson Excavating	Pacific Bell
	Linc	Pacific Bell

N 54TH ST

3687 N 54TH ST

Year	Uses	Source
1980	N Schmittle Wm F	R. L. Polk & Co.
1975	Pithey Michi	R. L. Polk & Co.
1970	LEWIS KENNETH	John M. Ducy

3691 N 54TH ST

Year	Uses	Source
1980	Makepeace Minnie Mrs	R. L. Polk & Co.
1975	Makepeace Minnie Mrs	R. L. Polk & Co.
1970	MAKEPEACE ARTH S	John M. Ducy

3701 N 54TH ST

Year	Uses	Source
1980	Reed Marlin	R. L. Polk & Co.
	Rear San Diego Gas & Electric Co	R. L. Polk & Co.
	Streamview Sub Sta	R. L. Polk & Co.
1975	Rear San Diego Gas & Electric Co	R. L. Polk & Co.
	Stream view Sub Sta	R. L. Polk & Co.
	Reed Marlin	R. L. Polk & Co.

FINDINGS

Year	*Uses*	*Source*
1970	SAN DIEGO GAS & ELECTRIC CO	John M. Ducy
	STREAMV IEW SUB STA	John M. Ducy

3771 N 54TH ST

Year	*Uses*	*Source*
1980	Zapatas Restaurant De Mexico	R. L. Polk & Co.
1975	Zapatas Restaurant De Mexico	R. L. Polk & Co.

UNIVERSITY AVE

5422 UNIVERSITY AVE

Year	*Uses*	*Source*
2006	APARTMENTS	Haines Company, Inc.
	CASTILLOVanessa	Haines Company, Inc.
	CHANDAMONY	Haines Company, Inc.
	Chhoeun	Haines Company, Inc.
	ESTACIO Florante Y	Haines Company, Inc.
	GUTIERREZ Juan	Haines Company, Inc.
	Jesus a HAYRAPETYAN	Haines Company, Inc.
	Madetta	Haines Company, Inc.
	NASH Audrey	Haines Company, Inc.
	SALAMANCA Cesar	Haines Company, Inc.
2000	DUONGTuan	Haines & Company
	NASH Audrey	Haines & Company
	FLORES 19ma	Haines & Company
1992	Widener M	PACIFIC BELL WHITE PAGES
1989	Erfani Nahid	Pacific Bell
1984	VILLA VERDE APARTMENTS	R. L. Polk & Co.
	1 DANIELS JEWEL	R. L. Polk & Co.
	2 MILLER VALERIE	R. L. Polk & Co.
	3 LUSTIG JOE	R. L. Polk & Co.
	4 PULLENS DALLAS L	R. L. Polk & Co.
	5 LIPSON BETTY	R. L. Polk & Co.
	6 HUNTER MARK	R. L. Polk & Co.
	7 PORTIGOS EDWIN	R. L. Polk & Co.
	8 GOODE LUCY K MRS	R. L. Polk & Co.
	9 SOLLEY M M	R. L. Polk & Co.
	10 WEINBAUM JOSEPH	R. L. Polk & Co.
	11 EHRLICH THEO	R. L. Polk & Co.

Year	Uses	Source
1984	12 VOZYAKONA KLARISSA	R. L. Polk & Co.
1980	Villa Verde Apartments	R. L. Polk & Co.
	Daniels B	R. L. Polk & Co.
	N Goldstein Sylvia Mrs	R. L. Polk & Co.
	N Mohland Ruth Mrs N	R. L. Polk & Co.
	Negrete Anita L Mrs	R. L. Polk & Co.
	Lipson Betty	R. L. Polk & Co.
	Ingram Gordon	R. L. Polk & Co.
	Solley M M	R. L. Polk & Co.
	Goode Lucy K Mrs	R. L. Polk & Co.
	Abdelmessih Ezzat F	R. L. Polk & Co.
	N Arsu Danny A	R. L. Polk & Co.
	Ehrlich Then	R. L. Polk & Co.
	Press Sam	R. L. Polk & Co.
1975	Villa Verde Apartments	R. L. Polk & Co.
	N Oran John F	R. L. Polk & Co.
	Stoner John E	R. L. Polk & Co.
	N fr Cones Wm	R. L. Polk & Co.
	N f Kaino Lou	R. L. Polk & Co.
	N Gordon Brent	R. L. Polk & Co.
	N Proctor Ronald	R. L. Polk & Co.
	N Hughes James	R. L. Polk & Co.
	S Goode Lucy K Mrs	R. L. Polk & Co.
	Schrieber Diana Mrs	R. L. Polk & Co.
	N Bay Charles D	R. L. Polk & Co.
	Corwinkld Robt	R. L. Polk & Co.
	N Del Mastco Nancy	R. L. Polk & Co.

5423 UNIVERSITY AVE

Year	Uses	Source
2000	XXXX	Haines & Company
1952	LeAnns Cafe	R. L. Polk & Co. of California
1948	Hanes Lee restr	San Diego Directory Co.

5424 UNIVERSITY AVE

Year	Uses	Source
2006	APARTMENTS	Haines Company, Inc.
	NGUYEN Judy	Haines Company, Inc.
	NGUYEN Thuy Ngoo	Haines Company, Inc.

FINDINGS

Year	***Uses***	***Source***
2006	RODRIGUEZNad Ia	Haines Company, Inc.
	Ruby SALGADO Maroo	Haines Company, Inc.
	TALAVERA Roxana	Haines Company, Inc.
2000	APARTMENTS CRUZJu Iio Cesar	Haines & Company
	GIBORELucken	Haines & Company
	BORERUlh	Haines & Company
	NGUYENThuy Ngoc	Haines & Company
	RUIZFrancisco	Haines & Company
	TRANDUo Th I	Haines & Company
	VEROYANVanya	Haines & Company
1992	Fakhrai Saeed	PACIFIC BELL WHITE PAGES
	Hagler S	PACIFIC BELL WHITE PAGES
	Hagler Tamar	PACIFIC BELL WHITE PAGES
	Moore Anthony	PACIFIC BELL WHITE PAGES
	Pardo Pilar	PACIFIC BELL WHITE PAGES
	Pardo T	PACIFIC BELL WHITE PAGES
	Pardoe AC	PACIFIC BELL WHITE PAGES
	Zahalsky Gary	PACIFIC BELL WHITE PAGES
1989	Barnas Zdzislaw	Pacific Bell
	Croix Gary	Pacific Bell
	Del Pilar Maria	Pacific Bell
	Fakhrai Saeed	Pacific Bell
	Streb Mitchell S	Pacific Bell
1984	APARTMENTS	R. L. Polk & Co.
	13 SMITH LARRY W	R. L. Polk & Co.
	14 SCHNEIBER MARCIA	R. L. Polk & Co.
	15 BEIDOUM RACHID H	R. L. Polk & Co.
	16 LANDESMAN LOUIS	R. L. Polk & Co.
	17 ELLIOT BARRY	R. L. Polk & Co.
	18 WINN STEPH	R. L. Polk & Co.
	19 KOGAN ALEXANDRA	R. L. Polk & Co.
	20 JACOBS HARRY G	R. L. Polk & Co.
	21 KTEINMAN PHYLLIS	R. L. Polk & Co.
	22 MICHAEL LEONARD	R. L. Polk & Co.
	23 WHITE THELMA	R. L. Polk & Co.
	24 LAGIN HARRY MRS	R. L. Polk & Co.
1980	Apartments	R. L. Polk & Co.
	Smith Billie J	R. L. Polk & Co.

FINDINGS

Year	***Uses***	***Source***
1980	Shorter Lea Mrs	R. L. Polk & Co.
	Ramirez Dani Jr	R. L. Polk & Co.
	Landesman Louis	R. L. Polk & Co.
	N Rodriguez Diane Mrs	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	N Morrell Wm	R. L. Polk & Co.
	Jacobs Harry G	R. L. Polk & Co.
	Nix D M	R. L. Polk & Co.
	N Michaelis Lenny	R. L. Polk & Co.
	King Joseph	R. L. Polk & Co.
	N Ewing Roberta R Mrs	R. L. Polk & Co.
1975	Apartments	R. L. Polk & Co.
	13 N Behanna Robt	R. L. Polk & Co.
	N Buben Gail	R. L. Polk & Co.
	Robinson Paul	R. L. Polk & Co.
	N Patterson Carolyn E	R. L. Polk & Co.
	N ASullenberger Janet	R. L. Polk & Co.
	N ATownsend Susan	R. L. Polk & Co.
	Valletta Robert J	R. L. Polk & Co.
	N Gilchrist James D	R. L. Polk & Co.
	N Lemon Robt N i	R. L. Polk & Co.
	N Oliver Jack	R. L. Polk & Co.
	N Yadon John	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.

5426 UNIVERSITY AVE

Year	***Uses***	***Source***
2006	VILLA VERDE APTS	Haines Company, Inc.
	ARREDONDO Gulrina	Haines Company, Inc.
	BARAJAS Rober Io	Haines Company, Inc.
	BELENKOVVasiliy	Haines Company, Inc.
	CHEN Yi Guang	Haines Company, Inc.
	CUEVAS PELAYO	Haines Company, Inc.
	Jose ADIRCT ASATELLE TV	Haines Company, Inc.
	DIRECTTV	Haines Company, Inc.
	GARCI A Luis A	Haines Company, Inc.
	LE Phat	Haines Company, Inc.
	MANOTAS Ludaso	Haines Company, Inc.
	MUNDO Irasema	Haines Company, Inc.

FINDINGS

Year	***Uses***	***Source***
2006	NAVARRO BOsa	Haines Company, Inc.
	NGUYEN Judy	Haines Company, Inc.
	POLANCO Caudia	Haines Company, Inc.
	RODRIGUEZErika	Haines Company, Inc.
2000	VILLA VEBDEAPTS ALENAZI S 6lah	Haines & Company
	EDU Ruperlo	Haines & Company
	GUTIEVREZ Isabel	Haines & Company
	HUYNHSlven	Haines & Company
	LOPEZAlicia	Haines & Company
	PADILLANaz 6no 619229159 S VILLA VERDE APTS	Haines & Company
	WIDENER M	Haines & Company
1992	Villa Verde Apartments	PACIFIC BELL WHITE PAGES
	: Jimenez John & Ofelia	PACIFIC BELL WHITE PAGES
	Jimenez Jorge & Barbara:.............	PACIFIC BELL WHITE PAGES
	Jimenez Jose	PACIFIC BELL WHITE PAGES
	Jimenez Jose	PACIFIC BELL WHITE PAGES
	Jones Don O	PACIFIC BELL WHITE PAGES
	Jones Donald.	PACIFIC BELL WHITE PAGES
	Moore William A	PACIFIC BELL WHITE PAGES
1989	Adams J L	Pacific Bell
	Booher Melissa R	Pacific Bell
	Haddad Kamal M	Pacific Bell
	Jimenez John & Ofelia	Pacific Bell
	Jones Don O	Pacific Bell
	Nelson Tony & Elizabeth	Pacific Bell
	Rembert Mc Rae Jr & Salvacion	Pacific Bell
	Richman Bernard	Pacific Bell
	Villa Verde Apartments	Pacific Bell
	Wiggin Thomas	Pacific Bell
	Wolff W B	Pacific Bell
1984	APARTMENTS	R. L. Polk & Co.
	25 RICHMAN BERNARD	R. L. Polk & Co.
	26 WALKER JACK	R. L. Polk & Co.
	27 CHERRY MICHELE	R. L. Polk & Co.
	28 BILLS GERALDINE MRS	R. L. Polk & Co.
	DONNELY ELLEN	R. L. Polk & Co.
	30 HAGGERTY DANL B	R. L. Polk & Co.
	31 VACANT	R. L. Polk & Co.

FINDINGS

Year	***Uses***	***Source***
1984	32 KAUFMAN LOUIS	R. L. Polk & Co.
	33 BALLI ALEX	R. L. Polk & Co.
	34 LAWSON ROSE	R. L. Polk & Co.
	35 HADDAD KAMAL M	R. L. Polk & Co.
	36 LOFINK TONYA	R. L. Polk & Co.
	37 PALMER JOHN	R. L. Polk & Co.
	38 BURTON ERMA	R. L. Polk & Co.
	39 LASSITER GARY	R. L. Polk & Co.
	40 PREM PAUL	R. L. Polk & Co.
	41 SCHRIBER ROSE	R. L. Polk & Co.
	42 HASSAN BEVERLY J	R. L. Polk & Co.
	43 VACANT	R. L. Polk & Co.
	44 DE ROUEN JOHN	R. L. Polk & Co.
	45 HUBKA TERESA	R. L. Polk & Co.
	46 CHAPMAN THOS	R. L. Polk & Co.
	47 JONES DON O	R. L. Polk & Co.
	48 MORRIS WM	R. L. Polk & Co.
	49 MORALES RAY	R. L. Polk & Co.
	50 SRESTHADATTA VICHIT	R. L. Polk & Co.
1980	Harrer Robt	R. L. Polk & Co.
	Watson R	R. L. Polk & Co.
	Escalante C	R. L. Polk & Co.
	N Seemans Gordon	R. L. Polk & Co.
	Hampton Sylvia Mrs	R. L. Polk & Co.
	N Anderson Bernice Mrs	R. L. Polk & Co.
	No Return	R. L. Polk & Co.
	Drabek Theo	R. L. Polk & Co.
	N Mostafa Saliad	R. L. Polk & Co.
	Hassan Beverly J	R. L. Polk & Co.
	N Nelson Gertrude Mrs	R. L. Polk & Co.
	N Weaver S C	R. L. Polk & Co.
	Main Robt	R. L. Polk & Co.
	N Chapman Thos	R. L. Polk & Co.
	N Jones Don Q	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	Gasulla Thos	R. L. Polk & Co.
	Sresthadatta Vichit	R. L. Polk & Co.
	Loizeaux Inez Mrs	R. L. Polk & Co.

FINDINGS

Year	Uses	Source
1980	N Rashidian Shahla Mrs	R. L. Polk & Co.
	N Rastakhiz Nader	R. L. Polk & Co.
	Bills Geraldine Mrs	R. L. Polk & Co.
	Chennell Irene	R. L. Polk & Co.
	N Haggerty Dani B	R. L. Polk & Co.
	Hoffman Ernst K	R. L. Polk & Co.
	Kaufman Louis	R. L. Polk & Co.
	Apartments	R. L. Polk & Co.
1975	Apartments	R. L. Polk & Co.
	Loizeaux lass Mrs	R. L. Polk & Co.
	N Udvarhelyi Glenn R	R. L. Polk & Co.
	N Handley John	R. L. Polk & Co.
	:y 28 Bills Geraldine l N la 29 N Lapinski Gregory D	R. L. Polk & Co.
	S N Hartshorn Marianne	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	No Return	R. L. Polk & Co.
	N Giilesple Kelly	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	Escalante Carmen Mrs	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	Orter June M	R. L. Polk & Co.
	N Smlth Donnell	R. L. Polk & Co.
	N Ramsay Allison	R. L. Polk & Co.
	Maffel John J	R. L. Polk & Co.
	N AThompson Lois	R. L. Polk & Co.
	N Hassan Beverly J	R. L. Polk & Co.
	N Milford Richd	R. L. Polk & Co.
	N Weeks Joseph	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	Chavis Norman	R. L. Polk & Co.
	N Conrad Thos R	R. L. Polk & Co.
	N Bonnett Patricia	R. L. Polk & Co.
	Fox Margt	R. L. Polk & Co.
	Goldin Robt S	R. L. Polk & Co.

5428 UNIVERSITY AVE

Year	Uses	Source
2006	VILLA VERDE APTS	Haines Company, Inc.

FINDINGS

Year	***Uses***	***Source***
2006	ALVAREZ Maria M	Haines Company, Inc.
	CABLAYAN Blanca	Haines Company, Inc.
	CASTILLO Dernelio	Haines Company, Inc.
	DANGGThuy	Haines Company, Inc.
	ESPINOZA Oscar	Haines Company, Inc.
	FLORES Roberto	Haines Company, Inc.
	OCAMPO Jose Juan	Haines Company, Inc.
2000	VILLA VERDE APTS CAPPS Ernie	Haines & Company
	CAPPSLorelt	Haines & Company
	AZDiana	Haines & Company
	FREKHTNAN Essira	Haines & Company
	GARCIAEduardo 619 G 265281a	Haines & Company
	HUYNHAnh My	Haines & Company
	JIMENEZEvangelina	Haines & Company
	ROMERONora Y	Haines & Company
	RUIZJuan	Haines & Company
	WAGNER Robrt	Haines & Company
1992	Ford John A	PACIFIC BELL WHITE PAGES
	Giannetti Caraway	PACIFIC BELL WHITE PAGES
	Giannettino J	PACIFIC BELL WHITE PAGES
	Glannl Matthew L	PACIFIC BELL WHITE PAGES
	Ngo Phuoc Dinh	PACIFIC BELL WHITE PAGES
	Ngo Phuong	PACIFIC BELL WHITE PAGES
	Wagner Martin & Esther	PACIFIC BELL WHITE PAGES
	Yacobovigch Maomi	PACIFIC BELL WHITE PAGES
1989	Davis Jimmy Jr & Peggy	Pacific Bell
	Harris Julie	Pacific Bell
	Im Ik C	Pacific Bell
	Wagner Martin & Esther	Pacific Bell
1984	APARTMENTS	R. L. Polk & Co.
	51 VIELMAN ELIZ	R. L. Polk & Co.
	52 ISRAEL IRA	R. L. Polk & Co.
	53 LE PORT EDWIN	R. L. Polk & Co.
	54 YASSMAN SOUSSANI	R. L. Polk & Co.
	55 HOUEST GHOLAM	R. L. Polk & Co.
	56 WITTE HENRY	R. L. Polk & Co.
	57 TORRES JOHN	R. L. Polk & Co.
	58 JENKINS ROBT	R. L. Polk & Co.

FINDINGS

Year	***Uses***	***Source***
1984	59 HOFFBERG LOUISE T MRS	R. L. Polk & Co.
	60 BLITSTEIN ROSE	R. L. Polk & Co.
	61 MUNDRY RODNEY	R. L. Polk & Co.
	62 BAHADORI MADID	R. L. Polk & Co.
	63 EVENTOR SOYNA	R. L. Polk & Co.
	64 SMITH PANDIA	R. L. Polk & Co.
	65 GLENN ROBT	R. L. Polk & Co.
	66 WATSON JULIE	R. L. Polk & Co.
	67 WAGNER MARTIN	R. L. Polk & Co.
	68 WALLACE KEVIN N	R. L. Polk & Co.
1980	Apartments	R. L. Polk & Co.
	N Kleer Michl A	R. L. Polk & Co.
	N Muller Leo E	R. L. Polk & Co.
	N Shelkh Nasser	R. L. Polk & Co.
	Paden Wm	R. L. Polk & Co.
	N Mirahmadl Mortez	R. L. Polk & Co.
	Tappan Gladys Mrs	R. L. Polk & Co.
	N Habih Rab	R. L. Polk & Co.
	Tirado R	R. L. Polk & Co.
	Hoffferg Louise T Mrs	R. L. Polk & Co.
	Blitstein Rose	R. L. Polk & Co.
	Thomas R T	R. L. Polk & Co.
	N Norris Nancy M Mrs	R. L. Polk & Co.
	N Aikens Thos J	R. L. Polk & Co.
	N Porreca M	R. L. Polk & Co.
	Becker Kevin L	R. L. Polk & Co.
	Eldridge Peter	R. L. Polk & Co.
	Kalman Helene B Mrs	R. L. Polk & Co.
	Riahi Shant	R. L. Polk & Co.
1975	Apartments	R. L. Polk & Co.
	Kler Michael	R. L. Polk & Co.
	Kerr Geraldine M Mra	R. L. Polk & Co.
	N Rice Martin	R. L. Polk & Co.
	N Strick aind Bobt	R. L. Polk & Co.
	N Gall Sandra	R. L. Polk & Co.
	N Kagiyania Howard	R. L. Polk & Co.
	N Copper Kent M	R. L. Polk & Co.

FINDINGS

5429 UNIVERSITY AVE

Year	Uses	Source
1966	MC GRATH C W MATERIAL CO	R. L. Polk & Co.
	BLOCKS F TOP SOIL	R. L. Polk & Co.
	MC GRATH J C GARDEN SUPPLY	R. L. Polk & Co.
1961	Mc Grath C W Material Co	R. L. Polk & Co.
1952	Patterson H C	R. L. Polk & Co. of California
1948	Decker R E	San Diego Directory Co.

5430 UNIVERSITY AVE

Year	Uses	Source
2006	APARTMENTS	Haines Company, Inc.
	ABDELRAHMAN	Haines Company, Inc.
	Manal	Haines Company, Inc.
	AMAYAJorge	Haines Company, Inc.
	AMAYAJorge	Haines Company, Inc.
	BAEs Hae Sook	Haines Company, Inc.
	FLORES Come Jo	Haines Company, Inc.
	Cados GNIP Vladirir	Haines Company, Inc.
	GOMEZ Made	Haines Company, Inc.
	NGUYEN John N	Haines Company, Inc.
	RAMIREZ Isrnael	Haines Company, Inc.
	VENTURA Eduardno B	Haines Company, Inc.
	WILLIAMS Chrdaophe Or	Haines Company, Inc.
2000	APARTMENTS CONTERAS Rosa	Haines & Company
	DOHua	Haines & Company
	GIANG Ouno	Haines & Company
	GUTIERREZMayra	Haines & Company
	RODRIOUEZJose	Haines & Company
	SANCHEZJos	Haines & Company
	STOKES Michael	Haines & Company
	TRANMylien Th I	Haines & Company
1992	Nguyen Long V	PACIFIC BELL WHITE PAGES
1989	Moore Alicia & Rufus	Pacific Bell
	Posudevski Lariisa	Pacific Bell
	Burton M	Pacific Bell
	Jankowski Szczepan	Pacific Bell
1984	APARTMENTS	R. L. Polk & Co.
	69 CALRENDO JOHN	R. L. Polk & Co.
	70 RAGONESE FRANK	R. L. Polk & Co.

FINDINGS

Year	***Uses***	***Source***
1984	71 MARTIN J	R. L. Polk & Co.
	72 BRISCOE LYNN L	R. L. Polk & Co.
	73 SCOTT ROBT	R. L. Polk & Co.
	74 STEVENS POLLENE	R. L. Polk & Co.
	75 LEUFGEN CAROL A	R. L. Polk & Co.
	76 HEADEN GORTH	R. L. Polk & Co.
	77 LARSON JUDITH	R. L. Polk & Co.
	78 JOHNSON CARGE	R. L. Polk & Co.
	79 RAY PAUL F	R. L. Polk & Co.
	80 WILSON WOODROW	R. L. Polk & Co.
	81 LUNDIN ART	R. L. Polk & Co.
	82 MANNING JACQUELINE	R. L. Polk & Co.
	83 CUTKIA MARIA	R. L. Polk & Co.
	84 MITCHELL THERESA	R. L. Polk & Co.
	85 ALLEN NORMA J	R. L. Polk & Co.
	86 BAILEY GARY	R. L. Polk & Co.
1980	Apartments	R. L. Polk & Co.
	Boyer Ronald J	R. L. Polk & Co.
	Gardiner Emory	R. L. Polk & Co.
	A N Packer Robt	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	N Nasser Mahid	R. L. Polk & Co.
	Shap Louise Mrs	R. L. Polk & Co.
	N Lambeth Kenneth G	R. L. Polk & Co.
	N Medvinsky Boris	R. L. Polk & Co.
	N Boonstra H G	R. L. Polk & Co.
	N Deniels Jo Anne Mrs	R. L. Polk & Co.
	Stangi Robt F	R. L. Polk & Co.
	Snoke Lucia Mrs	R. L. Polk & Co.
	Metz Maurice	R. L. Polk & Co.
	Kalman James	R. L. Polk & Co.
	Shoen Arnold	R. L. Polk & Co.
	Parks David W	R. L. Polk & Co.
	Allen Geo L	R. L. Polk & Co.
	Silva Luiz F	R. L. Polk & Co.
1975	Apartments	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	N Haahaway Nathan	R. L. Polk & Co.

FINDINGS

Year	*Uses*	*Source*
1975	N AMartinez Frank	R. L. Polk & Co.
	N Bacigalupi Robt W	R. L. Polk & Co.
	N Moy Ralph K	R. L. Polk & Co.
	N Shap L	R. L. Polk & Co.
	N Hoffmnann E	R. L. Polk & Co.
	N Schlansky Mark	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	N Joaeph Roy	R. L. Polk & Co.
	N Le Francois Janet	R. L. Polk & Co.
1970	CREST VIEW TRAILER PARK	John M. Ducy
	RUEGG RALPH J	John M. Ducy
	WOODMANSEE RAYMOND M	John M. Ducy
1966	CREST VIEW TRAILER PARK	R. L. Polk & Co.
	RUEGG RALPH J	R. L. Polk & Co.
	WOODMANSEE RAYMOND M	R. L. Polk & Co.
1961	Crest View Trailer Park	R. L. Polk & Co.
1952	Crest View Trailer Park	R. L. Polk & Co. of California
	Comstock C W	R. L. Polk & Co. of California
	Kobusch R J	R. L. Polk & Co. of California
	Ruegg R J	R. L. Polk & Co. of California
	Sandsted Mabel Mrs	R. L. Polk & Co. of California
	Tolhurst W J	R. L. Polk & Co. of California
	Woodmansee R M	R. L. Polk & Co. of California
1948	Carlson Jack	San Diego Directory Co.
	Clare C H	San Diego Directory Co.
	Diehl W W	San Diego Directory Co.
1945	Good Herbert P r	San Diego Directory Co.
1943	AGood HP	San Diego Directory Co.

5440 UNIVERSITY AVE

Year	*Uses*	*Source*
2000	XXXX	Haines & Company

5447 UNIVERSITY AVE

Year	*Uses*	*Source*
1966	VACANT	R. L. Polk & Co.
1961	Edwards J R stge	R. L. Polk & Co.
1952	Edwards J R pntr	R. L. Polk & Co. of California

FINDINGS

5450 UNIVERSITY AVE

Year	Uses	Source
2000	BRENDASHSEELGNCE	Haines & Company
	HERNANOEZ 0 Aeyrundo	Haines & Company
	LASVEGAS	Haines & Company
	HAIR&NAILS VELAZQUEZAlma	Haines & Company
1992	Brendas House Of Elegance	PACIFIC BELL WHITE PAGES
	Chau Hoa	PACIFIC BELL WHITE PAGES
	Chau Hoa C.........................	PACIFIC BELL WHITE PAGES
	Kimmys Nails	PACIFIC BELL WHITE PAGES
1989	Chau Hoa	Pacific Bell
	Chip & Brendas Salon & Beauty	Pacific Bell
	Foxy Accounting & Tax Service	Pacific Bell
1984	APARTMENTS	R. L. Polk & Co.
	1 COLEMAN DOROTHY MRS	R. L. Polk & Co.
	2 WHITENER STEVE	R. L. Polk & Co.
	3 LEDINGHAM JEAN H MRS	R. L. Polk & Co.
	4 BELL RUTH S	R. L. Polk & Co.
	5 CARPENTER ELLEN MRS	R. L. Polk & Co.
	6 VACANT	R. L. Polk & Co.
1980	Apartments	R. L. Polk & Co.
	N Coleman Dorothy Mrs	R. L. Polk & Co.
	N Whitener Steve	R. L. Polk & Co.
	Ledingham Jean H Mrs	R. L. Polk & Co.
	Bell Ruth S	R. L. Polk & Co.
	Carpenter Ellen Mrs	R. L. Polk & Co.
	Barta Joseph C	R. L. Polk & Co.
	a House Of Curl	R. L. Polk & Co.
	b Vacant	R. L. Polk & Co.
	c Crouse Hinds electrical equip mfrs	R. L. Polk & Co.
	d Vacant	R. L. Polk & Co.
1975	Apartments	R. L. Polk & Co.
	l N Westfall Frank J	R. L. Polk & Co.
	N Tu l Maria C	R. L. Polk & Co.
	Ledinghaxn Jean H Mrs	R. L. Polk & Co.
	Bell Lyman G	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	N Jenkins Marvin	R. L. Polk & Co.
1970	A HOUSE OF CURL	John M. Ducy

FINDINGS

Year	***Uses***	***Source***
1970	C WALKER 0 N CO GENL CONTR	John M. Ducy
	F KANUHA LOUIS A	John M. Ducy
	APARTMENTS	John M. Ducy
	COLEMAN M	John M. Ducy
	SCHUPP BETTY L MRS	John M. Ducy
	SINGLETON GEORGETTE MRS	John M. Ducy
	MC GRAM DOROTHY C MRS	John M. Ducy
	BOUVIER H AUGUSTA MRS	John M. Ducy
	LEDINGHAM HELEN J MRS	John M. Ducy
	VACANT	John M. Ducy
	WESTFALL RICHD D	John M. Ducy
	KEKIS ENDRES I	John M. Ducy
	REAR VACANT	John M. Ducy
1966	APARTMENTS	R. L. Polk & Co.
	HELM LOIS MRS	R. L. Polk & Co.
	KANUHA LOUIS	R. L. Polk & Co.
	DAVIS GERRY	R. L. Polk & Co.
	NO RETURN	R. L. Polk & Co.
	BOUVIER C ARTH	R. L. Polk & Co.
	CLARK PAUL	R. L. Polk & Co.
	VACANT	R. L. Polk & Co.
	PATINO DOUGLAS X	R. L. Polk & Co.
	VACANT	R. L. Polk & Co.
	REAR VACANT	R. L. Polk & Co.
	A HOUSE OF CURL	R. L. Polk & Co.
	C PEASE C C LWYR	R. L. Polk & Co.
1961	Valley Grove Courts Westfall Frank	R. L. Polk & Co.
1952	Valley Grove Courts	R. L. Polk & Co. of California
	Westfall John	R. L. Polk & Co. of California
1948	Morris J L	San Diego Directory Co.
	Morris W H	San Diego Directory Co.
	Richard E	San Diego Directory Co.
	Robinson D H	San Diego Directory Co.
	Smith R D	San Diego Directory Co.
	Treais Richd	San Diego Directory Co.
	Westfall John	San Diego Directory Co.
	Anderson R J	San Diego Directory Co.
	Angland Timothy	San Diego Directory Co.

FINDINGS

Year	Uses	Source
1948	Clark O H	San Diego Directory Co.
	Coddington C A	San Diego Directory Co.
	Daniels R L	San Diego Directory Co.
	Devlin Felix	San Diego Directory Co.
	Ewald Felix	San Diego Directory Co.
	Inverarity F F	San Diego Directory Co.
1945	Westfall J r	San Diego Directory Co.
1943	Westfall John auto court	San Diego Directory Co.

5450A UNIVERSITY AVE

Year	Uses	Source
1984	CHIP & BRENDA S SALON OF BEAUTY	R. L. Polk & Co.

5450B UNIVERSITY AVE

Year	Uses	Source
1984	COPY KING CO COPIERS SLS SERV	R. L. Polk & Co.

5450C UNIVERSITY AVE

Year	Uses	Source
1984	CROUSE-HINDS ELECTRICAL EQUIP MFRS	R. L. Polk & Co.

5450D UNIVERSITY AVE

Year	Uses	Source
1984	VACANT	R. L. Polk & Co.

5451 UNIVERSITY AVE

Year	Uses	Source
1952	Vacant	R. L. Polk & Co. of California
1948	Mc Grath C W garden sup	San Diego Directory Co.

5454 UNIVERSITY AVE

Year	Uses	Source
1961	Cliffs Radio & TV Repr Howard Clifford H	R. L. Polk & Co.

5458 UNIVERSITY AVE

Year	Uses	Source
2006	NAILS LUNA Jose	Haines Company, Inc.
	GARCIA Martin	Haines Company, Inc.
	LASVEGASHAIR	Haines Company, Inc.
	OF ELEGANCE BURGUENO Maima	Haines Company, Inc.

FINDINGS

Year	Uses	Source
2006	BRENDAS HOUSE	Haines Company, Inc.
1992	Orazi Eileen	PACIFIC BELL WHITE PAGES
	Orazi Al	PACIFIC BELL WHITE PAGES

5460 UNIVERSITY AVE

Year	Uses	Source
1975	Fox Photo Br photog finishing	R. L. Polk & Co.
1966	VACANT	R. L. Polk & Co.

5465 UNIVERSITY AVE

Year	Uses	Source
1966	BLACK ANGUS FREEZER MEATS	R. L. Polk & Co.

5466 UNIVERSITY AVE

Year	Uses	Source
2000	XXXX	Haines & Company
1984	BREEZEWAY GROOMING & TRAINING DOG GROOMING	R. L. Polk & Co.
1980	Poodle Haven The dog grooming	R. L. Polk & Co.
1975	Poodle Haven The dog grooming	R. L. Polk & Co.
1970	f VACANT	John M. Ducy
	CONDITION SERVICE REPR	John M. Ducy
	HAMILTONS AUTO RADIATOR 6 AIR	John M. Ducy
1966	w VACANT	R. L. Polk & Co.
	EZCO FURNISHINGS FURN	R. L. Polk & Co.

5467 UNIVERSITY AVE

Year	Uses	Source
1966	DRAPERY CORNER	R. L. Polk & Co.
1961	85 Drapery Corner	R. L. Polk & Co.
1952	University Show Case & Fixture Co	R. L. Polk & Co. of California
1948	University Showcase & Fixture Co	San Diego Directory Co.

5480 UNIVERSITY AVE

Year	Uses	Source
2006	ORE Eml	Haines Company, Inc.
	U V AVENUE APTS	Haines Company, Inc.
	ABDALLANaaar N	Haines Company, Inc.
	AL!Husaedn M	Haines Company, Inc.
	ARESIS Rukla	Haines Company, Inc.

FINDINGS

Year	***Uses***	***Source***
2006	AZVEDO Chandra	Haines Company, Inc.
	BARKER Andrea	Haines Company, Inc.
	BILBO Mike	Haines Company, Inc.
	BRIDGEPORT	Haines Company, Inc.
	PROPERTIES DELAMORAJose	Haines Company, Inc.
	ELMIHahiho	Haines Company, Inc.
	FUENTES Edith	Haines Company, Inc.
	PACHECO Claudia M	Haines Company, Inc.
	ROBERTS Aima	Haines Company, Inc.
	MOHAMED Halimo	Haines Company, Inc.
	MENDOZA Mada	Haines Company, Inc.
	MENDOZA Endquela	Haines Company, Inc.
	HAMZA Abdulwahab	Haines Company, Inc.
2000	UNIV AVENUE APTS AOUINO GOialberto	Haines & Company
1992	Lewis Veronica	PACIFIC BELL WHITE PAGES
	Menivar JMaria	PACIFIC BELL WHITE PAGES
	Overton Kerriesha	PACIFIC BELL WHITE PAGES
	Schrage David R	PACIFIC BELL WHITE PAGES
	Agata Motohiko	PACIFIC BELL WHITE PAGES
	Ezelle T	PACIFIC BELL WHITE PAGES
	Ingram Marion E	PACIFIC BELL WHITE PAGES
	Ingram PA & Elizabeth A	PACIFIC BELL WHITE PAGES
	IN GRAM PAPE R CO	PACIFIC BELL WHITE PAGES
1989	Allen Michael J	Pacific Bell
	Dixon David & Toni	Pacific Bell
	Holiday International Cargo Services Inc	Pacific Bell
	Ingram Marlon E	Pacific Bell
	Jackson D	Pacific Bell
	Jordan I V	Pacific Bell
	Kabourek George	Pacific Bell
	Ladauda Boladimeji	Pacific Bell
	Lamb Melissa	Pacific Bell
	Luc Khiem	Pacific Bell
	Oladimeji Odauda G	Pacific Bell
	Schrage David R	Pacific Bell
	University Avenue Apartments	Pacific Bell

FINDINGS

5485 UNIVERSITY AVE

Year	*Uses*	*Source*
1966	WEBSTER DONALD E GENL INS	R. L. Polk & Co.
	FARMERS INSURANCE GROUP	R. L. Polk & Co.
1961	Farmers Ins Group	R. L. Polk & Co.
1952	Magoffin G A Quality Plmbr	R. L. Polk & Co. of California
1948	Magoffin G A plmbr	San Diego Directory Co.

5493 UNIVERSITY AVE

Year	*Uses*	*Source*
1966	MC KEE CABINET SHOP	R. L. Polk & Co.
	MC KEE CONSTRUCTION CO	R. L. Polk & Co.
1961	Mc Kee Cabinet Shop Mc Kee Constn Co	R. L. Polk & Co.
1952	McKee A H genl contr	R. L. Polk & Co. of California

5494 UNIVERSITY AVE

Year	*Uses*	*Source*
1984	NIK S GARAGE	R. L. Polk & Co.
1980	Niks Garage	R. L. Polk & Co.
1975	Niks Garage	R. L. Polk & Co.
1970	NIKS GARAGE	John M. Ducy
1966	NIKS GARAGE AUTO REPR	R. L. Polk & Co.
1961	Mels Service auto repr	R. L. Polk & Co.
1952	Mels Service	R. L. Polk & Co. of California

5496 UNIVERSITY AVE

Year	*Uses*	*Source*
2000	GEORGESTIRESHOP	Haines & Company
1992	Jorges Tire Shop	PACIFIC BELL WHITE PAGES
1989	Jorges Tire Shop	Pacific Bell

5498 UNIVERSITY AVE

Year	*Uses*	*Source*
2006	UNIV MARKET	Haines Company, Inc.
2000	UNIV MARKET	Haines & Company
1992	Qwik Mart	PACIFIC BELL WHITE PAGES
1989	QwikMart	Pacific Bell
1984	VACANT	R. L. Polk & Co.
	WYMANS PHOTOGRAPHY	R. L. Polk & Co.
1980	Pit Stop The self serv gas sta	R. L. Polk & Co.
	Speedway Cleaners	R. L. Polk & Co.

FINDINGS

Year	Uses	Source
1980	Pop Place the	R. L. Polk & Co.
1975	Pit Stop The self aerv gasa te	R. L. Polk & Co.

5500 UNIVERSITY AVE

Year	Uses	Source
1975	Vacant	R. L. Polk & Co.

5502 UNIVERSITY AVE

Year	Uses	Source
2006	KIM Young Woo	Haines Company, Inc.
1984	CARMAN LUTHER	R. L. Polk & Co.
1980	Arnoldson Victor	R. L. Polk & Co.
	Joplin Leroy	R. L. Polk & Co.
1975	N Thomas Charles R	R. L. Polk & Co.
1970	S FRAZIER NINA M MRS	John M. Ducy
	SEALEY JAMES	John M. Ducy
1966	K HAWKINS HERMAN H	R. L. Polk & Co.
	VACANT	R. L. Polk & Co.
1961	Smith Sterling W	R. L. Polk & Co.
	1/2 Turner Edw	R. L. Polk & Co.

5502 1/2 UNIVERSITY AVE

Year	Uses	Source
1984	YEU JIN	R. L. Polk & Co.

5504 UNIVERSITY AVE

Year	Uses	Source
2006	i VAZQUEZ Carlos	Haines Company, Inc.
2000	le DUARTEEmesto	Haines & Company
1992	Yi Dong S	PACIFIC BELL WHITE PAGES
1989	Yi Dong S	Pacific Bell
1984	KIM CHA	R. L. Polk & Co.
1980	A Turner Harris E	R. L. Polk & Co.
	N Townsend M	R. L. Polk & Co.
1975	No Return	R. L. Polk & Co.
	k Turner Harris E	R. L. Polk & Co.
1970	LAXSON GEO	John M. Ducy
	& TURNER HARRIS E	John M. Ducy
1966	NO RETURN	R. L. Polk & Co.
	B TURNER EDW	R. L. Polk & Co.

FINDINGS

Year	*Uses*	*Source*
1961	Wolinski Robt R	R. L. Polk & Co.
	1/2 Hullinger Gary H	R. L. Polk & Co.

5504 1/2 UNIVERSITY AVE

Year	*Uses*	*Source*
1984	TURNER HARRIS E	R. L. Polk & Co.

5506 UNIVERSITY AVE

Year	*Uses*	*Source*
2006	HONGS	Haines Company, Inc.
2000	XXXX	Haines & Company
1992	Jorges Bar & Grill	PACIFIC BELL WHITE PAGES
1989	Yokohama Oriental Massage	Pacific Bell
	Cloud Nine	Pacific Bell
1984	CLOUD NINE TAVERN	R. L. Polk & Co.
1980	A Marks Grace E	R. L. Polk & Co.
	a Vacant	R. L. Polk & Co.
	Cloud Nine tavern	R. L. Polk & Co.
1975	Cloud Nine tavern	R. L. Polk & Co.
1970	CLOUD NINE TAVERN	John M. Ducy
	K WILSON DECKORAY	John M. Ducy
	A VACANT	John M. Ducy
1966	K WILSON DECKORAY	R. L. Polk & Co.
	WILSON DUKE FLOOR CO CONTRS	R. L. Polk & Co.
	FRANKS CLOUD NINE TAVERN	R. L. Polk & Co.
1961	1/2 Vacant	R. L. Polk & Co.
	Wilson Duke Floor Co Wilson Deckoray	R. L. Polk & Co.
1952	Wilson Floor Co	R. L. Polk & Co. of California

5506 1/2 UNIVERSITY AVE

Year	*Uses*	*Source*
1984	MARKS GRACE E	R. L. Polk & Co.

5506A UNIVERSITY AVE

Year	*Uses*	*Source*
1984	VACANT	R. L. Polk & Co.

5508 UNIVERSITY AVE

Year	*Uses*	*Source*
2006	DUARTE Santago	Haines Company, Inc.

FINDINGS

Year	Uses	Source
2000	03 XX	Haines & Company
1984	YANG YEON	R. L. Polk & Co.
1980	Hoppwell Daisy Mrs	R. L. Polk & Co.

5515 UNIVERSITY AVE

Year	Uses	Source
1961	U F A Towing stge	R. L. Polk & Co.
1952	Vacant	R. L. Polk & Co. of California
1948	Bell Ralph gas sta	San Diego Directory Co.

5520 UNIVERSITY AVE

Year	Uses	Source
1984	M & G OFFSET LITHOGRAPHERS INC PRNTRS	R. L. Polk & Co.
1980	M & G Offset Lithographers Inc prntrs	R. L. Polk & Co.
1975	M & G Offset Lithographers Inc prutr	R. L. Polk & Co.
1970	FAST PRINT PRNTR	John M. Ducy
1966	FAST PRINT PRNTR	R. L. Polk & Co.
1961	Giffords furn	R. L. Polk & Co.

5530 UNIVERSITY AVE

Year	Uses	Source
2006	COLIN	Haines Company, Inc.
	VETERINARY	Haines Company, Inc.
	HOUSECALLS GUAJARDOJ	Haines Company, Inc.
	ALFONSO DR SPAY NEUTER	Haines Company, Inc.
	CUNIC	Haines Company, Inc.
2000	COUNA VETERINARY	Haines & Company
	HOUSECALLS EMERGENCYVET	Haines & Company
	HSPTL GUAJARDOJALFONSO	Haines & Company
	KRAFTA M DVM	Haines & Company
	LAMB LAWRENCE	Haines & Company
	SPAY NEUTER CLINIC	Haines & Company
	STACKERANNEDVM	Haines & Company
1995	Colina Veterinary Hospital	PACIFIC BELL WHITE PAGES
	No Charge To Calling Party	PACIFIC BELL WHITE PAGES
	Lamb Lawrence A DVM Colina Veterinary Hospital	PACIFIC BELL WHITE PAGES
1992	COLIN A VE TE RIN ARY HOS PITAL	PACIFIC BELL WHITE PAGES
	Colina Veterinary Housecalls	PACIFIC BELL WHITE PAGES

FINDINGS

Year	Uses	Source
1992	Emergency Veterinary Hospital	PACIFIC BELL WHITE PAGES
	Johnson Robert VMD Colina Veterinary Hospital	PACIFIC BELL WHITE PAGES
	Kraft A M DVM Collna Veterlnanry Hospital	PACIFIC BELL WHITE PAGES
	Lamb Lawrence A DVM Collna Veterinary Hosp tel	PACIFIC BELL WHITE PAGES
	Lamb Lawrence L I	PACIFIC BELL WHITE PAGES
	Lamb Lawrence L	PACIFIC BELL WHITE PAGES
	Spay Neuter Clinic	PACIFIC BELL WHITE PAGES
	p	PACIFIC BELL WHITE PAGES
	Weber Michael DVM Colina Veterinary Hospital	PACIFIC BELL WHITE PAGES
	Weber Michael G	PACIFIC BELL WHITE PAGES
1991	Colina Veterinary Hospital	PACIFIC BELL WHITE PAGES
1989	COLINA VETERINARY HOSPITAL	Pacific Bell
	Emergency Veterinary Hospital	Pacific Bell
	Kraft A M DVM	Pacific Bell
	Lewis Anne D DVM	Pacific Bell
	Nagell Robert DVM	Pacific Bell
	Neal Greg DVM	Pacific Bell
	Redpath Susan J DVM	Pacific Bell
	Spay Neuter Clinic	Pacific Bell
	Stacker Ann E DVM	Pacific Bell
	Strogoff James DVM	Pacific Bell
1984	COLINA VETERINARY HOSPITAL	R. L. Polk & Co.
	COLINA SPRAY NEUTER CLINIC PET CLINIC	R. L. Polk & Co.
1980	Colina Veterinary Hospital	R. L. Polk & Co.
	Colina Spray Neuter Clinic pet clinic	R. L. Polk & Co.
1975	Colina Veterinary Hospital	R. L. Polk & Co.
1970	COLINA VETERINARY HOSPITAL	John M. Ducy

5538 UNIVERSITY AVE

Year	Uses	Source
2006	KINGS GARDEN	Haines Company, Inc.
2000	KINGS GARDEN REST	Haines & Company
1992	Kings Garden Seafood Restaurant	PACIFIC BELL WHITE PAGES
1989	Kings Garden Seafood Restaurant	Pacific Bell
1984	REAR WONG FRANK	R. L. Polk & Co.

Year	Uses	Source
1984	M & G OFFSET LITHOGRAPHERS INC OFC	R. L. Polk & Co.
1980	Rear Wong Frank	R. L. Polk & Co.
	M & G Offset Lithographers Inc Ofc	R. L. Polk & Co.
1975	M & G Offset Lithographers Inc Nc	R. L. Polk & Co.
1970	ROSE INSURANCE AGENCY	John M. Ducy
	SCHLEHUBER EDWIN W CO GENL CONTR	John M. Ducy
	ROSE JOHN K SAN DIEGO DONS REALTY	John M. Ducy
	J & J CARPET SALES	John M. Ducy
1966	KELLY BOB BUILDING DESIGN DRFTSMN	R. L. Polk & Co.
	SCHLEHUBER EDWIN W CO GENL CONTR	R. L. Polk & Co.
	SAN DIEGO DONS REALTY	R. L. Polk & Co.
1961	Schlehuber Edwin W Inc bldg contr	R. L. Polk & Co.
	SD Dons Realty	R. L. Polk & Co.
1952	I & S Sales Inc real est	R. L. Polk & Co. of California
	Schlehuber Elwin W Inc bldg contrs	R. L. Polk & Co. of California

5550 UNIVERSITY AVE

Year	Uses	Source
2006	HOSPITAL	Haines Company, Inc.
	COMMUNITY	Haines Company, Inc.
	MEDICAL GROUP VILLA VIEW	Haines Company, Inc.
	UNIVCOMMUNITY	Haines Company, Inc.
2000	VILLAVIEWCMNTYHSP	Haines & Company
	COMMUNITY HOSPITAL VILLAVIEWCMNTYHSP	Haines & Company
	VILLA VIEW	Haines & Company
	ALERTUNIT	Haines & Company
1992	TTY Only	PACIFIC BELL WHITE PAGES
	Katz Shelby N MD	PACIFIC BELL WHITE PAGES
	Alert Unit	PACIFIC BELL WHITE PAGES
1989	Moffatt Geo MD	Pacific Bell
	Senior Focus	Pacific Bell
	Katz Shelby N MD	Pacific Bell
	Villa View Community Hospital	Pacific Bell
1984	VILLA VIEW COMMUNITY HOSPITAL	R. L. Polk & Co.
	MID-CITY SENIOR DAY HOUSE	R. L. Polk & Co.

FINDINGS

Year	Uses	Source
1980	Mid City Senior Day House med clinic	R. L. Polk & Co.
	Palmer Laboratory Medical Group Inc	R. L. Polk & Co.
	Villa View Community Hospital	R. L. Polk & Co.
1970	EMERGENCY ENT	John M. Ducy
	VILLA VIEW GENERAL HOSPITAL	John M. Ducy
1966	VILLA VIEW GENERAL HOSPITAL EMERGENCY ENT	R. L. Polk & Co.

5555 UNIVERSITY AVE

Year	Uses	Source
2000	PAYLESS	Haines & Company
	SHOESOURCE	Haines & Company
1985	PAYLESS SHOESOURCO	PACIFIC BELL WHITE PAGES
1984	PAYLESS SHOESOURCE	R. L. Polk & Co.
1980	Pay Less Self Service Shoes	R. L. Polk & Co.
1970	RALPHS TWENTY FOUR HOUR TOWING	John M. Ducy
	RALPHS GARAGE	John M. Ducy
	SECURITY AUTO STORAGE CO	John M. Ducy
1966	BATTERY EXCHANGE BATTERY REBLDRS	R. L. Polk & Co.
	SECURITY AUTO STORAGE CO 582 8231 TRASK JAMES	R. L. Polk & Co.
1961	Security Auto Storage Co Shear Walter H	R. L. Polk & Co.

5556 UNIVERSITY AVE

Year	Uses	Source
2006	QUALITY AUTO	Haines Company, Inc.
2000	QUALITY AUTO SALES	Haines & Company
1992	Team Auto Sales	PACIFIC BELL WHITE PAGES
1984	TWO GUYS AUTO SALES USED CARS	R. L. Polk & Co.
1980	Sportscar Emporium Stge used cars	R. L. Polk & Co.
1970	GOMEZ MARY M MRS	John M. Ducy
1966	GOMEZ MARY M MRS	R. L. Polk & Co.
1961	Vacant	R. L. Polk & Co.
1952	Schoenhoff Saml	R. L. Polk & Co. of California

5570 UNIVERSITY AVE

Year	Uses	Source
2006	AUTO DOC THE	Haines Company, Inc.
	GOLD CREST AUTO	Haines Company, Inc.

FINDINGS

Year	Uses	Source
2000	AUTO DOC THE	Haines & Company
1992	Auto Doc The	PACIFIC BELL WHITE PAGES
1989	Auto Doc The	Pacific Bell
	San Diego Construction	Pacific Bell
1984	TUXEDO JUNCTION CLO RENTALS	R. L. Polk & Co.
1980	Tuxedo Junction rentals	R. L. Polk & Co.
1975	Campus Tuxedos rentals	R. L. Polk & Co.
1970	MASTER CLEANERS INC PLANT	John M. Ducy
1966	VACANT	R. L. Polk & Co.
1961	Millies Place tavern	R. L. Polk & Co.

5570 1/2 UNIVERSITY AVE

Year	Uses	Source
1984	MC BRIDE ELECTRIC INC CONTR	R. L. Polk & Co.

5571 UNIVERSITY AVE

Year	Uses	Source
2000	XXXX	Haines & Company
1989	Tran Ton MD acpunctr	Pacific Bell
1980	Gap The do ret	R. L. Polk & Co.
1975	Gap The do rat	R. L. Polk & Co.

5572 UNIVERSITY AVE

Year	Uses	Source
1966	VACANT	R. L. Polk & Co.
1961	Klamert Nancy C	R. L. Polk & Co.

5574 UNIVERSITY AVE

Year	Uses	Source
1961	Vacant	R. L. Polk & Co.

5576 UNIVERSITY AVE

Year	Uses	Source
1966	MASTER CLEANERS STGE	R. L. Polk & Co.
1961	Master Clns stge only	R. L. Polk & Co.

5577 UNIVERSITY AVE

Year	Uses	Source
2006	CHURCH	Haines Company, Inc.
	APOSTOLIC	Haines Company, Inc.

FINDINGS

Year	Uses	Source
2006	NORTH PARK	Haines Company, Inc.
2000	CARE NGUYENTONYTAN MD	Haines & Company
	MID CITY URGENT	Haines & Company
	MIDCETYMSO	Haines & Company
1992	Wozniak Joanna MD family practice	PACIFIC BELL WHITE PAGES
1989	HUHN DAVIO C DDS Office	Pacific Bell
	CLASSIC DENTAL CARE	Pacific Bell
	VANHORNE PAUL DDS	Pacific Bell

5578 UNIVERSITY AVE

Year	Uses	Source
1966	VACANT	R. L. Polk & Co.

5579 UNIVERSITY AVE

Year	Uses	Source
2000	XXXX	Haines & Company
1992	University Urgent Care	PACIFIC BELL WHITE PAGES
1980	Southern California Excavating Co	R. L. Polk & Co.

5580 UNIVERSITY AVE

Year	Uses	Source
1961	Downey Manuel	R. L. Polk & Co.

5582 UNIVERSITY AVE

Year	Uses	Source
2000	XXXX	Haines & Company
1984	ESPOSITO MICHL J	R. L. Polk & Co.

5584 UNIVERSITY AVE

Year	Uses	Source
2000	XXXX	Haines & Company

5586 UNIVERSITY AVE

Year	Uses	Source
1992	Blessed Sacrament Catholic Church	PACIFIC BELL WHITE PAGES
	Blessed Assurance Baptist Church	PACIFIC BELL WHITE PAGES
1984	HUMPHREY APPLIANCE REFGR-FREEZER SLS	R. L. Polk & Co.
	JOHN S T V & APPLIANCE TELEV-RADIOS SLS & SERV	R. L. Polk & Co.
1980	Humphrey Appliance refgr freezer sis	R. L. Polk & Co.

FINDINGS

Year	Uses	Source
1980	Johns T V & Appi telev radios sis & serv	R. L. Polk & Co.
1975	Johns T V & Appi telev radios ala & serv	R. L. Polk & Co.
	Humphrey Appliance refgr freexer a	R. L. Polk & Co.
1970	MASTER CLEANERS INC	John M. Ducy
1966	MASTER CLEANERS INC	R. L. Polk & Co.
1961	Master Cleaners	R. L. Polk & Co.

5590 UNIVERSITY AVE

Year	Uses	Source
2006	Mimslaw	Haines Company, Inc.
	MACKIEWICZ	Haines Company, Inc.
1984	VACANT	R. L. Polk & Co.
1980	Vacant	R. L. Polk & Co.
1975	Shurig Clara F Mrs	R. L. Polk & Co.
1970	SHURIG CARL	John M. Ducy
1966	SHURIG CARL	R. L. Polk & Co.
1961	Shurig Carl	R. L. Polk & Co.
1952	Keller G S	R. L. Polk & Co. of California

5591 UNIVERSITY AVE

Year	Uses	Source
2000	NEWWAYUOUOR	Haines & Company
1992	New Way Ministries................	PACIFIC BELL WHITE PAGES
	New Way Professional Landscape Services	PACIFIC BELL WHITE PAGES
	New Way Liquor	PACIFIC BELL WHITE PAGES
1989	New Way Liquor	Pacific Bell
1984	UNDER CONSTN	R. L. Polk & Co.
1980	Baker Electricians contrs	R. L. Polk & Co.
1975	Baker Electricians contr	R. L. Polk & Co.
1970	MARKOV LOUIS SHEET METAL WORKS	John M. Ducy
1966	MARKOV LOUIS SHEET METAL WORKS	R. L. Polk & Co.
1961	Markov Louis Sheet Metal Wks	R. L. Polk & Co.
1952	Markov Louis Htg & Sht Mtl	R. L. Polk & Co. of California

5592 UNIVERSITY AVE

Year	Uses	Source
2000	XXXX	Haines & Company
1984	VACANT	R. L. Polk & Co.
1980	Hubrich Wm C	R. L. Polk & Co.

FINDINGS

Year	Uses	Source
1980	Vacant	R. L. Polk & Co.
1970	HUBRICH WM C	John M. Ducy
1966	HUBRICH WM C	R. L. Polk & Co.
1961	Hubrich Wm C	R. L. Polk & Co.
1952	Hubrich W C	R. L. Polk & Co. of California

5592 1/2 UNIVERSITY AVE

Year	Uses	Source
1984	VACANT	R. L. Polk & Co.

5593 UNIVERSITY AVE

Year	Uses	Source
2000	XXXX	Haines & Company

5595 UNIVERSITY AVE

Year	Uses	Source
2006	No Current Listing	Haines Company, Inc.
2000	XXXX	Haines & Company
1992	Trans Auto Sales	PACIFIC BELL WHITE PAGES
1989	Trans Auto Sales	Pacific Bell
1984	PAT S APPLIANCES SLS & REPR	R. L. Polk & Co.
	REAR VACANT	R. L. Polk & Co.
1980	College Secretarial Services	R. L. Polk & Co.
	Rear Vacant	R. L. Polk & Co.
1975	College Copy & Steno pub stan & printers	R. L. Polk & Co.
1961	Bayon Constn	R. L. Polk & Co.
1952	Edmiston J J	R. L. Polk & Co. of California

University Avenue

5401 University Avenue

Year	Uses	Source
1984	ED S SELF SERVICE SHELL GAS STA	R. L. Polk & Co.
1980	Eds Self Service Shell gas sta	R. L. Polk & Co.
1975	Macs Shell Service gas st	R. L. Polk & Co.
1970	AMERICAN OIL CO GAS STA	John M. Ducy

5498 University Avenue

Year	Uses	Source
2006	UNIV MARKET	Haines Company, Inc.

FINDINGS

Year	Uses	Source
2000	UNIV MARKET	Haines & Company
1992	Qwik Mart	PACIFIC BELL WHITE PAGES
1989	QwikMart	Pacific Bell
1984	VACANT	R. L. Polk & Co.
	WYMANS PHOTOGRAPHY	R. L. Polk & Co.
1980	Pop Place the	R. L. Polk & Co.
	Pit Stop The self serv gas sta	R. L. Polk & Co.
	Speedway Cleaners	R. L. Polk & Co.
1975	Pit Stop The self aerv gasa te	R. L. Polk & Co.

5586 University Avenue

Year	Uses	Source
1992	Blessed Assurance Baptist Church	PACIFIC BELL WHITE PAGES
	Blessed Sacrament Catholic Church	PACIFIC BELL WHITE PAGES
1984	HUMPHREY APPLIANCE REFGR-FREEZER SLS	R. L. Polk & Co.
	JOHN S T V & APPLIANCE TELEV-RADIOS SLS & SERV	R. L. Polk & Co.
1980	Humphrey Appliance refgr freezer sis	R. L. Polk & Co.
	Johns T V & Appi telev radios sis & serv	R. L. Polk & Co.
1975	Humphrey Appliance refgr freexer a	R. L. Polk & Co.
	Johns T V & Appi telev radios ala & serv	R. L. Polk & Co.
1970	MASTER CLEANERS INC	John M. Ducy
1966	MASTER CLEANERS INC	R. L. Polk & Co.
1961	Master Cleaners	R. L. Polk & Co.

5595 University Avenue

Year	Uses	Source
2006	No Current Listing	Haines Company, Inc.
2000	XXXX	Haines & Company
1992	Trans Auto Sales	PACIFIC BELL WHITE PAGES
1989	Trans Auto Sales	Pacific Bell
1984	PAT S APPLIANCES SLS & REPR	R. L. Polk & Co.
	REAR VACANT	R. L. Polk & Co.
1980	College Secretarial Services	R. L. Polk & Co.
	Rear Vacant	R. L. Polk & Co.
1975	College Copy & Steno pub stan & printers	R. L. Polk & Co.
1961	Bayon Constn	R. L. Polk & Co.
1952	Edmiston J J	R. L. Polk & Co. of California

FINDINGS

WIGHTMAN ST

1 WIGHTMAN ST

Year	***Uses***	***Source***
1980	N Atilano Jose Jr	R. L. Polk & Co.
	Kellerman Ann	R. L. Polk & Co.
1975	N Jaclkon Alan	R. L. Polk & Co.
	N Kelley Dave	R. L. Polk & Co.

10 WIGHTMAN ST

Year	***Uses***	***Source***
1980	ll N Summers M	R. L. Polk & Co.
	N Atkinson Anthony W	R. L. Polk & Co.
1975	Vacant	R. L. Polk & Co.

11 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Miller Alvin	R. L. Polk & Co.

12 WIGHTMAN ST

Year	***Uses***	***Source***
1980	Landford	R. L. Polk & Co.
1975	N Malone Judy	R. L. Polk & Co.
	Burnett James F	R. L. Polk & Co.

122 WIGHTMAN ST

Year	***Uses***	***Source***
1975	40TH ST INTERSECTS	R. L. Polk & Co.

13 WIGHTMAN ST

Year	***Uses***	***Source***
1980	Burns Edwin J	R. L. Polk & Co.
1975	N Harriaon Geo E	R. L. Polk & Co.
	Anderson Sharon	R. L. Polk & Co.

14 WIGHTMAN ST

Year	***Uses***	***Source***
1980	N Brown Ronnie	R. L. Polk & Co.
1975	Jackson Denise Mrs	R. L. Polk & Co.
	N Cazier Vasco L	R. L. Polk & Co.

FINDINGS

16 WIGHTMAN ST

Year	Uses	Source
1980	N Penney Silvan	R. L. Polk & Co.
1975	Vacant	R. L. Polk & Co.
	N Whitey Sarah J Mrs	R. L. Polk & Co.
	N Fenney Mark S	R. L. Polk & Co.

17 WIGHTMAN ST

Year	Uses	Source
1980	N Brown Kris	R. L. Polk & Co.
	t S N Johnson J	R. L. Polk & Co.
1975	N ADavenport Cheryl L	R. L. Polk & Co.

18 WIGHTMAN ST

Year	Uses	Source
1975	N Peralta Joyce	R. L. Polk & Co.

19 WIGHTMAN ST

Year	Uses	Source
1980	Jones Norman	R. L. Polk & Co.
1975	Davis Lorenzo	R. L. Polk & Co.

2 WIGHTMAN ST

Year	Uses	Source
1980	N Harrison R	R. L. Polk & Co.
	Miller Esther	R. L. Polk & Co.
1975	N Blaine Victoria P	R. L. Polk & Co.

20 WIGHTMAN ST

Year	Uses	Source
1980	N r Nakamura Ikumi	R. L. Polk & Co.
1975	N Gresenlee Pr	R. L. Polk & Co.

208 WIGHTMAN ST

Year	Uses	Source
1975	62D ST INTERSECTS	R. L. Polk & Co.

261 WIGHTMAN ST

Year	Uses	Source
1975	N Willliama Charles R	R. L. Polk & Co.

FINDINGS

3 WIGHTMAN ST

Year	Uses	Source
1980	Penn Eve E Mrs	R. L. Polk & Co.
	Bass Rochelle Y Mrs	R. L. Polk & Co.
1975	N LBonettl Frances L	R. L. Polk & Co.

4 WIGHTMAN ST

Year	Uses	Source
1980	Kellerman Kay	R. L. Polk & Co.
	N Smart C	R. L. Polk & Co.
1975	Vacant	R. L. Polk & Co.
1970	a 85 VACANT	John M. Ducy
	S 5 n ARADON BILL G	John M. Ducy

41056 WIGHTMAN ST

Year	Uses	Source
1975	Hayden Grace	R. L. Polk & Co.

41865 WIGHTMAN ST

Year	Uses	Source
1975	Thompson Richd	R. L. Polk & Co.

46 WIGHTMAN ST

Year	Uses	Source
1975	Whltfield John P	R. L. Polk & Co.

47 WIGHTMAN ST

Year	Uses	Source
1975	N Hunter Ronda L	R. L. Polk & Co.

48 WIGHTMAN ST

Year	Uses	Source
1975	N Kelly Virginia L Mrs	R. L. Polk & Co.

48185 WIGHTMAN ST

Year	Uses	Source
1975	Beckwlth J	R. L. Polk & Co.

48651 WIGHTMAN ST

Year	Uses	Source
1975	Lloyd Warren T	R. L. Polk & Co.

FINDINGS

49556 WIGHTMAN ST

Year	Uses	Source
1975	N Davidson Laurie	R. L. Polk & Co.

5 WIGHTMAN ST

Year	Uses	Source
1980	Burns Robin	R. L. Polk & Co.
	N Scobba James	R. L. Polk & Co.
1975	s Stofferhain Janelle R Mrs	R. L. Polk & Co.

52765 WIGHTMAN ST

Year	Uses	Source
1975	Vacant	R. L. Polk & Co.

5840 WIGHTMAN ST

Year	Uses	Source
2006	No Current Listing	Haines Company, Inc.

5841 WIGHTMAN ST

Year	Uses	Source
2006	No Current Listing	Haines Company, Inc.

6 WIGHTMAN ST

Year	Uses	Source
1980	No Return	R. L. Polk & Co.
	STREET CONTINUED	R. L. Polk & Co.
	Livingston Wilhelmine C	R. L. Polk & Co.
1975	N Canty Henry W Jr	R. L. Polk & Co.

6010 WIGHTMAN ST

Year	Uses	Source
1975	N Kirby Joseph	R. L. Polk & Co.

6017 WIGHTMAN ST

Year	Uses	Source
1975	N Schmld Mani	R. L. Polk & Co.

6021 WIGHTMAN ST

Year	Uses	Source
1975	N Taylor Rodney D	R. L. Polk & Co.

FINDINGS

6026 WIGHTMAN ST

Year	Uses	Source
1975	c N Kirby Pete D	R. L. Polk & Co.
	b N Dibbern Douglas D	R. L. Polk & Co.

6028 WIGHTMAN ST

Year	Uses	Source
1975	N Johannsen Van A	R. L. Polk & Co.

6034 WIGHTMAN ST

Year	Uses	Source
1975	a Vacant	R. L. Polk & Co.
	N Hiavka Shirley	R. L. Polk & Co.

6035 WIGHTMAN ST

Year	Uses	Source
1975	Buhrows Donald	R. L. Polk & Co.

6036 WIGHTMAN ST

Year	Uses	Source
1975	N Coffmnan Ed	R. L. Polk & Co.
	W N Kingabury Joy L Mrs	R. L. Polk & Co.

6040 WIGHTMAN ST

Year	Uses	Source
1975	N Call Sue	R. L. Polk & Co.

6041 WIGHTMAN ST

Year	Uses	Source
1975	N Cowan Sonja A	R. L. Polk & Co.

6042 WIGHTMAN ST

Year	Uses	Source
1975	N Allen	R. L. Polk & Co.

6048 WIGHTMAN ST

Year	Uses	Source
1975	Mini Mods	R. L. Polk & Co.

6050 WIGHTMAN ST

Year	Uses	Source
1975	Quilon Joe L	R. L. Polk & Co.

FINDINGS

6060 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Moore Norman J	R. L. Polk & Co.
	N Flowers Melody Mrs	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	N Tole Robt	R. L. Polk & Co.
	N Pears Adrianne M	R. L. Polk & Co.
	N Stone R Earl	R. L. Polk & Co.
	N Miller Ronald	R. L. Polk & Co.
	Apartments	R. L. Polk & Co.

6066 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Chappel Abel	R. L. Polk & Co.
	N Whitt Jerry	R. L. Polk & Co.
	N r Harrison Mitch J	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	Stivers Emma C	R. L. Polk & Co.
	N Kohl Vincent C	R. L. Polk & Co.
	N Anglln Lucy J Mrs	R. L. Polk & Co.
	N Baker Mich I T	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	Apartments	R. L. Polk & Co.
	N Jones Coral M	R. L. Polk & Co.
	N Herbert Gary J	R. L. Polk & Co.

6071 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Ingam Gordon G Jr	R. L. Polk & Co.
	61ST ST INTr ERSECTS	R. L. Polk & Co.

6110 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Apartments	R. L. Polk & Co.
	N Stone Elwood J	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	N Culver Emerald S Mrs	R. L. Polk & Co.

6120 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Garrett Douglas J	R. L. Polk & Co.

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Year	***Uses***	***Source***
1975	No Return	R. L. Polk & Co.
	Reid Dois M	R. L. Polk & Co.
	Vacant	R. L. Polk & Co.
	N Martinez Henry Jr	R. L. Polk & Co.
	N Griffln Harold M	R. L. Polk & Co.
	Kygar Cheryl A Mr	R. L. Polk & Co.
	Apartments	R. L. Polk & Co.
	Bowne Heather L	R. L. Polk & Co.

6140 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Vacant	R. L. Polk & Co.

6142 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Vacant	R. L. Polk & Co.

6144 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Stoakes James M	R. L. Polk & Co.

6160 WIGHTMAN ST

Year	***Uses***	***Source***
1975	No Return	R. L. Polk & Co.

6161 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Hutton Max G	R. L. Polk & Co.

6163 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Lewis Geo	R. L. Polk & Co.

6166 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Leafdale Steven L	R. L. Polk & Co.

6167 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Merta Michl N	R. L. Polk & Co.

FINDINGS

6206 WIGHTMAN ST

Year	Uses	Source
1975	N Gary Bernard	R. L. Polk & Co.
	N Waahngton Lloyd	R. L. Polk & Co.
	r Schmidt Michi	R. L. Polk & Co.
	N Lovranich Madeline	R. L. Polk & Co.
	Apartments	R. L. Polk & Co.
	l N Hayes Sharon	R. L. Polk & Co.
	N Purifoy Rex	R. L. Polk & Co.
	N Pearce Andrew J	R. L. Polk & Co.
	N a Lon Beatrice Mrs	R. L. Polk & Co.
	N Thrush R	R. L. Polk & Co.
	N Cannon Naomi Mrs	R. L. Polk & Co.

6215 WIGHTMAN ST

Year	Uses	Source
1975	Heine John	R. L. Polk & Co.

6218 WIGHTMAN ST

Year	Uses	Source
1975	Burden Willard D	R. L. Polk & Co.

6223 WIGHTMAN ST

Year	Uses	Source
1975	Hardin Granville	R. L. Polk & Co.

6228 WIGHTMAN ST

Year	Uses	Source
1975	No Return	R. L. Polk & Co.

6229 WIGHTMAN ST

Year	Uses	Source
1975	N Miller Arth G	R. L. Polk & Co.

6233 WIGHTMAN ST

Year	Uses	Source
1975	No Return	R. L. Polk & Co.

6234 WIGHTMAN ST

Year	Uses	Source
1975	Aymar Alf P	R. L. Polk & Co.

FINDINGS

6243 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Beninger Thos M	R. L. Polk & Co.

6244 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Hoffman Gary	R. L. Polk & Co.

6248 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Adams Eug J	R. L. Polk & Co.

6259 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Roblnaon Steven E	R. L. Polk & Co.

6260 WIGHTMAN ST

Year	***Uses***	***Source***
1975	No Return	R. L. Polk & Co.

6261 WIGHTMAN ST

Year	***Uses***	***Source***
1975	No Return	R. L. Polk & Co.

6262 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Drake Roy F	R. L. Polk & Co.

6263 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Wang Yih Ch Ih	R. L. Polk & Co.

6266 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Powell Donald D	R. L. Polk & Co.
	Ramos Ralph	R. L. Polk & Co.
	S 272 N Soltls	R. L. Polk & Co.

6267 WIGHTMAN ST

Year	***Uses***	***Source***
1975	Switser Meta A Mr	R. L. Polk & Co.

FINDINGS

6273 WIGHTMAN ST

Year	Uses	Source
1975	N Zapien Roaa	R. L. Polk & Co.
	Dawuon David L	R. L. Polk & Co.

6274 WIGHTMAN ST

Year	Uses	Source
1975	Vacant	R. L. Polk & Co.

6276 WIGHTMAN ST

Year	Uses	Source
1975	N Carlaon Daryl D	R. L. Polk & Co.

6277 WIGHTMAN ST

Year	Uses	Source
1975	N Moore Edw R	R. L. Polk & Co.
	N Surritt Richd E	R. L. Polk & Co.

6278 WIGHTMAN ST

Year	Uses	Source
1975	N Lubcke Martin L	R. L. Polk & Co.

6279 WIGHTMAN ST

Year	Uses	Source
1975	Vacant	R. L. Polk & Co.
	N Conway Gleo J	R. L. Polk & Co.

6284 WIGHTMAN ST

Year	Uses	Source
1975	N Di Maggio Dominic	R. L. Polk & Co.

6286 WIGHTMAN ST

Year	Uses	Source
1975	Heredia Domingo M	R. L. Polk & Co.

6294 WIGHTMAN ST

Year	Uses	Source
1975	N Franc Louise A	R. L. Polk & Co.

6316 WIGHTMAN ST

Year	Uses	Source
1980	Jenkins Joe	R. L. Polk & Co.

Year	Uses	Source
1975	N Gerstmayr Paul	R. L. Polk & Co.

6326 WIGHTMAN ST

Year	Uses	Source
1975	Kline Edw J	R. L. Polk & Co.

6327 WIGHTMAN ST

Year	Uses	Source
1975	N Hutchison Rebecc	R. L. Polk & Co.

6328 WIGHTMAN ST

Year	Uses	Source
1975	N Bengel David W	R. L. Polk & Co.

6332 WIGHTMAN ST

Year	Uses	Source
1975	N Mc George Y Jayne Mrs	R. L. Polk & Co.

6360 WIGHTMAN ST

Year	Uses	Source
1975	N Fulk Edw P	R. L. Polk & Co.
	N Chriatian Beth B Mrs	R. L. Polk & Co.

6365 WIGHTMAN ST

Year	Uses	Source
1980	Berkos Geo E	R. L. Polk & Co.
1975	Berkos Geo E	R. L. Polk & Co.

6366 WIGHTMAN ST

Year	Uses	Source
1975	Mueller Wayne A	R. L. Polk & Co.

6368 WIGHTMAN ST

Year	Uses	Source
1975	N Pruitt John P	R. L. Polk & Co.

6372 WIGHTMAN ST

Year	Uses	Source
1975	Vacant	R. L. Polk & Co.

FINDINGS

6376 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Hadel Judy	R. L. Polk & Co.

6378 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Schierbaum Gary E	R. L. Polk & Co.

6530 WIGHTMAN ST

Year	***Uses***	***Source***
1975	N Roinson Joseph L	R. L. Polk & Co.

7 WIGHTMAN ST

Year	***Uses***	***Source***
1980	Jones Charlotte Y	R. L. Polk & Co.
1975	Duke Billy	R. L. Polk & Co.

8 WIGHTMAN ST

Year	***Uses***	***Source***
1980	Combs Fred D	R. L. Polk & Co.
1975	N r Orr Sandra M	R. L. Polk & Co.

9 WIGHTMAN ST

Year	***Uses***	***Source***
1980	N Luna Maria	R. L. Polk & Co.
1975	Miller Clarence	R. L. Polk & Co.

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
Chollas Parkway and University Avenue	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
1 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
10 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
11 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
12 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
122 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
13 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
14 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
16 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
17 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
18 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
19 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	Address Not Identified in Research Source
2 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
20 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
208 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
261 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3687 54TH	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3687 54TH ST	2000, 1995, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1956, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3687 N 54TH ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3691 54TH	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3691 54TH ST	2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1956, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3691 N 54TH ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3701 54TH	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3701 54TH ST	2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3701 N 54TH ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3771 54TH ST	2000, 1995, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3771 N 54TH ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
3893 54th Street	2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	Address Not Identified in Research Source
4 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
41056 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
41865 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
46 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
47 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
48 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
48185 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
48651 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
49556 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
52765 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5401 University Avenue	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1976, 1971, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5410 LEA	2006, 2000, 1995, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5410 LEA ST	1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5420 LEA ST	1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5422 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5423 UNIVERSITY AVE	2006, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1950, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5424 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	Address Not Identified in Research Source
5426 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5428 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5429 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1965, 1962, 1960, 1956, 1955, 1950, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5430 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1950, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5440 UNIVERSITY AVE	2006, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5447 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5450 LEA	2006, 2000, 1995, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5450 LEA ST	1995, 1992, 1991, 1985, 1984, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5450 UNIVERSITY AVE	2006, 1995, 1991, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1950, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5450A UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5450B UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5450C UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5450D UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5451 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1950, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5454 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5455 LEA ST	2006, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5458 LEA	2006, 2000, 1995, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5458 LEA ST	1995, 1992, 1991, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	Address Not Identified in Research Source
5458 UNIVERSITY AVE	2000, 1995, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5460 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5462 LEA	2006, 2000, 1995, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5462 LEA ST	2006, 1995, 1992, 1991, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5464 LEA ST	2006, 1995, 1992, 1991, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5465 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5466 LEA	2006, 2000, 1995, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5466 LEA ST	1995, 1992, 1991, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5466 UNIVERSITY AVE	2006, 1995, 1992, 1991, 1989, 1985, 1976, 1971, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5467 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1965, 1962, 1960, 1956, 1955, 1950, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5480 UNIVERSITY AVE	1995, 1991, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5485 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1965, 1962, 1960, 1956, 1955, 1950, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5493 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5494 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5496 UNIVERSITY AVE	2006, 1995, 1991, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5498 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5498 University Avenue	1995, 1991, 1985, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5500 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	Address Not Identified in Research Source
5502 1/2 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5502 UNIVERSITY AVE	2000, 1995, 1992, 1991, 1989, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5504 1/2 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5504 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5506 1/2 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5506 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5506A UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5508 UNIVERSITY AVE	1995, 1992, 1991, 1989, 1985, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5515 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1960, 1956, 1955, 1950, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5520 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5530 UNIVERSITY AVE	1985, 1976, 1971, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5538 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5550 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1975, 1971, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5555 UNIVERSITY AVE	2006, 1995, 1992, 1991, 1989, 1976, 1975, 1971, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5556 UNIVERSITY AVE	1995, 1991, 1989, 1985, 1976, 1975, 1971, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5570 1/2 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5570 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5571 UNIVERSITY AVE	2006, 1995, 1992, 1991, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5572 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5574 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	**Address Not Identified in Research Source**
5576 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5577 UNIVERSITY AVE	1995, 1991, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5578 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5579 UNIVERSITY AVE	2006, 1995, 1991, 1989, 1985, 1984, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5580 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5582 UNIVERSITY AVE	2006, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5584 UNIVERSITY AVE	2006, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5586 UNIVERSITY AVE	2006, 2000, 1995, 1991, 1989, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5586 University Avenue	2006, 2000, 1995, 1991, 1989, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5590 UNIVERSITY AVE	2000, 1995, 1992, 1991, 1989, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5591 UNIVERSITY AVE	2006, 1995, 1991, 1985, 1976, 1971, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5592 1/2 UNIVERSITY AVE	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5592 UNIVERSITY AVE	2006, 1995, 1992, 1991, 1989, 1985, 1976, 1975, 1971, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5593 UNIVERSITY AVE	2006, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5595 UNIVERSITY AVE	1995, 1991, 1985, 1976, 1971, 1970, 1966, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5595 University Avenue	1995, 1991, 1985, 1976, 1971, 1970, 1966, 1965, 1962, 1960, 1956, 1955, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5840 WIGHTMAN ST	2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
5841 WIGHTMAN ST	2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1975, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	**Address Not Identified in Research Source**
6010 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6017 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6021 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6026 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6028 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6034 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6035 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6036 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6040 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6041 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6042 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6048 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6050 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6060 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6066 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6071 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6110 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	Address Not Identified in Research Source
6120 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6140 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6142 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6144 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6160 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6161 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6163 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6166 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6167 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6206 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6215 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6218 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6223 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6228 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6229 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6233 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6234 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	**Address Not Identified in Research Source**
6243 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6244 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6248 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6259 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6260 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6261 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6262 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6263 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6266 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6267 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6273 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6274 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6276 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6277 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6278 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6279 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6284 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

FINDINGS

Address Researched	Address Not Identified in Research Source
6286 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6294 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6316 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6326 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6327 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6328 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6332 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6360 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6365 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6366 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6368 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6372 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6376 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6378 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
6530 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1980, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
7 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903
8 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

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Address Researched	Address Not Identified in Research Source
9 WIGHTMAN ST	2006, 2000, 1995, 1992, 1991, 1989, 1985, 1984, 1976, 1971, 1970, 1966, 1965, 1962, 1961, 1960, 1956, 1955, 1952, 1950, 1948, 1945, 1943, 1940, 1938, 1933, 1927, 1921, 1907, 1903

APPENDIX B

ENVIRONMENTAL DATABASE SEARCH REPORT

Chollas Triangle
Chollas Parkway and University Avenue
San Diego, CA 92105

Inquiry Number: 3121078.2s
July 12, 2011

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

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GEOCHECK ADDENDUM

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

CHOLLAS PARKWAY AND UNIVERSITY AVENUE
SAN DIEGO, CA 92105

COORDINATES

Latitude (North):	32.746900 - 32˚ 44' 48.8''
Longitude (West):	117.077800 - 117˚ 4' 40.1''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	492711.4
UTM Y (Meters):	3623041.2
Elevation:	294 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	32117-F1 NATIONAL CITY, CA
Most Recent Revision:	1975
North Map:	32117-G1 LA MESA, CA
Most Recent Revision:	1994

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2005
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL - National Priority List

EXECUTIVE SUMMARY

Proposed NPL	Proposed National Priority List Sites
NPL LIENS	Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL	National Priority List Deletions

Federal CERCLIS list

CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY	Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP	CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS	Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF	RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG	RCRA - Large Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls

Federal ERNS list

ERNS	Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE	State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF	Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST	Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

INDIAN UST	Underground Storage Tanks on Indian Land
FEMA UST	Underground Storage Tank Listing

State and tribal voluntary cleanup sites

VCP	Voluntary Cleanup Program Properties

INDIAN VCP	Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS	A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
WMUDS/SWAT	Waste Management Unit Database
HAULERS	Registered Waste Tire Haulers Listing
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL	Clandestine Drug Labs
HIST Cal-Sites	Historical Calsites Database
Toxic Pits	Toxic Pits Cleanup Act Sites
CDL	Clandestine Drug Labs
San Diego Co. HMMD	Hazardous Materials Management Division Database
US HIST CDL	National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST	Facility Inventory Database

Local Land Records

LIENS 2	CERCLA Lien Information
LUCIS	Land Use Control Information System
LIENS	Environmental Liens Listing
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing

Other Ascertainable Records

RCRA-NonGen	RCRA - Non Generators
DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System

TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
CA BOND EXP. PLAN	Bond Expenditure Plan
WDS	Waste Discharge System
NPDES	NPDES Permits Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
FINANCIAL ASSURANCE	Financial Assurance Information Listing
PCB TRANSFORMER	PCB Transformer Registration Database
PROC	Certified Processors Database
MWMP	Medical Waste Management Program Listing
COAL ASH DOE	Sleam-Electric Plan Operation Data

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/11/2011 has revealed that there are 4 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SHELL SERVICE STATION	***5401 UNIVERSITY / 54TH***	***0 - 1/8 (0.000 mi.)***	***A18***	***31***
DONNYS TRANSMISSION	***5295 UNIVERSITY AVE***	***W 0 - 1/8 (0.125 mi.)***	***D24***	***36***
HONGS RADIATOR	***5255 UNIVERSITY AVE***	***W 1/8 - 1/4 (0.172 mi.)***	***25***	***38***
SAN DIEGO COUNTY PUBLIC HEALTH	***5202 UNIVERSITY AVENUE***	***W 1/8 - 1/4 (0.232 mi.)***	***27***	***39***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 05/10/2011 has revealed that there are 5 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
52ND STREET PREFERRED SITE Status: No Further Action	***52ND/REX***	***W 1/8 - 1/4 (0.238 mi.)***	***28***	***42***
CRAWFORD HIGH SCHOOL ADDITION Status: Inactive - Needs Evaluation	***4191 COLTS WAY***	***N 1/4 - 1/2 (0.267 mi.)***	***F34***	***58***
52ND STREET ELEMENTARY SCHOOL Status: Inactive - Needs Evaluation	***52ND STREET/POLK AVENUE***	***WNW 1/4 - 1/2 (0.281 mi.)***	***36***	***66***
WINONA AREA ELEMENTARY SCHOOL Status: Inactive - Needs Evaluation	***49TH STREET/POLK STREET***	***WNW 1/2 - 1 (0.576 mi.)***	***46***	***86***
ELECTRICAL TRANSFORMER STORAGE Status: Refer: Other Agency	4759 DWIGHT STREET	W 1/2 - 1 (0.722 mi.)	49	89

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 06/20/2011 has revealed that there are 11 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
M. BRAMMER INC, SHELL STATION	***5401 UNIVERSITY AV***	***0 - 1/8 (0.000 mi.)***	***A5***	***9***
Status: Completed - Case Closed				
2-B RENTALS	***5586 UNIVERSITY***	***0 - 1/8 (0.000 mi.)***	***C12***	***22***
Status: Open - Site Assessment				
2-B RENTALS	***5586 UNIVERSITY AVE***	***0 - 1/8 (0.000 mi.)***	***C15***	***28***
CLASSIC CAR WASH	***5985 UNIVERSITY***	***ENE 1/8 - 1/4 (0.244 mi.)***	***E30***	***45***
Status: Completed - Case Closed				
Status: Completed - Case Closed				
CLASSIC CAR WASH	5985-2 UNIVERSITY AVE	ENE 1/8 - 1/4 (0.244 mi.)	E31	54
CLASSIC CAR WASH	***5985 UNIVERSITY AVE***	***ENE 1/8 - 1/4 (0.244 mi.)***	***E32***	***54***
CRAWFORD HIGH SCHOOL	***4191 COLTS***	***N 1/4 - 1/2 (0.267 mi.)***	***F33***	***56***
SDUSD CRAWFORD HIGH SCHOOL	***4191 COLTS WY***	***N 1/4 - 1/2 (0.267 mi.)***	***F35***	***61***
Status: Completed - Case Closed				
WESTBURNE PIPE & SUPPLY	***5150 UNIVERSITY AV***	***W 1/4 - 1/2 (0.302 mi.)***	***G37***	***69***
Status: Completed - Case Closed				
Status: Completed - Case Closed				
SAN DIEGO PIPE AND SUPPLY	***51501 UNIVERSITY***	***W 1/4 - 1/2 (0.302 mi.)***	***G39***	***74***
NU’S AUTO REPAIR & BODY	***3095 54TH ST***	***S 1/4 - 1/2 (0.460 mi.)***	***H41***	***75***
Status: Completed - Case Closed				

SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the SLIC list, as provided by EDR, and dated 06/20/2011 has revealed that there is 1 SLIC site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
M. BRAMMER INC, SHELL STATION	***5401 UNIVERSITY AV***	***0 - 1/8 (0.000 mi.)***	***A5***	***9***
Facility Status: Completed - Case Closed				

SAN DIEGO CO. SAM: The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

A review of the SAN DIEGO CO. SAM list, as provided by EDR, and dated 03/23/2010 has revealed that there are 6 SAN DIEGO CO. SAM sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
M. BRAMMER INC, SHELL STATION	5401 UNIVERSITY AV	0 - 1/8 (0.000 mi.)	A4	9
2-B RENTALS	***5586 UNIVERSITY***	***0 - 1/8 (0.000 mi.)***	***C12***	***22***
CLASSIC CAR WASH	***5985 UNIVERSITY***	***ENE 1/8 - 1/4 (0.244 mi.)***	***E30***	***45***

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SDUSD CRAWFORD HIGH SCHOOL	*4191 COLTS WY*	*N 1/4 - 1/2 (0.267 mi.)*	*F35*	*61*
WESTBURNE PIPE & SUPPLY	*5150 UNIVERSITY AV*	*W 1/4 - 1/2 (0.302 mi.)*	*G37*	*69*
NU'S AUTO REPAIR & BODY	*3095 54TH ST*	*S 1/4 - 1/2 (0.460 mi.)*	*H41*	*75*

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 06/20/2011 has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
M. BRAMMER INC, SHELL STATION	5401 UNIVERSITY AVE	0 - 1/8 (0.000 mi.)	A16	30

AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the AST list, as provided by EDR, and dated 08/01/2009 has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CLASSIC CAR WASH	*5985 UNIVERSITY*	*ENE 1/8 - 1/4 (0.244 mi.)*	*E30*	*45*

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 02/24/2011 has revealed that there are 3 SWRCY sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
54TH RECYCLING INC	5496 UNIVERSITY AVE	0 - 1/8 (0.000 mi.)	B8	21
JAMIE PRINCE RECYCLING	5303 UNIVERSITY AVE	W 0 - 1/8 (0.114 mi.)	D21	35
OAK PARK RECYCLE	3117 54TH ST	S 1/4 - 1/2 (0.432 mi.)	H40	75

EXECUTIVE SUMMARY

Local Lists of Hazardous waste / Contaminated Sites

SCH: This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category. depending on the level of threat to public health and safety or the. environment they pose.

A review of the SCH list, as provided by EDR, and dated 05/10/2011 has revealed that there is 1 SCH site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
52ND STREET PREFERRED SITE	***52ND/REX***	***W 1/8 - 1/4 (0.238 mi.)***	***28***	***42***

Local Lists of Registered Storage Tanks

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 2 HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
KMART ENTERPRISES	5404 UNIVERSITY AVE	0 - 1/8 (0.000 mi.)	A1	8
ED'S SHELL	***5401 UNIVERSITY AVE***	***0 - 1/8 (0.000 mi.)***	***A6***	***19***

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 3 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ED'S SHELL	***5401 UNIVERSITY AVE***	***0 - 1/8 (0.000 mi.)***	***A6***	***19***
2-B RENTALS	***5586 UNIVERSITY AVE***	***0 - 1/8 (0.000 mi.)***	***C15***	***28***
CLASSIC CAR WASH	***5985 UNIVERSITY AVE***	***ENE 1/8 - 1/4 (0.244 mi.)***	***E32***	***54***

Other Ascertainable Records

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES].

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 6 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
2-B RENTALS	***5586 UNIVERSITY***	***0 - 1/8 (0.000 mi.)***	***C12***	***22***
CLASSIC CAR WASH	59852 UNIVERSITY	ENE 1/8 - 1/4 (0.244 mi.)	E29	45
CLASSIC CAR WASH	***5985 UNIVERSITY***	***ENE 1/8 - 1/4 (0.244 mi.)***	***E30***	***45***
CRAWFORD HIGH SCHOOL	***4191 COLTS***	***N 1/4 - 1/2 (0.267 mi.)***	***F33***	***56***

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SAN DIEGO PIPE AND SUPPLY	***51501 UNIVERSITY***	***W 1/4 - 1/2 (0.302 mi.)***	***G39***	***74***
NU'S AUTO REPAIR & BODY	***3095 54TH ST***	***S 1/4 - 1/2 (0.460 mi.)***	***H41***	***75***

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 10/21/1993 has revealed that there are 16 Notify 65 sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	5553 UNIVERSITY AVE	0 - 1/8 (0.000 mi.)	C10	22
SAN DIEGO PIPE & SUPPLY	5150 UNIVERSITY AVENUE	W 1/4 - 1/2 (0.302 mi.)	G38	73
Not reported	56TH ST & MEADE AVE	N 1/2 - 1 (0.529 mi.)	43	84
Not reported	***3802 49TH ST***	***W 1/2 - 1 (0.529 mi.)***	***44***	***84***
4500 BLK COLLWOOD BLVD.		N 1/2 - 1 (0.545 mi.)	45	86
PRIVATE CITIZEN/RESIDENT	4272 COLLEGE AVE	NE 1/2 - 1 (0.638 mi.)	47	89
Not reported	4340 WINONA	NW 1/2 - 1 (0.662 mi.)	48	89
Not reported	4613 CONTOUR BLVD.	NNW 1/2 - 1 (0.831 mi.)	51	90
4717 UNIVERSITY AVE	IN ALLEY EAST	W 1/2 - 1 (0.838 mi.)	52	91
47TH AND POLK		W 1/2 - 1 (0.874 mi.)	53	91
HARTSON, ROBERT L.	4318 47TH STREET	WNW 1/2 - 1 (0.921 mi.)	54	91
MADISON AVE & ALTADENA AVE	IN ALLEY	NNW 1/2 - 1 (0.925 mi.)	55	92
Not reported	4569 DWIGHT ST	W 1/2 - 1 (0.965 mi.)	56	92
Not reported	5345 COLLIER AVENUE	N 1/2 - 1 (0.970 mi.)	57	92

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	3751 WINONA	W 1/4 - 1/2 (0.492 mi.)	42	84
Not reported	3000 WINONA AVE	SW 1/2 - 1 (0.776 mi.)	50	90

EDR PROPRIETARY RECORDS

EDR Proprietary Records

EDR Historical Auto Stations: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

A review of the EDR Historical Auto Stations list, as provided by EDR, has revealed that there are 9 EDR Historical Auto Stations sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
UNIVERSITY FRAME & AXLE	5404 UNIVERSITY AV	0 - 1/8 (0.000 mi.)	A2	8
NIK S GARAGE	5494 UNIVERSITY AVE	0 - 1/8 (0.000 mi.)	B3	8
ED S SELF SERVICE SHELL	5401 UNIVERSITY AVE	0 - 1/8 (0.000 mi.)	A7	21
RALPH S GARAGE	5555 UNIVERSITY AV	0 - 1/8 (0.000 mi.)	C11	22

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PIT STOP THE	5498 UNIVERSITY AVE	0 - 1/8 (0.000 mi.)	B14	28
UNIVERSITY FRAME & AXLE	5405 UNIVERSITY PL	0 - 1/8 (0.000 mi.)	A17	31
JOHNSON S TEXACO SERVICE	5296 UNIVERSITY PL	W 0 - 1/8 (0.119 mi.)	D22	36
GEORGE S GARAGE	5296 UNIVERSITY AVE	W 0 - 1/8 (0.123 mi.)	D23	36
OWEN & SON TEXACO SERVICE	5909 UNIVERSITY AVE	ENE 1/8 - 1/4 (0.190 mi.)	E26	39

EDR Historical Cleaners: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR’s review was limited to those categories of sources that might, in EDR’s opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

A review of the EDR Historical Cleaners list, as provided by EDR, has revealed that there are 4 EDR Historical Cleaners sites within approximately 0.25 miles of the target property.

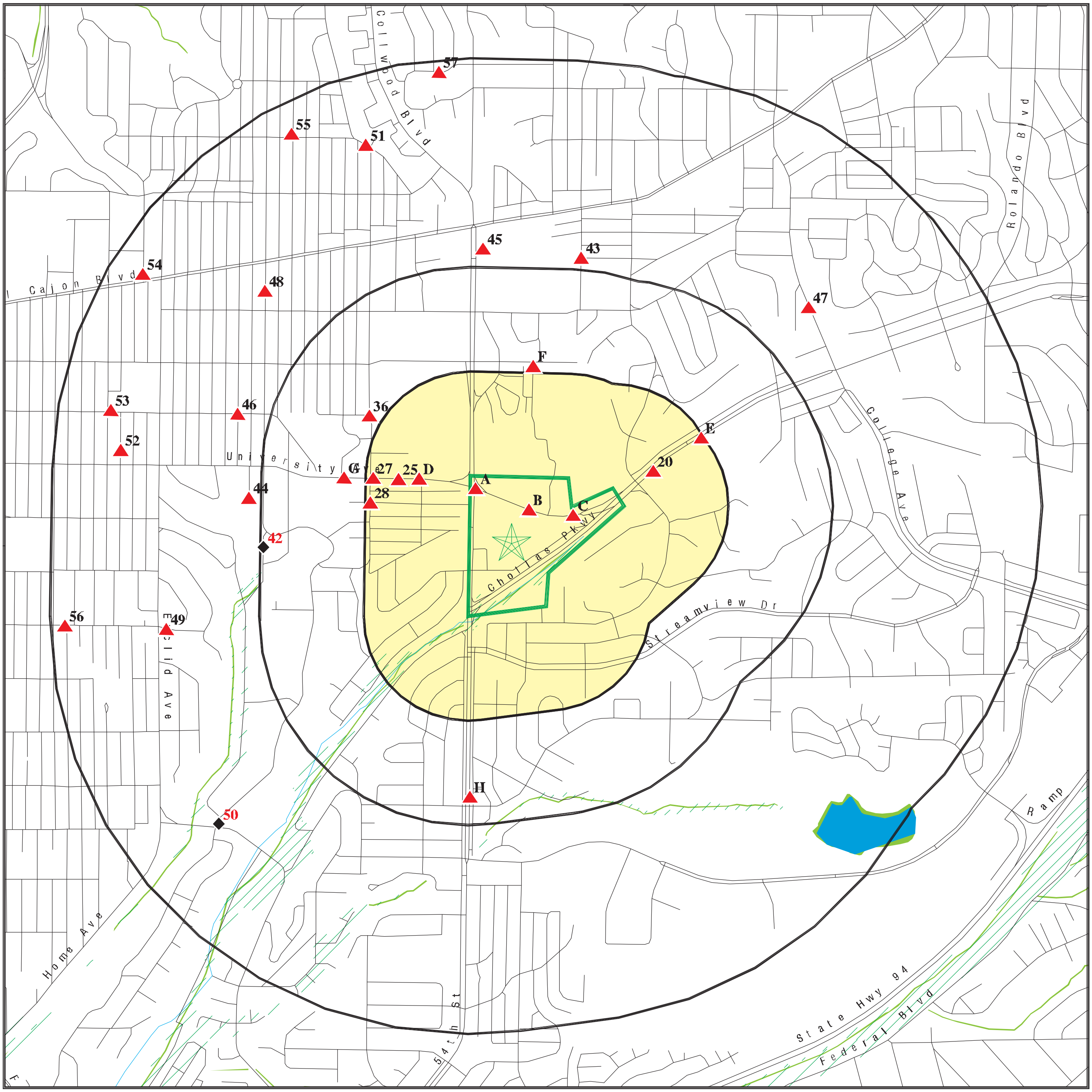
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MASTER CLEANERS INC	5586 UNIVERSITY AV	0 - 1/8 (0.000 mi.)	C9	22
SPEEDWAY CLEANERS	5498 UNIVERSITY AVE	0 - 1/8 (0.000 mi.)	B13	27
ECON O-WASH LAUNDRY	5368 UNIVERSITY AV	W 0 - 1/8 (0.071 mi.)	D19	34
MAYTAG LAUNDRY	5837 UNIVERSITY AVE	ENE 0 - 1/8 (0.104 mi.)	20	35

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 10 records.

Site Name	Database(s)
SAN DIEGO PIPE AND SUPPLY	HIST CORTESE
SOUTH CHOLLAS LANDFILL SLOPE MODIF	NPDES
COMMERCIAL BASIN	WMUDS/SWAT, CHMIRS
NAVAL AIR STATION NORTH IS	WMUDS/SWAT, CHMIRS
OTAY LIMITED VOLUME TRANNSFER OPER	SWF/LF
OLD MCRD REFUSE DISPOSAL AREA	SWF/LF
BELL JR HIGH SLF/SWEETWATER II	SWF/LF
BRIDGE GOES OVER HARBOR DRIVE / CH	ERNS
NORTH CHOLLAS BURN SITE	FINDS
38TH & REDWOOD BURN SITE #8	SAN DIEGO CO. SAM

OVERVIEW MAP - 3121078.2s



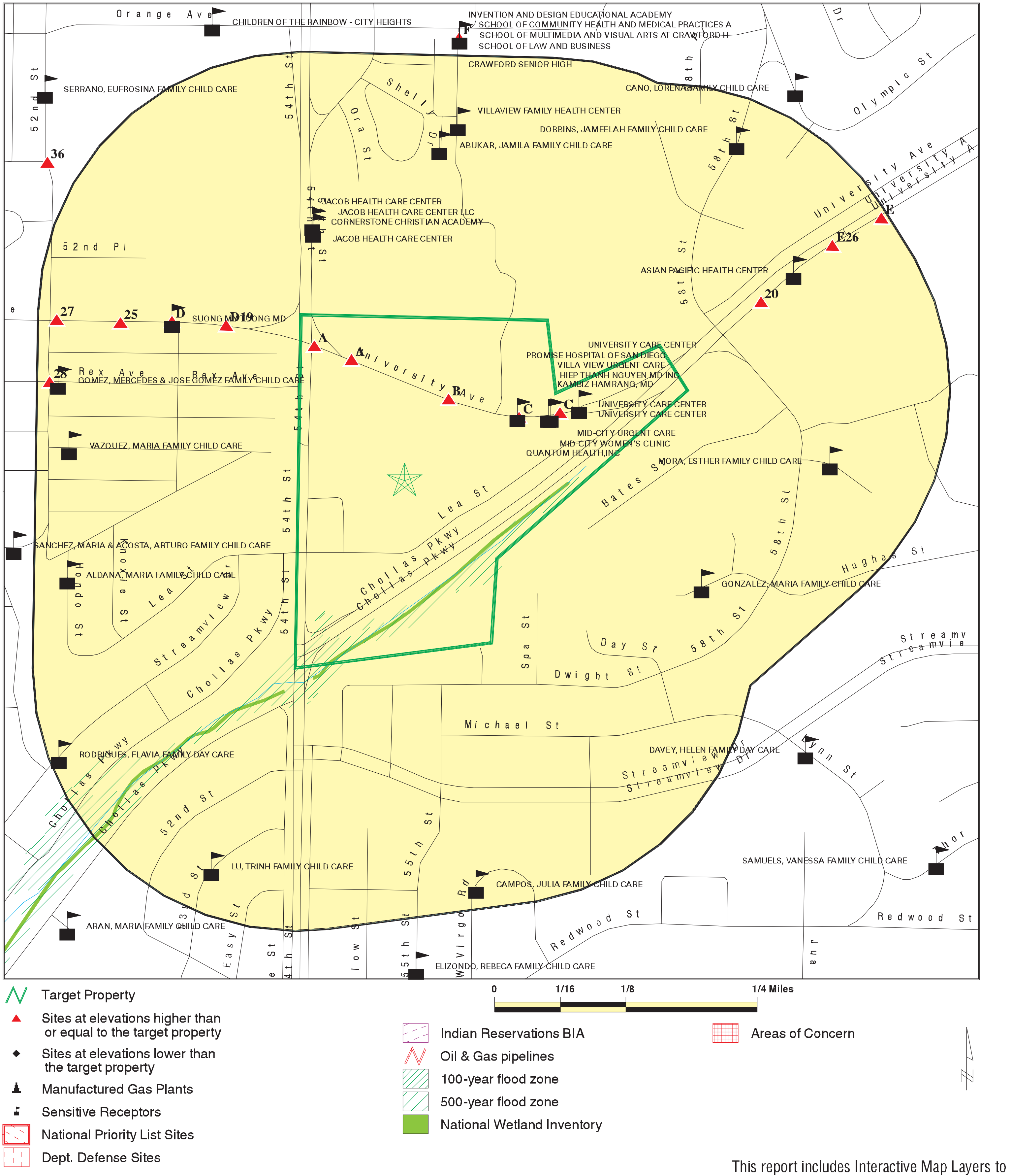
0 1/4 1/2 1 Miles

- Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- 🟩 National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Chollas Triangle	CLIENT:	Ninyo & Moore
ADDRESS:	Chollas Parkway and University Avenue San Diego CA 92105	CONTACT:	Caren Carlson
		INQUIRY #:	3121078.2s
LAT/LONG:	32.7469 / 117.0778	DATE:	July 12, 2011 2:03 pm

DETAIL MAP - 3121078.2s



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Chollas Triangle	CLIENT:	Ninyo & Moore
ADDRESS:	Chollas Parkway and University Avenue San Diego CA 92105	CONTACT:	Caren Carlson
		INQUIRY #:	3121078.2s
LAT/LONG:	32.7469 / 117.0778	DATE:	July 12, 2011 2:04 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL		1.000	0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS		0.500	0	0	0	NR	NR	0
FEDERAL FACILITY		1.000	0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP		0.500	0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS		1.000	0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF		0.500	0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	2	2	NR	NR	NR	4
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
Federal ERNS list								
ERNS		TP	NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE		1.000	0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR		1.000	0	1	2	2	NR	5
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF		0.500	0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST		0.500	3	3	5	NR	NR	11
SLIC		0.500	1	0	0	NR	NR	1

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SAN DIEGO CO. SAM		0.500	2	1	3	NR	NR	6
INDIAN LUST		0.500	0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST		0.250	1	0	NR	NR	NR	1
AST		0.250	0	1	NR	NR	NR	1
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEMA UST		0.250	0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP		0.500	0	0	0	NR	NR	0
INDIAN VCP		0.500	0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
SWRCY		0.500	2	0	1	NR	NR	3
HAULERS		TP	NR	NR	NR	NR	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL		TP	NR	NR	NR	NR	NR	0
HIST Cal-Sites		1.000	0	0	0	0	NR	0
SCH		0.250	0	1	NR	NR	NR	1
Toxic Pits		1.000	0	0	0	0	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
San Diego Co. HMMD		TP	NR	NR	NR	NR	NR	0
US HIST CDL		TP	NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST		0.250	0	0	NR	NR	NR	0
HIST UST		0.250	2	0	NR	NR	NR	2
SWEEPS UST		0.250	2	1	NR	NR	NR	3
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
LIENS		TP	NR	NR	NR	NR	NR	0
DEED		0.500	0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS		TP	NR	NR	NR	NR	NR	0
LDS		TP	NR	NR	NR	NR	NR	0
MCS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		0.250	0	0	NR	NR	NR	0
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN		1.000	0	0	0	0	NR	0
WDS		TP	NR	NR	NR	NR	NR	0
NPDES		TP	NR	NR	NR	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
HIST CORTESE		0.500	1	2	3	NR	NR	6
Notify 65		1.000	1	0	2	13	NR	16
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
HAZNET		TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
HWP		1.000	0	0	0	0	NR	0
HWT		0.250	0	0	NR	NR	NR	0
COAL ASH EPA		0.500	0	0	0	NR	NR	0
FINANCIAL ASSURANCE		TP	NR	NR	NR	NR	NR	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0
PROC		0.500	0	0	0	NR	NR	0
MWMP		0.250	0	0	NR	NR	NR	0
COAL ASH DOE		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
EDR Proprietary Records								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0
EDR Historical Auto Stations		0.250	8	1	NR	NR	NR	9

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR Historical Cleaners		0.250	4	0	NR	NR	NR	4

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
< 1/8
1 ft.

KMART ENTERPRISES — **HIST UST** — **U001572712**
5404 UNIVERSITY AVE — **N/A**
SAN DIEGO, CA 92105

Site 1 of 9 in cluster A

Relative:
Higher

Actual:
328 ft.

HIST UST:
Region: STATE
Facility ID: 00000014462
Facility Type: Other
Other Type: AUTO REPAIR
Total Tanks: 0001
Contact Name: Not reported
Telephone: 6192860560
Owner Name: KMART CORPORATION
Owner Address: P.O. BOX 3150
Owner City,St,Zip: TROY, MI 48084

Tank Num: 001
Container Num: 4290
Year Installed: 1969
Tank Capacity: 00000500
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Tank Construction: 3/16" unknown
Leak Detection: Pressure Test

A2
< 1/8
1 ft.

UNIVERSITY FRAME & AXLE — **EDR Historical Auto Stations** — **1008997752**
5404 UNIVERSITY AV — **N/A**
SAN DIEGO, CA

Site 2 of 9 in cluster A

Relative:
Higher

Actual:
328 ft.

EDR Historical Auto Stations:
Name: UNIVERSITY FRAME & AXLE
Year: 1952
Type: AUTOMOBILE REPAIRING

B3
< 1/8
1 ft.

NIK S GARAGE — **EDR Historical Auto Stations** — **1008998262**
5494 UNIVERSITY AVE — **N/A**
SAN DIEGO, CA

Site 1 of 4 in cluster B

Relative:
Higher

Actual:
308 ft.

EDR Historical Auto Stations:
Name: MEL S SERVICE
Year: 1952
Type: AUTOMOBILE REPAIRING

Name: MEL S SERVICE
Year: 1961
Type: AUTOMOBILE REPAIRING

Name: OR NIK S GARAGE
Year: 1966
Type: AUTOMOBILE REPAIRING

Name: NIK S GARAGE

NIK S GARAGE (Continued) **1008998262**

Year: 1970
Type: AUTOMOBILE REPAIRING

Name: NIK S GARAGE
Year: 1975
Type: AUTOMOBILE REPAIRING

Name: NIK S GARAGE
Year: 1980
Type: A T S AUTOMATIC

Name: NIK S GARAGE
Year: 1984
Type: A T S AUTOMATIC

A4
< 1/8
1 ft.

M. BRAMMER INC, SHELL STATION
5401 UNIVERSITY AV
SAN DIEGO, CA 92105

SAN DIEGO CO. SAM **S108407110**
N/A

Site 3 of 9 in cluster A

Relative:
Higher

Actual:
325 ft.

SAN DIEGO CO. SAM:
Case Number: H03209-001
Agency: DEH Site Assessment & Mitigation
Funding: **Non Billable**
FType: Failed Integrity Test
FStatus: 9
Date: 11/21/1988
Date Began: 10/20/1988

Case Number: H03209-002
Agency: DEH Site Assessment & Mitigation
Funding: **LOP - Federal Fund**
FType: Soils Only
FStatus: 9
Date: 4/17/2006
Date Began: 6/5/2003

A5
< 1/8
1 ft.

M. BRAMMER INC, SHELL STATION
5401 UNIVERSITY AV
SAN DIEGO, CA 92105

LUST
SLIC
San Diego Co. HMMD
EMI

S104745633
N/A

Site 4 of 9 in cluster A

Relative:
Higher

Actual:
325 ft.

LUST:
Region: STATE
Global Id: T0607382470
Latitude: 32.74835
Longitude: -117.079119
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 2006-04-17 00:00:00
Lead Agency: SAN DIEGO COUNTY LOP
Case Worker: JS
Local Agency: SAN DIEGO COUNTY LOP
RB Case Number: Not reported

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

LOC Case Number:	H03209-002
File Location:	Local Agency
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

LUST:

Global Id:	T0607382470
Contact Type:	Regional Board Caseworker
Contact Name:	UNASSIGNED
Organization Name:	SAN DIEGO RWQCB (REGION 9)
Address:	9174 SKY PARK COURT, SUITE 100
City:	SAN DIEGO
Email:	Not reported
Phone Number:	Not reported
Global Id:	T0607382470
Contact Type:	Local Agency Caseworker
Contact Name:	JON SENAHA
Organization Name:	SAN DIEGO COUNTY LOP
Address:	P.O. Box 129261
City:	San Diego
Email:	jon.senaha@sdcounty.ca.gov
Phone Number:	Not reported

LUST:

Global Id:	T0607382470
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Stopped
Global Id:	T0607382470
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Began
Global Id:	T0607382470
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Reported
Global Id:	T0607382470
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Discovery
Global Id:	T0607382470
Action Type:	ENFORCEMENT
Date:	2003-06-10 00:00:00
Action:	Notice of Responsibility

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

Status Date: 1988-11-21 00:00:00
Global Id: T0608120176
Lead Agency: SAN DIEGO COUNTY LOP
Lead Agency Case Number: H03209-001
Latitude: 32.74835
Longitude: -117.079119
Case Type: Cleanup Program Site
Case Worker: MV
Local Agency: Not reported
RB Case Number: Not reported
File Location: Local Agency
Potential Media Affected: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

San Diego Co. HMMD:
Facility ID: 103209
Inactive Indicator: Active
Business Code: 6HK28
SIC: Not reported
Permit Expiration: Not reported
Owner: EQUILON ENTERPRISES LLC
2nd Name: ATTN: MICHELLE PONCE, HSE PERM
Mailing Address: 20945 S. WILMINGTON
Mailing City,St,Zip: CARSON, CA 90810
Map Code/Business Plan on File: Not reported
Corporate Code: Not reported
Fire Dept District: San Diego
Census Tract Number: 27.03
EPA ID: CAR000066787
Gas Station: Not reported
Inspection Date: 10/04/06
Reinspection Date: Not reported
Inspector Name: RHANSEN
Violation Notice Issued: Not reported
Facility Contact: TAMI FAHEY
Delinquent Flag: Not Delinquent
Last Update: 08/30/10
Last Delinquent Letter: Not reported
Delinquent Comment: Not reported
Last Letter Type: Not reported
Property Owner: BRAMMER M INC
Property Address: 5401 UNIVERSITY AVE
Property City,St,Zip: SAN DIEGO, CA 92105
Tank Owner: EQUILON ENTERPRISES LLC
Tank Address: P.O. BOX 4453
Tank City,St,Zip: Houston, TX 77210
Business Plan Acceptance Date: Not reported
Reinspection Date Y2K Compatible: Not reported
Facility Phone: 619-286-1475

HMMD DISCLOSURE INVENTORY:
Item Number: Not reported
Chemical Name: Not reported
Case Number: Not reported

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	Not reported
2nd Hazard Category:	Not reported

HMMD UNDERGROUND TANKS:

Tank Number:	T001
Tank ID Number:	RT0786/NT2
Waste or Product:	10000
Tank Contents:	Not reported

Tank Number:	T002
Tank ID Number:	RT0786/NT2
Waste or Product:	10000
Tank Contents:	Not reported

Tank Number:	T003
Tank ID Number:	RT0786NT23
Waste or Product:	10000
Tank Contents:	Not reported

Tank Number:	T004
Tank ID Number:	RT0786NT23
Waste or Product:	10000
Tank Contents:	Not reported

Tank Number:	T005
Tank ID Number:	NT2356/RT3
Waste or Product:	20000
Tank Contents:	Not reported

Tank Number:	T006
Tank ID Number:	NT2356/RT3
Waste or Product:	12000
Tank Contents:	Not reported

Tank Number:	T007
Tank ID Number:	NT2356/RT3
Waste or Product:	10000
Tank Contents:	Not reported

HMMD VIOLATIONS:

Inspection Date:	02/24/00
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	8983

Inspection Date:	10/03/05
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	9845

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

Inspection Date:	08/01/02
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	6073
Inspection Date:	08/01/02
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	6074
Inspection Date:	06/03/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	0221
Inspection Date:	06/03/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	0222
Inspection Date:	09/13/04
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	0538
Inspection Date:	09/13/04
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	0539
Inspection Date:	09/13/04
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	0540
Inspection Date:	09/13/04
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	0541
Inspection Date:	09/13/04
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	0542

HMMD WASTE STREAMS:

Inspection Date:	Not reported
Waste Item #:	Not reported
Waste Code:	Not reported
Waste Name:	Not reported
Qnty at Inspection:	Not reported
Quantity String:	Not reported
Annual Qty:	Not reported
Annual Qty String:	Not reported
Measurement Unit:	Not reported
Treatment Method:	Not reported
Storage Method:	Not reported

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

Haz Waste Hauler: Not reported
Waste Desc: Not reported
Carcinogen: No

Facility ID: 208603
Inactive Indicator: Active
Business Code: 6HK28
SIC: Not reported
Permit Expiration: Not reported
Owner: M BRAMMER INC
2nd Name: Not reported
Mailing Address: 5401 UNIVERSITY AV
Mailing City,St,Zip: SAN DIEGO, CA 92105
Map Code/Business Plan on File: Not reported
Corporate Code: Not reported
Fire Dept District: San Diego
Census Tract Number: 27.03
EPA ID: CAL000314332
Gas Station: Not reported
Inspection Date: 10/26/09
Reinspection Date: Not reported
Inspector Name: RHANSEN
Violation Notice Issued: Not reported
Facility Contact: MARGE BRAMMER, OWNER
Delinquent Flag: Not Delinquent
Last Update: 08/30/10
Last Delinquent Letter: Not reported
Delinquent Comment: Not reported
Last Letter Type: Not reported
Property Owner: BRAMMER M INC
Property Address: 5401 UNIVERSITY AVE
Property City,St,Zip: SAN DIEGO, CA 92105
Tank Owner: M BRAMMER INC
Tank Address: 5401 UNIVERSITY AVE
Tank City,St,Zip: San Diego, CA 92105
Business Plan Acceptance Date: Not reported
Reinspection Date Y2K Compatible: 10/26/10
Facility Phone: 619-286-1475

HMMD DISCLOSURE INVENTORY:
Item Number: DIE
Chemical Name: DIESEL UNDERGROUND TANK 103209 T004
Case Number: 68476-34-6
Quantity Stored At One Time: Not reported
Quantity Stored at One Time: Not reported
Annual Quantity String: Not reported
Annual Quantity String: Not reported
Measurement Units: Not reported
Carcinogen: No
1st Hazard Category: Not reported
2nd Hazard Category: Not reported

Item Number: PRE
Chemical Name: PREMIUM UNLEADED UNDERGROUND TANK 103209 T006
Case Number: 8006-61-9
Quantity Stored At One Time: Not reported
Quantity Stored at One Time: Not reported

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	Not reported
2nd Hazard Category:	Not reported
Item Number:	REG
Chemical Name:	REGULAR UNLEADED UNDERGROUND TANK 103209 T005
Case Number:	8006-61-9
Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	Not reported
2nd Hazard Category:	Not reported

HMMD UNDERGROUND TANKS:

Tank Number:	T005
Tank ID Number:	NT2356/RT3
Waste or Product:	20000
Tank Contents:	Not reported
Tank Number:	T006
Tank ID Number:	NT2356/RT3
Waste or Product:	12000
Tank Contents:	Not reported
Tank Number:	T007
Tank ID Number:	NT2356/RT3
Waste or Product:	10000
Tank Contents:	Not reported

HMMD VIOLATIONS:

Inspection Date:	01/06/09
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	1204
Inspection Date:	01/06/09
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	1205

HMMD WASTE STREAMS:

Inspection Date:	10/26/09
Waste Item #:	134
Waste Code:	134
Waste Name:	AQUEOUS SOL’N W/LESS
Qnty at Inspection:	55
Quantity String:	55
Annual Qty:	55
Annual Qty String:	55
Measurement Unit:	GAL

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

Treatment Method:	999 UNKNOWN
Storage Method:	METAL DRUM
Haz Waste Hauler:	9998 UNKNOWN HAZ WST HAUL
Waste Desc:	WATER & FUEL
Carcinogen:	No

Inspection Date:	10/26/09
Waste Item #:	352
Waste Code:	352
Waste Name:	ORGANIC SOLIDS (OTHE
Qnty at Inspection:	5
Quantity String:	5
Annual Qty:	20
Annual Qty String:	20
Measurement Unit:	GAL
Treatment Method:	999 UNKNOWN
Storage Method:	METAL DRUM
Haz Waste Hauler:	9998 UNKNOWN HAZ WST HAUL
Waste Desc:	FUEL FILTERS
Carcinogen:	No

EMI:

Year:	2000
County Code:	37
Air Basin:	SD
Facility ID:	1281
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2001
County Code:	37
Air Basin:	SD
Facility ID:	1281
Air District Name:	SD
SIC Code:	5541
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

Year: 2002
County Code: 37
Air Basin: SD
Facility ID: 1281
Air District Name: SD
SIC Code: 5541
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 2
Reactive Organic Gases Tons/Yr: 2
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 2003
County Code: 37
Air Basin: SD
Facility ID: 1281
Air District Name: SD
SIC Code: 5541
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 2
Reactive Organic Gases Tons/Yr: 2
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 2004
County Code: 37
Air Basin: SD
Facility ID: 1281
Air District Name: SD
SIC Code: 5541
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1.759268
Reactive Organic Gases Tons/Yr: 1.759268
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 2005
County Code: 37
Air Basin: SD
Facility ID: 1281
Air District Name: SD
SIC Code: 5541

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1.759268
Reactive Organic Gases Tons/Yr: 1.759268
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 2006
County Code: 37
Air Basin: SD
Facility ID: 1281
Air District Name: SD
SIC Code: 5541
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1.77
Reactive Organic Gases Tons/Yr: 1.77
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 2007
County Code: 37
Air Basin: SD
Facility ID: 1281
Air District Name: SD
SIC Code: 5541
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1.77
Reactive Organic Gases Tons/Yr: 1.77
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 2007
County Code: 37
Air Basin: SD
Facility ID: 1281
Air District Name: SD
SIC Code: 5541
Air District Name: SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1.77
Reactive Organic Gases Tons/Yr: 1.77
Carbon Monoxide Emissions Tons/Yr: 0

M. BRAMMER INC, SHELL STATION (Continued) **S104745633**

NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

A6
ED'S SHELL
5401 UNIVERSITY AVE
< 1/8 **SAN DIEGO, CA 92105**
1 ft.

HIST UST **U001572708**
SWEEPS UST **N/A**

Site 5 of 9 in cluster A

Relative:
Higher

Actual:
325 ft.

HIST UST:
Region: STATE
Facility ID: 00000008813
Facility Type: Gas Station
Other Type: Not reported
Total Tanks: 0004
Contact Name: EDWARD E. BRAMMAR INC.
Telephone: 6192875221
Owner Name: SHELL OIL COMPANY
Owner Address: P.O. BOX 4848
Owner City,St,Zip: ANAHEIM, CA 92803

Tank Num: 001
Container Num: 1
Year Installed: 1982
Tank Capacity: 00000000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: 1/4 inches
Leak Detection: Stock Inventor, Groundwater Monitoring Well, 10

Tank Num: 002
Container Num: 2
Year Installed: 1982
Tank Capacity: 00000000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Tank Construction: 1/4 inches
Leak Detection: Stock Inventor, Groundwater Monitoring Well, 10

Tank Num: 003
Container Num: 3
Year Installed: 1982
Tank Capacity: 00000000
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Tank Construction: 1/4 inches
Leak Detection: Stock Inventor, Groundwater Monitoring Well, 10

Tank Num: 004
Container Num: 4
Year Installed: 1982
Tank Capacity: 00000000
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Tank Construction: 1/4 inches
Leak Detection: Stock Inventor, Groundwater Monitoring Well, 10

ED’S SHELL (Continued) **U001572708**

SWEEPS UST:

Status:	A
Comp Number:	3209
Number:	9
Board Of Equalization:	44-000074
Ref Date:	Not reported
Act Date:	06-26-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	37-000-003209-000001
Actv Date:	Not reported
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	4

Status:	A
Comp Number:	3209
Number:	9
Board Of Equalization:	44-000074
Ref Date:	Not reported
Act Date:	06-26-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	37-000-003209-000002
Actv Date:	Not reported
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	P
Content:	LEADED
Number Of Tanks:	Not reported

Status:	A
Comp Number:	3209
Number:	9
Board Of Equalization:	44-000074
Ref Date:	Not reported
Act Date:	06-26-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	37-000-003209-000003
Actv Date:	Not reported
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	P
Content:	LEADED
Number Of Tanks:	Not reported

Status:	A
Comp Number:	3209
Number:	9
Board Of Equalization:	44-000074
Ref Date:	Not reported

ED'S SHELL (Continued) **U001572708**

Act Date:	06-26-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	37-000-003209-000004
Actv Date:	Not reported
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	P
Content:	OTHER
Number Of Tanks:	Not reported

A7 **ED S SELF SERVICE SHELL** **EDR Historical Auto Stations** **1008997358**
5401 UNIVERSITY AVE **N/A**
< 1/8 **SAN DIEGO, CA**
1 ft.

Site 6 of 9 in cluster A

Relative:
Higher

Actual:
325 ft.

EDR Historical Auto Stations:

Name:	AMERICAN OIL CO
Year:	1970
Type:	GASOLINE STATIONS
Name:	MAC S SHELL SERVICE
Year:	1975
Type:	GASOLINE STATIONS
Name:	ED S SELF SERVICE SHELL
Year:	1980
Type:	GASOLINE STATIONS
Name:	ED S SELF SERVICE SHELL
Year:	1984
Type:	GASOLINE STATIONS

B8 **54TH RECYCLING INC** **SWRCY** **S107136561**
5496 UNIVERSITY AVE **N/A**
< 1/8 **SAN DIEGO, CA 92105**
1 ft.

Site 2 of 4 in cluster B

Relative:
Higher

Actual:
308 ft.

SWRCY:

Facility Phone Number:	Not reported
Whether The Facility Is Grandfathered:	N
Effective Date:	05/19/2010
Rural:	N
As Of:	2011-02-22 00:00:00
Party Number:	54370

C9 **< 1/8** **1 ft.**	**MASTER CLEANERS INC** **5586 UNIVERSITY AV** **SAN DIEGO, CA**	**EDR Historical Cleaners**	**1009128033** **N/A**

Site 1 of 5 in cluster C

Relative:
Higher

Actual:
303 ft.

EDR Historical Cleaners:

Name:	MASTER CLEANERS INC
Year:	1970
Type:	CLEANERS AND DYERS

C10 **< 1/8** **1 ft.**	**5553 UNIVERSITY AVE** **SAN DIEGO, CA 92105**	**Notify 65**	**S100178186** **N/A**

Site 2 of 5 in cluster C

Relative:
Higher

Actual:
304 ft.

Notify 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	92105-2306

C11 **< 1/8** **1 ft.**	**RALPH S GARAGE** **5555 UNIVERSITY AV** **SAN DIEGO, CA**	**EDR Historical Auto Stations**	**1008996944** **N/A**

Site 3 of 5 in cluster C

Relative:
Higher

Actual:
304 ft.

EDR Historical Auto Stations:

Name:	RALPH S TWENTY FOUR HOUR TOWING
Year:	1970
Type:	AUTOMOBILE REPAIRING
Name:	RALPH S GARAGE
Year:	1970
Type:	AUTOMOBILE REPAIRING

C12 **< 1/8** **1 ft.**	**2-B RENTALS** **5586 UNIVERSITY** **SAN DIEGO, CA 92105**	**HIST CORTESE** **LUST** **San Diego Co. HMMD** **SAN DIEGO CO. SAM**	**S104753064** **N/A**

Site 4 of 5 in cluster C

Relative:
Higher

Actual:
303 ft.

CORTESE:

Region:	CORTESE
Facility County Code:	37
Reg By:	LTNKA
Reg Id:	9UT2256

LUST:

Region:	STATE
Global Id:	T0607301022
Latitude:	32.7478771

2-B RENTALS (Continued) **S104753064**

Longitude:	-117.0762525
Case Type:	LUST Cleanup Site
Status:	Open - Site Assessment
Status Date:	2009-09-30 00:00:00
Lead Agency:	SAN DIEGO COUNTY LOP
Case Worker:	EB
Local Agency:	SAN DIEGO COUNTY LOP
RB Case Number:	9UT2256
LOC Case Number:	H32242-001
File Location:	Local Agency
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline, Stoddard solvent / Mineral Spriits / Distillates
Site History:	This case was opened based on observations made during the removal of five underground storage tanks on June 9, 1992. Stoddard Solvent (mineral spirits) was detected in soil at a maximum of 14,430 mg/kg. Soil borings were drilled at the site September 1992 and Stoddard Solvent was detected in soil at a maximum of 13,723 mg/kg. Groundwater monitoring wells were installed in 2007. Gasoline constituents (not mineral spirits) were detected in the groundwater. See Environmental Data Tab for additional information.

Click here to access the California GeoTracker records for this facility:

LUST:

Global Id:	T0607301022
Contact Type:	Regional Board Caseworker
Contact Name:	UNASSIGNED
Organization Name:	SAN DIEGO RWQCB (REGION 9)
Address:	9174 SKY PARK COURT, SUITE 100
City:	SAN DIEGO
Email:	Not reported
Phone Number:	Not reported
Global Id:	T0607301022
Contact Type:	Local Agency Caseworker
Contact Name:	Ellen Beacon
Organization Name:	SAN DIEGO COUNTY LOP
Address:	P.O. Box 129261
City:	San Diego
Email:	ellen.beacon@sdcounty.ca.gov
Phone Number:	Not reported

LUST:

Global Id:	T0607301022
Action Type:	RESPONSE
Date:	2010-08-02 00:00:00
Action:	Well Installation Workplan
Global Id:	T0607301022
Action Type:	RESPONSE
Date:	2011-01-30 00:00:00
Action:	Monitoring Report - Semi-Annually
Global Id:	T0607301022
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Discovery

2-B RENTALS (Continued) **S104753064**

Global Id:	T0607301022
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Stopped
Global Id:	T0607301022
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Reported
Global Id:	T0607301022
Action Type:	ENFORCEMENT
Date:	2009-07-08 00:00:00
Action:	Letter - Notice
Global Id:	T0607301022
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Began
Global Id:	T0607301022
Action Type:	ENFORCEMENT
Date:	2009-03-11 00:00:00
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0607301022
Action Type:	ENFORCEMENT
Date:	2011-03-21 00:00:00
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0607301022
Action Type:	ENFORCEMENT
Date:	2010-08-11 00:00:00
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0607301022
Action Type:	ENFORCEMENT
Date:	2009-10-22 00:00:00
Action:	Letter - Notice
Global Id:	T0607301022
Action Type:	ENFORCEMENT
Date:	2011-01-31 00:00:00
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0607301022
Action Type:	RESPONSE
Date:	2011-01-25 00:00:00
Action:	Well Installation Report
Global Id:	T0607301022
Action Type:	RESPONSE
Date:	2011-04-30 00:00:00
Action:	Other Workplan
Global Id:	T0607301022
Action Type:	RESPONSE

2-B RENTALS (Continued) **S104753064**

Date: 2011-04-30 00:00:00
Action: Sensitive Receptor Survey Report

Global Id: T0607301022
Action Type: RESPONSE
Date: 2010-07-30 00:00:00
Action: Monitoring Report - Semi-Annually

Global Id: T0607301022
Action Type: ENFORCEMENT
Date: 2008-09-09 00:00:00
Action: Technical Correspondence / Assistance / Other

Global Id: T0607301022
Action Type: ENFORCEMENT
Date: 2009-02-10 00:00:00
Action: Technical Correspondence / Assistance / Other

Global Id: T0607301022
Action Type: ENFORCEMENT
Date: 2010-08-11 00:00:00
Action: Technical Correspondence / Assistance / Other

Global Id: T0607301022
Action Type: ENFORCEMENT
Date: 2011-05-17 00:00:00
Action: Technical Correspondence / Assistance / Other

Global Id: T0607301022
Action Type: ENFORCEMENT
Date: 2010-08-03 00:00:00
Action: Technical Correspondence / Assistance / Other

Global Id: T0607301022
Action Type: ENFORCEMENT
Date: 2011-01-19 00:00:00
Action: Technical Correspondence / Assistance / Other

Global Id: T0607301022
Action Type: RESPONSE
Date: 2011-03-03 00:00:00
Action: Site Assessment Report

Global Id: T0607301022
Action Type: ENFORCEMENT
Date: 2007-02-01 00:00:00
Action: Notice of Responsibility

San Diego Co. HMMD:
Facility ID: 132242
Inactive Indicator: Active
Business Code: 6HK03
SIC: Not reported
Permit Expiration: Not reported
Owner: 2-B RENTALS
2nd Name: Not reported

2-B RENTALS (Continued) **S104753064**

Mailing Address:	6212 LAKE ARIANA
Mailing City,St,Zip:	SAN DIEGO, CA 92119
Map Code/Business Plan on File:	Not reported
Corporate Code:	Not reported
Fire Dept District:	San Diego
Census Tract Number:	27.02
EPA ID:	Not reported
Gas Station:	Not reported
Inspection Date:	Not reported
Reinspection Date:	Not reported
Inspector Name:	Not reported
Violation Notice Issued:	Not reported
Facility Contact:	WILLIAM BAKER
Delinquent Flag:	Not Delinquent
Last Update:	08/30/10
Last Delinquent Letter:	Not reported
Delinquent Comment:	Not reported
Last Letter Type:	Not reported
Property Owner:	UNIVERSITY AVE MANOR L L C
Property Address:	8051 MAIN ST
Property City,St,Zip:	STANTON, CA 90680
Tank Owner:	Not reported
Tank Address:	Not reported
Tank City,St,Zip:	Not reported
Business Plan Acceptance Date:	Not reported
Reinspection Date Y2K Compatible:	Not reported
Facility Phone:	619-463-7395

HMMD DISCLOSURE INVENTORY:

Item Number:	Not reported
Chemical Name:	Not reported
Case Number:	Not reported
Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	Not reported
2nd Hazard Category:	Not reported

HMMD UNDERGROUND TANKS:

Tank Number:	T001
Tank ID Number:	AT2595
Waste or Product:	4000
Tank Contents:	Not reported

Tank Number:	T002
Tank ID Number:	AT2595
Waste or Product:	2000
Tank Contents:	Not reported

Tank Number:	T003
Tank ID Number:	AT259
Waste or Product:	1000
Tank Contents:	Not reported

2-B RENTALS (Continued) **S104753064**

Tank Number:	T004
Tank ID Number:	AT2595
Waste or Product:	2000
Tank Contents:	Not reported
Tank Number:	T005
Tank ID Number:	AT2595
Waste or Product:	2000
Tank Contents:	Not reported

HMMD VIOLATIONS:

Inspection Date:	Not reported
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	Not reported

HMMD WASTE STREAMS:

Inspection Date:	Not reported
Waste Item #:	Not reported
Waste Code:	Not reported
Waste Name:	Not reported
Qnty at Inspection:	Not reported
Quantity String:	Not reported
Annual Qty:	Not reported
Annual Qty String:	Not reported
Measurement Unit:	Not reported
Treatment Method:	Not reported
Storage Method:	Not reported
Haz Waste Hauler:	Not reported
Waste Desc:	Not reported
Carcinogen:	No

SAN DIEGO CO. SAM:

Case Number:	H32242-001
Agency:	DEH Site Assessment & Mitigation
Funding:	**LOP - State Fund**
FType:	OX
FStatus:	5
Date:	4/22/2004
Date Began:	6/9/1992

B13 **SPEEDWAY CLEANERS** **EDR Historical Cleaners** **1009129190**
5498 UNIVERSITY AVE **N/A**
< 1/8 **SAN DIEGO, CA**
1 ft.

Site 3 of 4 in cluster B

Relative:
Higher

Actual:
307 ft.

EDR Historical Cleaners:

Name:	SPEEDWAY CLEANERS
Year:	1980
Type:	CLEANERS AND DYERS

B14   **PIT STOP THE**   **EDR Historical Auto Stations**   **1008997991**
5498 UNIVERSITY AVE   **N/A**
< 1/8   **SAN DIEGO, CA**
1 ft.

Site 4 of 4 in cluster B

Relative:
Higher

Actual:
307 ft.

EDR Historical Auto Stations:

Name:	PIT STOP THE
Year:	1975
Type:	GASOLINE STATIONS
Name:	PIT STOP THE
Year:	1980
Type:	GASOLINE STATIONS

C15   **2-B RENTALS**   **LUST**   **S102423397**
5586 UNIVERSITY AVE   **SWEEPS UST**   **N/A**
< 1/8   **SAN DIEGO, CA 92105**
1 ft.

Site 5 of 5 in cluster C

Relative:
Higher

Actual:
303 ft.

LUST REG 9:

Region:	9
Status:	Preliminary site assessment underway
Case Number:	9UT2256
Local Case:	H32242-001
Substance:	Mineral Spirits
Qty Leaked:	Not reported
Abate Method:	Not reported
Local Agency:	San Diego
How Found:	Other Means
How Stopped:	Other Means
Source:	Unknown
Cause:	Unknown
Lead Agency:	Local Agency
Case Type:	Soil only
Date Found:	06/09/1992
Date Stopped:	06/09/1992
Confirm Date:	06/09/1992
Submit Workplan:	6/30/92
Prelim Assess:	06/30/1992
Desc Pollution:	Not reported
Remed Plan:	/ /
Remed Action:	Not reported
Began Monitor:	Not reported
Release Date:	06/09/1992
Enforce Date:	Not reported
Closed Date:	Not reported
Enforce Type:	Not reported
Pilot Program:	LOP
Basin Number:	908.21
GW Depth:	>16
Beneficial Use:	No Beneficial groundwater use
NPDES Number:	Not reported
Priority:	2B
File Dispn:	File discarded, case closed
Interim Remedial Actions:	No
Cleanup and Abatement order Number:	Not reported
Waste Discharge Requirement Number:	Not reported

2-B RENTALS (Continued) **S102423397**

SWEEPS UST:

Status:	A
Comp Number:	32242
Number:	9
Board Of Equalization:	Not reported
Ref Date:	Not reported
Act Date:	06-26-92
Created Date:	02-29-88
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	Not reported
Actv Date:	Not reported
Capacity:	Not reported
Tank Use:	Not reported
Stg:	Not reported
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Not reported
Comp Number:	32242
Number:	Not reported
Board Of Equalization:	Not reported
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	37-000-032242-000001
Actv Date:	Not reported
Capacity:	4000
Tank Use:	OIL
Stg:	PRODUCT
Content:	Not reported
Number Of Tanks:	5

Status:	Not reported
Comp Number:	32242
Number:	Not reported
Board Of Equalization:	Not reported
Ref Date:	Not reported
Act Date:	Not reported
Created Date:	Not reported
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	37-000-032242-000002
Actv Date:	Not reported
Capacity:	2000
Tank Use:	OIL
Stg:	PRODUCT
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Not reported
Comp Number:	32242
Number:	Not reported
Board Of Equalization:	Not reported
Ref Date:	Not reported

2-B RENTALS (Continued) **S102423397**

Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 37-000-032242-000003
Actv Date: Not reported
Capacity: 1000
Tank Use: OIL
Stg: PRODUCT
Content: Not reported
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 32242
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 37-000-032242-000004
Actv Date: Not reported
Capacity: 2000
Tank Use: OIL
Stg: PRODUCT
Content: Not reported
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 32242
Number: Not reported
Board Of Equalization: Not reported
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 37-000-032242-000005
Actv Date: Not reported
Capacity: 2000
Tank Use: OIL
Stg: PRODUCT
Content: Not reported
Number Of Tanks: Not reported

A16 **M. BRAMMER INC, SHELL STATION** **UST** **U003789102**
5401 UNIVERSITY AVE **N/A**
< 1/8 **SAN DIEGO, CA 92105**
1 ft.

Site 7 of 9 in cluster A

Relative:
Higher

Actual:
325 ft.

UST:
Facility ID: 18634
Latitude: 32.74871
Longitude: -117.07927

A17
< 1/8
1 ft.

UNIVERSITY FRAME & AXLE
5405 UNIVERSITY PL
SAN DIEGO, CA

EDR Historical Auto Stations

1008996669
N/A

Site 8 of 9 in cluster A

Relative:
Higher

Actual:
326 ft.

EDR Historical Auto Stations:

Name:	UNIVERSITY FRAME & AXLE
Year:	1961
Type:	AUTOMOBILE REPAIRING

A18
< 1/8
1 ft.

SHELL SERVICE STATION
5401 UNIVERSITY / 54TH
SAN DIEGO, CA 92105

RCRA-SQG
FINDS
HAZNET

1001967295
CAR000066787

Site 9 of 9 in cluster A

Relative:
Higher

Actual:
325 ft.

RCRA-SQG:

Date form received by agency:	02/26/2004
Facility name:	SHELL SERVICE STATION
Facility address:	5401 UNIVERSITY / 54TH SAP #135932 SAN DIEGO, CA 92105
EPA ID:	CAR000066787
Mailing address:	SHELL OIL PRODUCTS US 12700 NORTHBOROUGH DR MFT240-G HOUSTON, TX 770672508
Contact:	GARY V WING
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	(714) 731-8337
Contact email:	GVWING@SHELLOPUS.COM
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	EQUILON ENTERPRISES L L C
Owner/operator address:	P O BOX 2099 ROOM 1341 HOUSTON, TX 77252
Owner/operator country:	Not reported
Owner/operator telephone:	(713) 241-2258
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	SHELL OIL PRODUCTS US
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator

SHELL SERVICE STATION (Continued) **1001967295**

Owner/Op start date: 08/01/1998
Owner/Op end date: Not reported

Owner/operator name: EQUILON ENTERPRISES LLC DBA SHELL OIL PR
Owner/operator address: PO BOX 2648
HOUSTON, TX 77252
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 08/01/1998
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Historical Generators:
Date form received by agency: 02/26/2004
Facility name: SHELL SERVICE STATION
Classification: Large Quantity Generator

Date form received by agency: 03/03/2000
Facility name: SHELL SERVICE STATION
Classification: Small Quantity Generator

Hazardous Waste Summary:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D018
Waste name: BENZENE

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE

SHELL SERVICE STATION (Continued) **1001967295**

FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D018
Waste name: BENZENE

Violation Status: No violations found

FINDS:

Registry ID: 110002933283

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:

Year:	2007
Gepaid:	CAR000066787
Contact:	R HULL/ENV. REPORTING ANALYST
Telephone:	2818742224
Mailing Name:	Not reported
Mailing Address:	12700 NORTHBOROUGH DR 300G03
Mailing City,St,Zip:	HOUSTON, TX 77067
Gen County:	San Diego
TSD EPA ID:	CAD008830290
TSD County:	Not reported
Waste Category:	Other organic solids
Disposal Method:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.01
Facility County:	San Diego

Year:	2004
Gepaid:	CAR000066787
Contact:	RACHEL WILLIAMSON
Telephone:	2818742224
Mailing Name:	Not reported
Mailing Address:	12700 NORTHBOUROUGH DR
Mailing City,St,Zip:	HOUSTON, TX 77067
Gen County:	San Diego
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Other organic solids
Disposal Method:	R01
Tons:	0.01
Facility County:	Not reported

Year:	2002
Gepaid:	CAR000066787

SHELL SERVICE STATION (Continued) **1001967295**

Contact:	MARGE BRAMMER
Telephone:	6192861475
Mailing Name:	Not reported
Mailing Address:	5401 UNIVERSITY AVE
Mailing City,St,Zip:	SAN DIEGO, CA 921050000
Gen County:	San Diego
TSD EPA ID:	Not reported
TSD County:	Los Angeles
Waste Category:	Other organic solids
Disposal Method:	H01
Tons:	0.03
Facility County:	Not reported

Year:	2002
Gepaid:	CAR000066787
Contact:	MARGE BRAMMER
Telephone:	6192861475
Mailing Name:	Not reported
Mailing Address:	5401 UNIVERSITY AVE
Mailing City,St,Zip:	SAN DIEGO, CA 921050000
Gen County:	San Diego
TSD EPA ID:	Not reported
TSD County:	Los Angeles
Waste Category:	Tank bottom waste
Disposal Method:	T01
Tons:	0.65
Facility County:	Not reported

Year:	2001
Gepaid:	CAR000066787
Contact:	MARGE BRAMMER
Telephone:	6192861475
Mailing Name:	Not reported
Mailing Address:	5401 UNIVERSITY AVE
Mailing City,St,Zip:	SAN DIEGO, CA 921050000
Gen County:	San Diego
TSD EPA ID:	Not reported
TSD County:	Los Angeles
Waste Category:	Other organic solids
Disposal Method:	H01
Tons:	0.09
Facility County:	Not reported

Click this hyperlink while viewing on your computer to access
1 additional CA_HAZNET: record(s) in the EDR Site Report.

D19
West
< 1/8
0.071 mi.
374 ft.

ECON O-WASH LAUNDRY
5368 UNIVERSITY AV
SAN DIEGO, CA

EDR Historical Cleaners **1009129104**
N/A

Site 1 of 5 in cluster D

Relative:
Higher

Actual:
335 ft.

EDR Historical Cleaners:

Name:	ECON O-WASH LAUNDRY
Year:	1966
Type:	LAUNDRIES - SELF SERVE

Name:	ECON O-WASH LAUNDRY

ECON O-WASH LAUNDRY (Continued) **1009129104**

Year: 1970
Type: LAUNDRIES SELF SERVE

20
ENE
< 1/8
0.104 mi.
550 ft.

MAYTAG LAUNDRY
5837 UNIVERSITY AVE
SAN DIEGO, CA

EDR Historical Cleaners **1009127975**
N/A

Relative:
Higher

Actual:
310 ft.

EDR Historical Cleaners:

Name: BELLEVIEW CENTER LAUNDROMAT
Year: 1966
Type: LAUNDRIES - SELF SERVE

Name: GAINES LAUNDRY
Year: 1966
Type: CLEANERS AND DYERS

Name: BELLEVIEW CENTER LAUNDROMAT
Year: 1970
Type: LAUNDRIES SELF SERVE

Name: CASH COIN CO INC
Year: 1975
Type: LAUNDRIES SELF SERVE

Name: MAYTAG LAUNDRY
Year: 1980
Type: LAUNDRIES SELF SERVE

Name: MAYTAG LAUNDRY
Year: 1984
Type: LAUNDRIES SELF SERVE

D21
West
< 1/8
0.114 mi.
600 ft.

JAMIE PRINCE RECYCLING
5303 UNIVERSITY AVE
SAN DIEGO, CA 92105

SWRCY **S107136777**
N/A

Site 2 of 5 in cluster D

Relative:
Higher

Actual:
337 ft.

SWRCY:

Facility Phone Number: Not reported
Whether The Facility Is Grandfathered: N
Effective Date: 10/28/2009
Rural: N
As Of: 2011-02-22 00:00:00
Party Number: 45373

Facility Phone Number: Not reported
Whether The Facility Is Grandfathered: N
Effective Date: 08/13/2005
Rural: N
As Of: 2011-02-22 00:00:00
Party Number: 25948

D22
West
< 1/8
0.119 mi.
630 ft.

JOHNSON S TEXACO SERVICE
5296 UNIVERSITY PL
SAN DIEGO, CA

Site 3 of 5 in cluster D

EDR Historical Auto Stations
1008998430
N/A

Relative:
Higher

Actual:
335 ft.

EDR Historical Auto Stations:
Name: JOHNSON S TEXACO SERVICE
Year: 1961
Type: GASOLINE STATIONS

D23
West
< 1/8
0.123 mi.
647 ft.

GEORGE S GARAGE
5296 UNIVERSITY AVE
SAN DIEGO, CA

Site 4 of 5 in cluster D

EDR Historical Auto Stations
1008998477
N/A

Relative:
Higher

Actual:
334 ft.

EDR Historical Auto Stations:
Name: JOHNSON S TEXACO SERVICE
Year: 1970
Type: GASOLINE STATIONS

Name: GEORGE S GARAGE
Year: 1984
Type: A T S AUTOMATIC

D24
West
< 1/8
0.125 mi.
659 ft.

DONNYS TRANSMISSION
5295 UNIVERSITY AVE
SAN DIEGO, CA 92105

Site 5 of 5 in cluster D

RCRA-SQG
FINDS
1000323829
CAD982483240

Relative:
Higher

Actual:
334 ft.

RCRA-SQG:
Date form received by agency: 03/06/1990
Facility name: DONNYS TRANSMISSION
Facility address: 5295 UNIVERSITY AVE
SAN DIEGO, CA 92105
EPA ID: CAD982483240
Mailing address: UNIVERSITY AVE
SAN DIEGO, CA 92105
Contact: ENVIRONMENTAL MANAGER
Contact address: 5295 UNIVERSITY AVE
SAN DIEGO, CA 92105
Contact country: US
Contact telephone: (415) 555-1212
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: GIAN NGUYEN
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999

DONNYS TRANSMISSION (Continued) **1000323829**

Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

FINDS:

Registry ID: 110002826265

Environmental Interest/Information System
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25
West
1/8-1/4
0.172 mi.
906 ft.

Relative:
Higher

Actual:
328 ft.

HONGS RADIATOR
5255 UNIVERSITY AVE
SAN DIEGO, CA 92105

RCRA-SQG **1000237019**
FINDS **CAD981435589**

RCRA-SQG:
Date form received by agency: 08/11/1986
Facility name: HONGS RADIATOR
Facility address: 5255 UNIVERSITY AVE
SAN DIEGO, CA 92105
EPA ID: CAD981435589
Mailing address: UNIVERSITY AVE
SAN DIEGO, CA 92105
Contact: ENVIRONMENTAL MANAGER
Contact address: 5255 UNIVERSITY AVE
SAN DIEGO, CA 92105
Contact country: US
Contact telephone: (415) 555-1212
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: CHAU MYLE
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No

HONGS RADIATOR (Continued) **1000237019**

Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002704404

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

E26
ENE
1/8-1/4
0.190 mi.
1004 ft.

OWEN & SON TEXACO SERVICE
5909 UNIVERSITY AVE
SAN DIEGO, CA

Site 1 of 5 in cluster E

EDR Historical Auto Stations **1008998719**
N/A

Relative:
Higher

Actual:
320 ft.

EDR Historical Auto Stations:
Name: TEXACO SERVICE STATION
Year: 1961
Type: GASOLINE STATIONS

Name: LEGAULT PETE TEXACO SERVICE
Year: 1966
Type: GASOLINE STATIONS

Name: OWEN & SON TEXACO SERVICE
Year: 1975
Type: GASOLINE STATIONS

27
West
1/8-1/4
0.232 mi.
1227 ft.

SAN DIEGO COUNTY PUBLIC HEALTH SERVICE
5202 UNIVERSITY AVENUE
SAN DIEGO, CA 92105

RCRA-SQG **1000375762**
FINDS **CAD981404270**

Relative:
Higher

Actual:
319 ft.

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: DOHS SAN DIEGO CO
Facility address: 714 P STREET
SAN DIEGO, CA 92114
EPA ID: CAD981404270
Contact: Not reported
Contact address: Not reported
Not reported

SAN DIEGO COUNTY PUBLIC HEALTH SERVICE (Continued) **1000375762**

Contact country: Not reported
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Land type: Facility is not located on Indian land. Additional information is not known.
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: STATE OF CALIFORNIA
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: State
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: State
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 05/16/1986
Facility name: DOHS SAN DIEGO CO
Classification: Large Quantity Generator

SAN DIEGO COUNTY PUBLIC HEALTH SERVICE (Continued) **1000375762**

Facility Has Received Notices of Violations:
Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 04/15/1993
Date achieved compliance: 04/15/1998
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 01/29/1992
Date achieved compliance: 04/15/1993
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 03/21/1990
Date achieved compliance: 01/29/1992
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 04/15/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 04/15/1998
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 01/29/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 04/15/1993
Evaluation lead agency: State Contractor/Grantee

SAN DIEGO COUNTY PUBLIC HEALTH SERVICE (Continued) **1000375762**

Evaluation date: 03/21/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 01/29/1992
Evaluation lead agency: State Contractor/Grantee

FINDS:

Registry ID: 110008268007

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
28 **West** **1/8-1/4** **0.238 mi.** **1257 ft.**	**52ND STREET PREFERRED SITE** **52ND/REX** **SAN DIEGO, CA 92105**	**SCH** **ENVIROSTOR**	**S105954575** **N/A**

Relative:
Higher

Actual:
345 ft.

SCH:

Facility ID: 37880010
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 8.0
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: NONE SPECIFIED
Lead Agency Description: Not reported
Project Manager: Not reported
Supervisor: * Tawfiq Deek
Division Branch: Cleanup Cypress
Site Code: 404381
Assembly: 78
Senate: 39
Special Program Status: Not reported
Status: No Further Action
Status Date: 2005-11-18 00:00:00
Restricted Use: NO
Funding: School District
Latitude: 32.7478434939759
Longitude: -117.083185
APN: NONE SPECIFIED
Past Use: ELECTRIC GENERATION/SUBSTATION, PESTICIDE/INSECTIDE/RODENTICIDE STORAGE
Potential COC: 30004, 30013, 30018
Confirmed COC: 30004,30013,30018
Potential Description: SOIL
Alias Name: 52ND STREET PREFERRED SITE
Alias Type: Alternate Name
Alias Name: Fay Elementary School

52ND STREET PREFERRED SITE (Continued) **S105954575**

Alias Type:	Alternate Name
Alias Name:	SAN DIEGO USD-52ND STREET ES
Alias Type:	Alternate Name
Alias Name:	404381
Alias Type:	Project Code (Site Code)
Alias Name:	37880010
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	2003-02-06 00:00:00
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Workplan
Completed Date:	2005-06-28 00:00:00
Comments:	DTSC recieve SSI on June 23, 2005

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	2005-10-19 00:00:00
Comments:	Addendum included a site boundary change however same contiguous residential properties.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	2005-11-18 00:00:00
Comments:	NFA.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	2006-01-04 00:00:00
Comments:	Not reported

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

ENVIROSTOR:

Site Type:	School Investigation
Site Type Detailed:	School
Acres:	8.0
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	NONE SPECIFIED

52ND STREET PREFERRED SITE (Continued) **S105954575**

Program Manager: Not reported
Supervisor: * Tawfiq Deek
Division Branch: Cleanup Cypress
Facility ID: 37880010
Site Code: 404381
Assembly: 78
Senate: 39
Special Program: Not reported
Status: No Further Action
Status Date: 2005-11-18 00:00:00
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: School District
Latitude: 32.7478434939759
Longitude: -117.083185
APN: NONE SPECIFIED
Past Use: ELECTRIC GENERATION/SUBSTATION, PESTICIDE/INSECTIDE/RODENTICIDE STORAGE
Potential COC: 30004, 30013, 30018
Confirmed COC: 30004,30013,30018
Potential Description: SOIL
Alias Name: 52ND STREET PREFERRED SITE
Alias Type: Alternate Name
Alias Name: Fay Elementary School
Alias Type: Alternate Name
Alias Name: SAN DIEGO USD-52ND STREET ES
Alias Type: Alternate Name
Alias Name: 404381
Alias Type: Project Code (Site Code)
Alias Name: 37880010
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 2003-02-06 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 2005-06-28 00:00:00
Comments: DTSC recieve SSI on June 23, 2005

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 2005-10-19 00:00:00
Comments: Addendum included a site boundary change however same contiguous residential properties.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 2005-11-18 00:00:00
Comments: NFA.

52ND STREET PREFERRED SITE (Continued) **S105954575**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2006-01-04 00:00:00
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

E29
ENE
1/8-1/4
0.244 mi.
1286 ft.

CLASSIC CAR WASH
59852 UNIVERSITY
SAN DIEGO, CA 92115

Site 2 of 5 in cluster E

HIST CORTESE

S105026133
N/A

Relative:
Higher

Actual:
321 ft.

CORTESE:
Region: CORTESE
Facility County Code: 37
Reg By: LTNKA
Reg Id: 9UT1834

E30
ENE
1/8-1/4
0.244 mi.
1286 ft.

CLASSIC CAR WASH
5985 UNIVERSITY
SAN DIEGO, CA 92115

Site 3 of 5 in cluster E

HIST CORTESE
LUST
AST
San Diego Co. HMMD
SAN DIEGO CO. SAM

S104751449
N/A

Relative:
Higher

Actual:
321 ft.

CORTESE:
Region: CORTESE
Facility County Code: 37
Reg By: LTNKA
Reg Id: 9UT788

LUST:
Region: STATE
Global Id: T0607303040
Latitude: 32.751565
Longitude: -117.067301
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 1988-11-16 00:00:00
Lead Agency: SAN DIEGO COUNTY LOP
Case Worker: FA
Local Agency: Not reported
RB Case Number: 9UT788
LOC Case Number: H28275-001
File Location: Local Agency
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline

CLASSIC CAR WASH (Continued) **S104751449**

Site History: Not reported

Click here to access the California GeoTracker records for this facility:

LUST:
Global Id: T0607303040
Contact Type: Regional Board Caseworker
Contact Name: UNASSIGNED
Organization Name: SAN DIEGO RWQCB (REGION 9)
Address: 9174 SKY PARK COURT, SUITE 100
City: SAN DIEGO
Email: Not reported
Phone Number: Not reported

LUST:
Global Id: T0607303040
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Stopped

Global Id: T0607303040
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Began

Global Id: T0607303040
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Reported

Global Id: T0607303040
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Discovery

Region: STATE
Global Id: T0607300618
Latitude: 32.751565
Longitude: -117.067301
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 1991-02-08 00:00:00
Lead Agency: SAN DIEGO COUNTY LOP
Case Worker: CS
Local Agency: Not reported
RB Case Number: 9UT1834
LOC Case Number: H28275-002
File Location: Local Agency
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

LUST:
Global Id: T0607300618
Contact Type: Regional Board Caseworker

CLASSIC CAR WASH (Continued) **S104751449**

Contact Name: UNASSIGNED
Organization Name: SAN DIEGO RWQCB (REGION 9)
Address: 9174 SKY PARK COURT, SUITE 100
City: SAN DIEGO
Email: Not reported
Phone Number: Not reported

LUST:
Global Id: T0607300618
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Discovery

Global Id: T0607300618
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Stopped

Global Id: T0607300618
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Began

Global Id: T0607300618
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Reported

AST:
Owner: RAFIDAIN, INC
Total Gallons: 1560
Certified Unified Program Agencies: San Diego

San Diego Co. HMMD:
Facility ID: 128275
Inactive Indicator: Active
Business Code: Not reported
SIC: Not reported
Permit Expiration: Not reported
Owner: Not reported
2nd Name: Not reported
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Map Code/Business Plan on File: Not reported
Corporate Code: Not reported
Fire Dept District: San Diego
Census Tract Number: 27.03
EPA ID: Not reported
Gas Station: Not reported
Inspection Date: 04/27/88
Reinspection Date: Not reported
Inspector Name: LEGACY
Violation Notice Issued: Not reported
Facility Contact: AARRON KNOX
Delinquent Flag: Not Delinquent

CLASSIC CAR WASH (Continued) **S104751449**

Last Update:	08/30/10
Last Delinquent Letter:	Not reported
Delinquent Comment:	Not reported
Last Letter Type:	Not reported
Property Owner:	RAFIDAIN INC <LF> LAKHA PROPER
Property Address:	500 108TH AVE NE #20
Property City,St,Zip:	BELLEVUE, WA 98004
Tank Owner:	Not reported
Tank Address:	Not reported
Tank City,St,Zip:	Not reported
Business Plan Acceptance Date:	Not reported
Reinspection Date Y2K Compatible:	Not reported
Facility Phone:	Not reported

HMMD DISCLOSURE INVENTORY:

Item Number:	Not reported
Chemical Name:	Not reported
Case Number:	Not reported
Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	Not reported
2nd Hazard Category:	Not reported

HMMD UNDERGROUND TANKS:

Tank Number:	T001
Tank ID Number:	01
Waste or Product:	10000
Tank Contents:	Not reported

Tank Number:	T002
Tank ID Number:	02
Waste or Product:	8000
Tank Contents:	Not reported

Tank Number:	T003
Tank ID Number:	03
Waste or Product:	8000
Tank Contents:	Not reported

HMMD VIOLATIONS:

Inspection Date:	04/27/88
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	2732

Inspection Date:	04/27/88
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	2733

Inspection Date:	04/27/88
Waste Code:	Not reported
Occurrences:	Not reported

CLASSIC CAR WASH (Continued) **S104751449**

Item Number:	2734

HMMD WASTE STREAMS:

Inspection Date:	Not reported
Waste Item #:	Not reported
Waste Code:	Not reported
Waste Name:	Not reported
Qnty at Inspection:	Not reported
Quantity String:	Not reported
Annual Qty:	Not reported
Annual Qty String:	Not reported
Measurement Unit:	Not reported
Treatment Method:	Not reported
Storage Method:	Not reported
Haz Waste Hauler:	Not reported
Waste Desc:	Not reported
Carcinogen:	No

Facility ID:	136036
Inactive Indicator:	Active
Business Code:	6HK26
SIC:	Not reported
Permit Expiration:	Not reported
Owner:	RAFIDAIN, INC
2nd Name:	Not reported
Mailing Address:	5985 UNIVERSITY AV
Mailing City,St,Zip:	SAN DIEGO, CA 92115
Map Code/Business Plan on File:	Not reported
Corporate Code:	Not reported
Fire Dept District:	San Diego
Census Tract Number:	27.03
EPA ID:	CAL000306147
Gas Station:	Not reported
Inspection Date:	12/26/07
Reinspection Date:	Not reported
Inspector Name:	SANDERSO
Violation Notice Issued:	Not reported
Facility Contact:	MAX YOUNAN
Delinquent Flag:	Not Delinquent
Last Update:	08/30/10
Last Delinquent Letter:	Not reported
Delinquent Comment:	Not reported
Last Letter Type:	Not reported
Property Owner:	RAFIDAIN INC <LF> LAKHA PROPER
Property Address:	500 108TH AVE NE #20
Property City,St,Zip:	BELLEVUE, WA 98004
Tank Owner:	Not reported
Tank Address:	Not reported
Tank City,St,Zip:	Not reported
Business Plan Acceptance Date:	Not reported
Reinspection Date Y2K Compatible:	06/26/09
Facility Phone:	619-583-1433

HMMD DISCLOSURE INVENTORY:

Item Number:	CAR
Chemical Name:	CAR SHAMPOO CAR SHAMPOO

CLASSIC CAR WASH (Continued) **S104751449**

Case Number:	1310-73-2
Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	CHRONIC
2nd Hazard Category:	Not reported

Item Number:	OIL
Chemical Name:	OIL, LUBRICATING: MOTOR OIL
Case Number:	8002-05-9
Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	FIRE
2nd Hazard Category:	ACUTE

Item Number:	SOD
Chemical Name:	SODIUM HYDROXIDE
Case Number:	1310-73-2
Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	CHRONIC
2nd Hazard Category:	Not reported

Item Number:	WIN
Chemical Name:	WINDEX (AMMONIA) WINDEX (AMMONIA)
Case Number:	111-76-2
Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	CHRONIC
2nd Hazard Category:	Not reported

HMMD UNDERGROUND TANKS:

Tank Number:	Not reported
Tank ID Number:	Not reported
Waste or Product:	Not reported
Tank Contents:	Not reported

HMMD VIOLATIONS:

Inspection Date:	02/18/99
Waste Code:	Not reported
Occurrences:	Not reported

CLASSIC CAR WASH (Continued) **S104751449**

Item Number: 7779

Inspection Date: 02/18/99
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7780

Inspection Date: 03/03/06
Waste Code: Not reported
Occurrences: Not reported
Item Number: 3484

Inspection Date: 07/17/01
Waste Code: Not reported
Occurrences: Not reported
Item Number: 3300

Inspection Date: 07/17/01
Waste Code: Not reported
Occurrences: Not reported
Item Number: 3301

Inspection Date: 07/17/01
Waste Code: Not reported
Occurrences: Not reported
Item Number: 3302

Inspection Date: 05/24/00
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1314

Inspection Date: 05/24/00
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1315

Inspection Date: 05/24/00
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1316

Inspection Date: 12/26/07
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7613

Inspection Date: 12/26/07
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7614

Inspection Date: 10/17/02
Waste Code: Not reported
Occurrences: Not reported
Item Number: 9366

CLASSIC CAR WASH (Continued) **S104751449**

Inspection Date:	02/18/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	7365
Inspection Date:	02/18/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	7366
Inspection Date:	04/06/04
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	6177
Inspection Date:	04/06/04
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	6178
Inspection Date:	04/06/04
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	6179
Inspection Date:	04/06/04
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	6180

HMMD WASTE STREAMS:

Inspection Date:	12/26/07
Waste Item #:	221
Waste Code:	221
Waste Name:	WASTE OIL & MIXED OI
Qnty at Inspection:	480
Quantity String:	480
Annual Qty:	4800
Annual Qty String:	4800
Measurement Unit:	GAL
Treatment Method:	001 RECYCLE
Storage Method:	ABVG TNK
Haz Waste Hauler:	5346 PROLEUM
Waste Desc:	Not reported
Carcinogen:	No
Inspection Date:	12/26/07
Waste Item #:	342
Waste Code:	342
Waste Name:	ORGANIC LIQUIDS W/ME
Qnty at Inspection:	110
Quantity String:	110
Annual Qty:	600
Annual Qty String:	600
Measurement Unit:	GAL
Treatment Method:	001 RECYCLE
Storage Method:	PLASTIC DRUM

CLASSIC CAR WASH (Continued) **S104751449**

Haz Waste Hauler: 4611 ENV. AUTOMOTIVE PROD
Waste Desc: ANTIFREEZE
Carcinogen: No

Inspection Date: 12/26/07
Waste Item #: 451
Waste Code: 451
Waste Name: DEGREASING SLUDGE
Qnty at Inspection: 55
Quantity String: 55
Annual Qty: 110
Annual Qty String: 110
Measurement Unit: GAL
Treatment Method: 101 AUTOCLAVE
Storage Method: METAL DRUM
Haz Waste Hauler: 0015 ASBURY ENVIRONMENTAL
Waste Desc: SUMP SLUDGE
Carcinogen: No

Inspection Date: 12/26/07
Waste Item #: 888
Waste Code: 888
Waste Name: USED OIL FILTERS
Qnty at Inspection: 1200
Quantity String: 1200
Annual Qty: 4800
Annual Qty String: 4800
Measurement Unit: LBS
Treatment Method: 001 RECYCLE
Storage Method: METAL DRUM
Haz Waste Hauler: 9997 UNREGISTERED HAZ WST
Waste Desc: USED OIL FILTERS- VORTEX
Carcinogen: No

SAN DIEGO CO. SAM:
Case Number: H28275-002
Agency: DEH Site Assessment & Mitigation
Funding: **LOP - Federal Fund**
FType: Soils Only
FStatus: 9
Date: 2/8/1991
Date Began: 7/12/1988

Case Number: H28275-001
Agency: DEH Site Assessment & Mitigation
Funding: **LOP - State Fund**
FType: Soils Only
FStatus: 9
Date: 11/16/1988
Date Began: 7/12/1988

E31
ENE
1/8-1/4
0.244 mi.
1286 ft.

CLASSIC CAR WASH
5985-2 UNIVERSITY AVE
SAN DIEGO, CA 92115

Site 4 of 5 in cluster E

LUST

S102428125
N/A

Relative:
Higher

Actual:
321 ft.

LUST REG 9:
Region: 9
Status: Case Closed
Case Number: 9UT1834
Local Case: H28275-002
Substance: Gasoline
Qty Leaked: Not reported
Abate Method: Enhanced Biodegradation - use of any available technology to promote bacterial decomposition of contaminants
Local Agency: San Diego
How Found: Other Means
How Stopped: Other Means
Source: Unknown
Cause: Unknown
Lead Agency: Local Agency
Case Type: Soil only
Date Found: 10/30/1990
Date Stopped: 10/30/1990
Confirm Date: 10/26/1990
Submit Workplan: 11/6/90
Prelim Assess: / /
Desc Pollution: Not reported
Remed Plan: / /
Remed Action: Not reported
Began Monitor: Not reported
Release Date: 10/30/1990
Enforce Date: Not reported
Closed Date: 2/8/91
Enforce Type: Not reported
Pilot Program: LOP
Basin Number: Not reported
GW Depth: Not reported
Beneficial Use: Not reported
NPDES Number: Not reported
Priority: Low priority. Priority ranking can change over time.
File Dispn: File discarded, case closed
Interim Remedial Actions: No
Cleanup and Abatement order Number: Not reported
Waste Discharge Requirement Number: Not reported

E32
ENE
1/8-1/4
0.244 mi.
1286 ft.

CLASSIC CAR WASH
5985 UNIVERSITY AVE
SAN DIEGO, CA 92115

Site 5 of 5 in cluster E

LUST
SWEEPS UST

S102428124
N/A

Relative:
Higher

Actual:
321 ft.

LUST REG 9:
Region: 9
Status: Case Closed
Case Number: 9UT788
Local Case: H28275-001
Substance: Unleaded Gasoline
Qty Leaked: 0
Abate Method: Not reported

CLASSIC CAR WASH (Continued) **S102428124**

Local Agency: San Diego
How Found: Tank Closure
How Stopped: Close Tank
Source: Unknown
Cause: Unknown
Lead Agency: Local Agency
Case Type: Soil only
Date Found: 05/14/1987
Date Stopped: 07/14/1988
Confirm Date: 07/12/1988
Submit Workplan: Not reported
Prelim Assess: 08/20/1987
Desc Pollution: Not reported
Remed Plan: / /
Remed Action: Not reported
Began Monitor: Not reported
Release Date: 08/17/1987
Enforce Date: Not reported
Closed Date: 1/23/91
Enforce Type: Not reported
Pilot Program: LOP
Basin Number: 908.22
GW Depth: Not reported
Beneficial Use: Not reported
NPDES Number: Not reported
Priority: Low priority. Priority ranking can change over time.
File Dispn: File discarded, case closed
Interim Remedial Actions: Yes
Cleanup and Abatement order Number: Not reported
Waste Discharge Requirement Number: Not reported

SWEEPS UST:
Status: Not reported
Comp Number: 28275
Number: Not reported
Board Of Equalization: 44-023745
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 37-000-028275-000001
Actv Date: Not reported
Capacity: 10000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 3

Status: Not reported
Comp Number: 28275
Number: Not reported
Board Of Equalization: 44-023745
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported

CLASSIC CAR WASH (Continued)　**S102428124**

Owner Tank Id: Not reported
Swrcb Tank Id: 37-000-028275-000002
Actv Date: Not reported
Capacity: 8000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: LEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 28275
Number: Not reported
Board Of Equalization: 44-023745
Ref Date: Not reported
Act Date: Not reported
Created Date: Not reported
Tank Status: Not reported
Owner Tank Id: Not reported
Swrcb Tank Id: 37-000-028275-000003
Actv Date: Not reported
Capacity: 8000
Tank Use: M.V. FUEL
Stg: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

F33
North
1/4-1/2
0.267 mi.
1408 ft.

CRAWFORD HIGH SCHOOL
4191 COLTS
SAN DIEGO, CA 92115

HIST CORTESE
LUST
HAZNET

S101336304
N/A

Site 1 of 3 in cluster F

Relative:
Higher

Actual:
373 ft.

CORTESE:
Region: CORTESE
Facility County Code: 37
Reg By: LTNKA
Reg Id: 9UT1067

LUST REG 9:
Region: 9
Status: Case Closed
Case Number: 9UT1067
Local Case: H14074-001
Substance: Diesel
Qty Leaked: Not reported
Abate Method: Excavate and Dispose - remove contaminated soil and dispose in approved site
Local Agency: San Diego
How Found: Tank Closure
How Stopped: Close Tank
Source: Unknown
Cause: Other Cause
Lead Agency: Local Agency
Case Type: Soil only
Date Found: 07/25/1988
Date Stopped: 07/25/1988
Confirm Date: 07/25/1988

CRAWFORD HIGH SCHOOL (Continued) **S101336304**

Submit Workplan:	Not reported
Prelim Assess:	08/08/1988
Desc Pollution:	Not reported
Remed Plan:	/ /
Remed Action:	Not reported
Began Monitor:	Not reported
Release Date:	08/08/1988
Enforce Date:	Not reported
Closed Date:	4/26/00
Enforce Type:	Not reported
Pilot Program:	LOP
Basin Number:	908.22
GW Depth:	15
Beneficial Use:	No Beneficial groundwater use
NPDES Number:	Not reported
Priority:	Low priority. Priority ranking can change over time.
File Dispn:	File discarded, case closed
Interim Remedial Actions:	Yes
Cleanup and Abatement order Number:	Not reported
Waste Discharge Requirement Number:	Not reported

HAZNET:

Year:	2009
Gepaid:	CAD981452394
Contact:	JOHN BAKER
Telephone:	8586277350
Mailing Name:	Not reported
Mailing Address:	4100 NORMAL ST
Mailing City,St,Zip:	SAN DIEGO, CA 921032653
Gen County:	San Diego
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Off-specification, aged or surplus organics
Disposal Method:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.015
Facility County:	San Diego

Year:	2009
Gepaid:	CAD981452394
Contact:	JOHN BAKER
Telephone:	8586277350
Mailing Name:	Not reported
Mailing Address:	4100 NORMAL ST
Mailing City,St,Zip:	SAN DIEGO, CA 921032653
Gen County:	San Diego
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Off-specification, aged or surplus organics
Disposal Method:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.0462
Facility County:	San Diego

Year:	2009
Gepaid:	CAD981452394
Contact:	JOHN BAKER
Telephone:	8586277350

CRAWFORD HIGH SCHOOL (Continued) **S101336304**

Mailing Name:	Not reported
Mailing Address:	4100 NORMAL ST
Mailing City,St,Zip:	SAN DIEGO, CA 921032653
Gen County:	San Diego
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Laboratory waste chemicals
Disposal Method:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.00417
Facility County:	San Diego

Year:	2009
Gepaid:	CAD981452394
Contact:	JOHN BAKER
Telephone:	8586277350
Mailing Name:	Not reported
Mailing Address:	4100 NORMAL ST
Mailing City,St,Zip:	SAN DIEGO, CA 921032653
Gen County:	San Diego
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Organic liquids with metals (Alkaline solution (pH >= 12.5) with metals)
Disposal Method:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.02085
Facility County:	San Diego

Year:	2009
Gepaid:	CAD981452394
Contact:	JOHN BAKER
Telephone:	8586277350
Mailing Name:	Not reported
Mailing Address:	4100 NORMAL ST
Mailing City,St,Zip:	SAN DIEGO, CA 921032653
Gen County:	San Diego
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Off-specification, aged or surplus organics
Disposal Method:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.005
Facility County:	San Diego

Click this hyperlink while viewing on your computer to access
43 additional CA_HAZNET: record(s) in the EDR Site Report.

F34 **North** **1/4-1/2** **0.267 mi.** **1408 ft.**	**CRAWFORD HIGH SCHOOL ADDITION** **4191 COLTS WAY** **SAN DIEGO, CA 92115** **Site 2 of 3 in cluster F**	**SCH** **ENVIROSTOR**	**S107736191** **N/A**

Relative:
Higher

Actual:
373 ft.

SCH:

Facility ID:	60000003
Site Type:	School Investigation
Site Type Detail:	School

CRAWFORD HIGH SCHOOL ADDITION (Continued) **S107736191**

Site Mgmt. Req.: NONE SPECIFIED
Acres: 10
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Mitigation And Brownfield Reuse Program
Project Manager: Not reported
Supervisor: * Tawfiq Deek
Division Branch: Cleanup Cypress
Site Code: 404426
Assembly: Not reported
Senate: Not reported
Special Program Status: Not reported
Status: Inactive - Needs Evaluation
Status Date: 2005-09-22 00:00:00
Restricted Use: NO
Funding: School District
Latitude: 32.7523
Longitude: -117.0755
APN: NONE SPECIFIED
Past Use: * EDUCATIONAL SERVICES
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: SAN DIEGO CITY SCHOOLS-CRAWFORD HIGH SCL
Alias Type: Alternate Name
Alias Name: SAN DIEGO USD-CRAWFORD HIGH SCHOOL ADDT
Alias Type: Alternate Name
Alias Name: 110021882168
Alias Type: EPA (FRS #)
Alias Name: 404421
Alias Type: Project Code (Site Code)
Alias Name: 404426
Alias Type: Project Code (Site Code)
Alias Name: 60000003
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 2004-05-13 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2005-06-16 00:00:00
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported

CRAWFORD HIGH SCHOOL ADDITION (Continued) **S107736191**

Schedule Revised Date: Not reported

ENVIROSTOR:
Site Type: School Investigation
Site Type Detailed: School
Acres: 10
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: * Tawfiq Deek
Division Branch: Cleanup Cypress
Facility ID: 60000003
Site Code: 404426
Assembly: Not reported
Senate: Not reported
Special Program: Not reported
Status: Inactive - Needs Evaluation
Status Date: 2005-09-22 00:00:00
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: School District
Latitude: 32.7523
Longitude: -117.0755
APN: NONE SPECIFIED
Past Use: * EDUCATIONAL SERVICES
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: SAN DIEGO CITY SCHOOLS-CRAWFORD HIGH SCL
Alias Type: Alternate Name
Alias Name: SAN DIEGO USD-CRAWFORD HIGH SCHOOL ADDT
Alias Type: Alternate Name
Alias Name: 110021882168
Alias Type: EPA (FRS #)
Alias Name: 404421
Alias Type: Project Code (Site Code)
Alias Name: 404426
Alias Type: Project Code (Site Code)
Alias Name: 60000003
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 2004-05-13 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2005-06-16 00:00:00
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported

CRAWFORD HIGH SCHOOL ADDITION (Continued) **S107736191**

Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

F35
North
1/4-1/2
0.267 mi.
1408 ft.

SDUSD CRAWFORD HIGH SCHOOL
4191 COLTS WY
SAN DIEGO, CA 92115

LUST
San Diego Co. HMMD
SAN DIEGO CO. SAM

S104748085
N/A

Site 3 of 3 in cluster F

Relative:
Higher

Actual:
373 ft.

LUST:

Region:	STATE
Global Id:	T0607300079
Latitude:	32.7530404
Longitude:	-117.0769841
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	2000-04-26 00:00:00
Lead Agency:	SAN DIEGO COUNTY LOP
Case Worker:	JN
Local Agency:	Not reported
RB Case Number:	9UT1067
LOC Case Number:	H14074-001
File Location:	Local Agency
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Heating Oil / Fuel Oil
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

LUST:

Global Id:	T0607300079
Contact Type:	Regional Board Caseworker
Contact Name:	UNASSIGNED
Organization Name:	SAN DIEGO RWQCB (REGION 9)
Address:	9174 SKY PARK COURT, SUITE 100
City:	SAN DIEGO
Email:	Not reported
Phone Number:	Not reported

LUST:

Global Id:	T0607300079
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Discovery
Global Id:	T0607300079
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Stopped
Global Id:	T0607300079
Action Type:	Other
Date:	1950-01-01 00:00:00

SDUSD CRAWFORD HIGH SCHOOL (Continued) **S104748085**

Action:	Leak Began
Global Id:	T0607300079
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Reported

San Diego Co. HMMD:

Facility ID:	114074
Inactive Indicator:	Active
Business Code:	6HK56
SIC:	Not reported
Permit Expiration:	Not reported
Owner:	S D UNIFIED SCHOOL DISTRICT
2nd Name:	ATTN: RISK MANAGEMENT DEPARTME
Mailing Address:	4100 NORMAL ST
Mailing City,St,Zip:	SAN DIEGO, CA 92103
Map Code/Business Plan on File:	Not reported
Corporate Code:	Not reported
Fire Dept District:	San Diego
Census Tract Number:	27.02
EPA ID:	CAD981452394
Gas Station:	Not reported
Inspection Date:	03/07/08
Reinspection Date:	Not reported
Inspector Name:	RRAPISTA
Violation Notice Issued:	Not reported
Facility Contact:	ANN RUNGE
Delinquent Flag:	Not Delinquent
Last Update:	08/30/10
Last Delinquent Letter:	Not reported
Delinquent Comment:	Not reported
Last Letter Type:	Not reported
Property Owner:	SAN DIEGO UNIFIED SCHOOL DISTR
Property Address:	Not reported
Property City,St,Zip:	00000
Tank Owner:	Not reported
Tank Address:	Not reported
Tank City,St,Zip:	Not reported
Business Plan Acceptance Date:	Not reported
Reinspection Date Y2K Compatible:	09/07/09
Facility Phone:	619-583-2500

HMMD DISCLOSURE INVENTORY:

Item Number:	CAR
Chemical Name:	CARCINOGENS &/OR REPRODUCTIVE TOXINS BELOW STATE DISCLOSURE AMTS ARE/MAY BE
Case Number:	Not reported
Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	Not reported
2nd Hazard Category:	Not reported

SDUSD CRAWFORD HIGH SCHOOL (Continued) **S104748085**

HMMD UNDERGROUND TANKS:
Tank Number: Not reported
Tank ID Number: Not reported
Waste or Product: Not reported
Tank Contents: Not reported

HMMD VIOLATIONS:
Inspection Date: 12/28/99
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7438

Inspection Date: 12/28/99
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7439

Inspection Date: 12/28/99
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7440

Inspection Date: 06/15/05
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7268

Inspection Date: 06/15/05
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7269

Inspection Date: 06/15/05
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7270

Inspection Date: 01/08/03
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1643

Inspection Date: 01/08/03
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1644

Inspection Date: 01/08/03
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1645

Inspection Date: 01/08/03
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1646

SDUSD CRAWFORD HIGH SCHOOL (Continued) **S104748085**

Inspection Date:	05/06/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	9509
Inspection Date:	05/06/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	9510
Inspection Date:	05/06/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	9511
Inspection Date:	05/06/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	9512
Inspection Date:	05/06/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	9513
Inspection Date:	05/06/98
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	9514
Inspection Date:	10/23/03
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	1267
Inspection Date:	10/23/03
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	1268
Inspection Date:	10/23/03
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	1269

HMMD WASTE STREAMS:

Inspection Date:	03/07/08
Waste Item #:	221
Waste Code:	221
Waste Name:	WASTE OIL & MIXED OI
Qnty at Inspection:	30
Quantity String:	30
Annual Qty:	60
Annual Qty String:	60
Measurement Unit:	GAL
Treatment Method:	001 RECYCLE
Storage Method:	METAL DRUM

SDUSD CRAWFORD HIGH SCHOOL (Continued) **S104748085**

Haz Waste Hauler:	0015 ASBURY ENVIRONMENTAL
Waste Desc:	FROM AUTO SHOP
Carcinogen:	No

Inspection Date:	03/07/08
Waste Item #:	342
Waste Code:	342
Waste Name:	ORGANIC LIQUIDS W/ME
Qnty at Inspection:	1
Quantity String:	1
Annual Qty:	5
Annual Qty String:	5
Measurement Unit:	GAL
Treatment Method:	001 RECYCLE
Storage Method:	PLASTIC DRUM
Haz Waste Hauler:	3354 OCEAN BLUE ENVIRONME
Waste Desc:	ANTIFREEZE
Carcinogen:	No

Inspection Date:	03/07/08
Waste Item #:	551
Waste Code:	551
Waste Name:	LABORATORY WASTE CHE
Qnty at Inspection:	5
Quantity String:	5
Annual Qty:	5
Annual Qty String:	5
Measurement Unit:	GAL
Treatment Method:	007 INCINERATION
Storage Method:	PLASTIC DRUM
Haz Waste Hauler:	3354 OCEAN BLUE ENVIRONME
Waste Desc:	SCIENCE WASTE
Carcinogen:	No

Inspection Date:	03/07/08
Waste Item #:	888
Waste Code:	888
Waste Name:	USED OIL FILTERS
Qnty at Inspection:	200
Quantity String:	200
Annual Qty:	200
Annual Qty String:	200
Measurement Unit:	LBS
Treatment Method:	888 FILTERS/METAL RE
Storage Method:	METAL DRUM
Haz Waste Hauler:	0015 ASBURY ENVIR. SERVIC
Waste Desc:	AUTO SHOP
Carcinogen:	No

Inspection Date:	03/07/08
Waste Item #:	902
Waste Code:	902
Waste Name:	INFECTIOUS WASTE, SH
Qnty at Inspection:	5
Quantity String:	5
Annual Qty:	20
Annual Qty String:	20

SDUSD CRAWFORD HIGH SCHOOL (Continued) **S104748085**

Measurement Unit: LBS
Treatment Method: 101 AUTOCLAVE
Storage Method: BOX
Haz Waste Hauler: 9999 SELF:SMALL QTY EXEMP
Waste Desc: LQHE
Carcinogen: No

SAN DIEGO CO. SAM:
Case Number: H14074-001
Agency: DEH Site Assessment & Mitigation
Funding: **LOP - State Fund**
FType: Soils Only
FStatus: 9
Date: 4/26/2000
Date Began: 7/25/1988

36
WNW
1/4-1/2
0.281 mi.
1486 ft.

52ND STREET ELEMENTARY SCHOOL - SITE 2
52ND STREET/POLK AVENUE
SAN DIEGO, CA 92105

SCH
ENVIROSTOR

S105628903
N/A

Relative:
Higher

Actual:
336 ft.

SCH:

Facility ID: 37650008
Site Type: School Cleanup
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 8
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: NONE SPECIFIED
Lead Agency Description: Not reported
Project Manager: Not reported
Supervisor: * Rafat Abbasi
Division Branch: Cleanup Cypress
Site Code: 404390
Assembly: 78
Senate: 39
Special Program Status: Not reported
Status: Inactive - Needs Evaluation
Status Date: 2005-09-12 00:00:00
Restricted Use: NO
Funding: School District
Latitude: 32.749747
Longitude: -117.082953
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: , 30013, 30004
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: 52ND STREET ELEMENTARY SCHOOL - SITE 2
Alias Type: Alternate Name
Alias Name: S.D. USD-52ND ST EL AKA JK MRSH EL SITE2
Alias Type: Alternate Name
Alias Name: SAN DIEGO UNIFIED SCHOOL DISTRICT

52ND STREET ELEMENTARY SCHOOL - SITE 2 (Continued) **S105628903**

Alias Type: Alternate Name
Alias Name: SAN DIEGO USD-PRPSD 52ND ST ALTER NO. 2
Alias Type: Alternate Name
Alias Name: 110033612927
Alias Type: EPA (FRS #)
Alias Name: 404198
Alias Type: Project Code (Site Code)
Alias Name: 404390
Alias Type: Project Code (Site Code)
Alias Name: 37650008
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 2003-02-06 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 2001-02-14 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2003-06-25 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 2001-01-10 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2001-03-14 00:00:00
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Site Type: School Cleanup
Site Type Detailed: School
Acres: 8

52ND STREET ELEMENTARY SCHOOL - SITE 2 (Continued) **S105628903**

NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: * Rafat Abbasi
Division Branch: Cleanup Cypress
Facility ID: 37650008
Site Code: 404390
Assembly: 78
Senate: 39
Special Program: Not reported
Status: Inactive - Needs Evaluation
Status Date: 2005-09-12 00:00:00
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: School District
Latitude: 32.749747
Longitude: -117.082953
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: , 30013, 30004
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: 52ND STREET ELEMENTARY SCHOOL - SITE 2
Alias Type: Alternate Name
Alias Name: S.D. USD-52ND ST EL AKA JK MRSH EL SITE2
Alias Type: Alternate Name
Alias Name: SAN DIEGO UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: SAN DIEGO USD-PRPSD 52ND ST ALTER NO. 2
Alias Type: Alternate Name
Alias Name: 110033612927
Alias Type: EPA (FRS #)
Alias Name: 404198
Alias Type: Project Code (Site Code)
Alias Name: 404390
Alias Type: Project Code (Site Code)
Alias Name: 37650008
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 2003-02-06 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 2001-02-14 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2003-06-25 00:00:00
Comments: Not reported

52ND STREET ELEMENTARY SCHOOL - SITE 2 (Continued) **S105628903**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 2001-01-10 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 2001-03-14 00:00:00
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

G37 **WESTBURNE PIPE & SUPPLY** **LUST** **S104746153**
West **5150 UNIVERSITY AV** **San Diego Co. HMMD** **N/A**
1/4-1/2 **SAN DIEGO, CA 92105** **SAN DIEGO CO. SAM**
0.302 mi.
1595 ft. **Site 1 of 3 in cluster G**

Relative:
Higher

Actual:
311 ft.

LUST:
Region: STATE
Global Id: T0607300135
Latitude: 32.749635
Longitude: -117.084182
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 1998-10-14 00:00:00
Lead Agency: SAN DIEGO COUNTY LOP
Case Worker: AN
Local Agency: Not reported
RB Case Number: 9UT1146
LOC Case Number: H05330-001
File Location: Local Agency
Potential Media Affect: Soil
Potential Contaminants of Concern: Diesel
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

LUST:
Global Id: T0607300135
Contact Type: Regional Board Caseworker
Contact Name: UNASSIGNED
Organization Name: SAN DIEGO RWQCB (REGION 9)
Address: 9174 SKY PARK COURT, SUITE 100
City: SAN DIEGO
Email: Not reported
Phone Number: Not reported

WESTBURNE PIPE & SUPPLY (Continued) **S104746153**

LUST:

Global Id:	T0607300135
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Discovery
Global Id:	T0607300135
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Stopped
Global Id:	T0607300135
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Began
Global Id:	T0607300135
Action Type:	ENFORCEMENT
Date:	1998-10-05 00:00:00
Action:	Clean Up Fund - Case Closure Summary
Global Id:	T0607300135
Action Type:	ENFORCEMENT
Date:	1988-10-06 00:00:00
Action:	Notice of Responsibility
Global Id:	T0607300135
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Reported

Region:	STATE
Global Id:	T0607300278
Latitude:	32.749635
Longitude:	-117.084182
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	1998-10-14 00:00:00
Lead Agency:	SAN DIEGO COUNTY LOP
Case Worker:	JS
Local Agency:	Not reported
RB Case Number:	9UT1453
LOC Case Number:	H05330-002
File Location:	Local Agency
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

LUST:

Global Id:	T0607300278
Contact Type:	Regional Board Caseworker
Contact Name:	UNASSIGNED
Organization Name:	SAN DIEGO RWQCB (REGION 9)
Address:	9174 SKY PARK COURT, SUITE 100

WESTBURNE PIPE & SUPPLY (Continued) **S104746153**

City:	SAN DIEGO
Email:	Not reported
Phone Number:	Not reported

LUST:

Global Id:	T0607300278
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Discovery
Global Id:	T0607300278
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Stopped
Global Id:	T0607300278
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Began
Global Id:	T0607300278
Action Type:	ENFORCEMENT
Date:	1998-10-05 00:00:00
Action:	Clean Up Fund - Case Closure Summary
Global Id:	T0607300278
Action Type:	ENFORCEMENT
Date:	1989-06-16 00:00:00
Action:	Notice of Responsibility
Global Id:	T0607300278
Action Type:	Other
Date:	1950-01-01 00:00:00
Action:	Leak Reported

San Diego Co. HMMD:

Facility ID:	105330
Inactive Indicator:	Active
Business Code:	Not reported
SIC:	Not reported
Permit Expiration:	Not reported
Owner:	WESTBURNE SUPPLY INC
2nd Name:	ATTN: MISC PAYABLES
Mailing Address:	741 E BALL RD #205
Mailing City,St,Zip:	ANAHEIM, CA 92805
Map Code/Business Plan on File:	Not reported
Corporate Code:	Not reported
Fire Dept District:	Not reported
Census Tract Number:	27.08
EPA ID:	Not reported
Gas Station:	Not reported
Inspection Date:	05/26/98
Reinspection Date:	Not reported
Inspector Name:	LEGACY
Violation Notice Issued:	Not reported

WESTBURNE PIPE & SUPPLY (Continued) **S104746153**

Facility Contact:	MARK WALTON
Delinquent Flag:	Not Delinquent
Last Update:	08/30/10
Last Delinquent Letter:	Not reported
Delinquent Comment:	Not reported
Last Letter Type:	Not reported
Property Owner:	SAN DIEGO RESCUE MISSION INC
Property Address:	P O BOX 80427
Property City,St,Zip:	SAN DIEGO, CA 92138
Tank Owner:	SANDO PARTNERSHIP
Tank Address:	1076 BROOKLAWN
Tank City,St,Zip:	Los Angeles, CA 90077
Business Plan Acceptance Date:	Not reported
Reinspection Date Y2K Compatible:	Not reported
Facility Phone:	619-282-8154

HMMD DISCLOSURE INVENTORY:

Item Number:	Not reported
Chemical Name:	Not reported
Case Number:	Not reported
Quantity Stored At One Time:	Not reported
Quantity Stored at One Time:	Not reported
Annual Quantity String:	Not reported
Annual Quantity String:	Not reported
Measurement Units:	Not reported
Carcinogen:	No
1st Hazard Category:	Not reported
2nd Hazard Category:	Not reported

HMMD UNDERGROUND TANKS:

Tank Number:	T001
Tank ID Number:	1
Waste or Product:	1000
Tank Contents:	Not reported

Tank Number:	T002
Tank ID Number:	2
Waste or Product:	1000
Tank Contents:	Not reported

HMMD VIOLATIONS:

Inspection Date:	07/02/96
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	0416

Inspection Date:	07/02/96
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	0417

Inspection Date:	09/30/96
Waste Code:	Not reported
Occurrences:	Not reported
Item Number:	1101

WESTBURNE PIPE & SUPPLY (Continued) **S104746153**

HMMD WASTE STREAMS:

Inspection Date:	Not reported
Waste Item #:	Not reported
Waste Code:	Not reported
Waste Name:	Not reported
Qnty at Inspection:	Not reported
Quantity String:	Not reported
Annual Qty:	Not reported
Annual Qty String:	Not reported
Measurement Unit:	Not reported
Treatment Method:	Not reported
Storage Method:	Not reported
Haz Waste Hauler:	Not reported
Waste Desc:	Not reported
Carcinogen:	No

SAN DIEGO CO. SAM:

Case Number:	H05330-001
Agency:	DEH Site Assessment & Mitigation
Funding:	**LOP - Federal Fund**
FType:	Soils Only
FStatus:	9
Date:	10/14/1998
Date Began:	10/4/1988

Case Number:	H05330-002
Agency:	DEH Site Assessment & Mitigation
Funding:	**LOP - Federal Fund**
FType:	Soils Only
FStatus:	9
Date:	10/14/1998
Date Began:	6/13/1989

G38
West
1/4-1/2
0.302 mi.
1595 ft.

SAN DIEGO PIPE & SUPPLY
5150 UNIVERSITY AVENUE
SAN DIEGO, CA 92105

Site 2 of 3 in cluster G

Notify 65 **U000030840**
N/A

Relative:
Higher

Actual:
311 ft.

Notify 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	92105-2119

G39
West
1/4-1/2
0.302 mi.
1595 ft.

SAN DIEGO PIPE AND SUPPLY
51501 UNIVERSITY
SAN DIEGO, CA 92105

Site 3 of 3 in cluster G

HIST CORTESE S104160514
LUST N/A

Relative:
Higher

Actual:
311 ft.

CORTESE:

Region:	CORTESE
Facility County Code:	37
Reg By:	LTNKA
Reg Id:	9UT1146

LUST REG 9:

Region:	9
Status:	Case Closed
Case Number:	9UT1453
Local Case:	H05330-002
Substance:	Regular Gasoline
Qty Leaked:	0
Abate Method:	Not reported
Local Agency:	San Diego
How Found:	Tank Closure
How Stopped:	Close Tank
Source:	Piping
Cause:	Overfill
Lead Agency:	Local Agency
Case Type:	Soil only
Date Found:	06/13/1989
Date Stopped:	06/13/1989
Confirm Date:	06/13/1989
Submit Workplan:	6/20/89
Prelim Assess:	11/10/1989
Desc Pollution:	Not reported
Remed Plan:	/ /
Remed Action:	Not reported
Began Monitor:	Not reported
Release Date:	06/13/1989
Enforce Date:	Not reported
Closed Date:	10/14/98
Enforce Type:	Not reported
Pilot Program:	LOP
Basin Number:	908.22
GW Depth:	Not reported
Beneficial Use:	No Beneficial groundwater use
NPDES Number:	Not reported
Priority:	2B
File Dispn:	File discarded, case closed
Interim Remedial Actions:	Yes
Cleanup and Abatement order Number:	Not reported
Waste Discharge Requirement Number:	Not reported

Region:	9
Status:	Case Closed
Case Number:	9UT1146
Local Case:	H05330-001
Substance:	Diesel
Qty Leaked:	Not reported
Abate Method:	Not reported
Local Agency:	San Diego

SAN DIEGO PIPE AND SUPPLY (Continued) **S104160514**

How Found: Tank Test
How Stopped: Other Means
Source: Piping
Cause: Not reported
Lead Agency: Local Agency
Case Type: Soil only
Date Found: 10/03/1988
Date Stopped: 10/03/1988
Confirm Date: 10/25/1988
Submit Workplan: Not reported
Prelim Assess: 02/13/1989
Desc Pollution: Not reported
Remed Plan: / /
Remed Action: Not reported
Began Monitor: Not reported
Release Date: 02/13/1989
Enforce Date: Not reported
Closed Date: 10/14/98
Enforce Type: Not reported
Pilot Program: LOP
Basin Number: 908.22
GW Depth: Not reported
Beneficial Use: No Beneficial groundwater use
NPDES Number: Not reported
Priority: 2B
File Dispn: File discarded, case closed
Interim Remedial Actions: No
Cleanup and Abatement order Number: Not reported
Waste Discharge Requirement Number: Not reported

H40
South
1/4-1/2
0.432 mi.
2280 ft.

OAK PARK RECYCLE
3117 54TH ST
SAN DIEGO, CA 92105

Site 1 of 2 in cluster H

SWRCY **S110656517**
N/A

Relative:
Higher

Actual:
305 ft.

SWRCY:
Facility Phone Number: Not reported
Whether The Facility Is Grandfathered: N
Effective Date: 09/27/2010
Rural: N
As Of: 2011-02-22 00:00:00
Party Number: 64530

H41
South
1/4-1/2
0.460 mi.
2428 ft.

NU'S AUTO REPAIR & BODY
3095 54TH ST
SAN DIEGO, CA 92105

Site 2 of 2 in cluster H

HIST CORTESE
LUST
SWEEPS UST
San Diego Co. HMMD
HAZNET
SAN DIEGO CO. SAM

S100940921
N/A

Relative:
Higher

Actual:
301 ft.

CORTESE:
Region: CORTESE
Facility County Code: 37
Reg By: LTNKA
Reg Id: 9UT3476

NU’S AUTO REPAIR & BODY (Continued) **S100940921**

LUST:
Region: STATE
Global Id: T0607302240
Latitude: 32.737495
Longitude: -117.079216
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 1999-11-18 00:00:00
Lead Agency: SAN DIEGO COUNTY LOP
Case Worker: DM
Local Agency: Not reported
RB Case Number: 9UT3476
LOC Case Number: H15015-001
File Location: Local Agency
Potential Media Affect: Soil
Potential Contaminants of Concern: Waste Oil / Motor / Hydraulic / Lubricating
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

LUST:
Global Id: T0607302240
Contact Type: Regional Board Caseworker
Contact Name: UNASSIGNED
Organization Name: SAN DIEGO RWQCB (REGION 9)
Address: 9174 SKY PARK COURT, SUITE 100
City: SAN DIEGO
Email: Not reported
Phone Number: Not reported

LUST:
Global Id: T0607302240
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Stopped

Global Id: T0607302240
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Reported

Global Id: T0607302240
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Began

Global Id: T0607302240
Action Type: Other
Date: 1950-01-01 00:00:00
Action: Leak Discovery

Global Id: T0607302240
Action Type: ENFORCEMENT
Date: 1995-08-30 00:00:00
Action: Notice of Responsibility

NU'S AUTO REPAIR & BODY (Continued) **S100940921**

LUST REG 9:

Region:	9
Status:	Case Closed
Case Number:	9UT3476
Local Case:	H15015-001
Substance:	Waste Oil
Qty Leaked:	0
Abate Method:	Not reported
Local Agency:	San Diego
How Found:	Tank Closure
How Stopped:	Close Tank
Source:	Piping
Cause:	Unknown
Lead Agency:	Local Agency
Case Type:	Soil only
Date Found:	08/17/1995
Date Stopped:	08/17/1995
Confirm Date:	/ /
Submit Workplan:	Not reported
Prelim Assess:	08/29/1995
Desc Pollution:	Not reported
Remed Plan:	/ /
Remed Action:	Not reported
Began Monitor:	Not reported
Release Date:	08/23/1995
Enforce Date:	8/30/95
Closed Date:	11/18/99
Enforce Type:	SEL
Pilot Program:	LOP
Basin Number:	908.22
GW Depth:	>10'
Beneficial Use:	No Beneficial groundwater use
NPDES Number:	Not reported
Priority:	Low priority. Priority ranking can change over time.
File Dispn:	Administratively opened on database, however no file physically exists
Interim Remedial Actions:	Not reported
Cleanup and Abatement order Number:	Not reported
Waste Discharge Requirement Number:	Not reported

SWEEPS UST:

Status:	A
Comp Number:	15015
Number:	9
Board Of Equalization:	Not reported
Ref Date:	Not reported
Act Date:	06-26-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	37-000-015015-000001
Actv Date:	Not reported
Capacity:	1000
Tank Use:	PETROLEUM
Stg:	W
Content:	Not reported
Number Of Tanks:	1

NU'S AUTO REPAIR & BODY (Continued) **S100940921**

San Diego Co. HMMD:
Facility ID: 115015
Inactive Indicator: Active
Business Code: 6HK26
SIC: Not reported
Permit Expiration: Not reported
Owner: THAI ANH
2nd Name: Not reported
Mailing Address: 3095 54TH ST
Mailing City,St,Zip: SAN DIEGO, CA 92105
Map Code/Business Plan on File: Not reported
Corporate Code: Not reported
Fire Dept District: San Diego
Census Tract Number: 27.06
EPA ID: CAL000038835
Gas Station: Not reported
Inspection Date: 07/14/09
Reinspection Date: Not reported
Inspector Name: CFUENTEC
Violation Notice Issued: Not reported
Facility Contact: ANDI THAI
Delinquent Flag: Not Delinquent
Last Update: 08/30/10
Last Delinquent Letter: Not reported
Delinquent Comment: Not reported
Last Letter Type: Not reported
Property Owner: NGUYEN NU VAN&THAI SAU THI
Property Address: 5637 BROMLEY WAY
Property City,St,Zip: SAN DIEGO, CA 92120
Tank Owner: NGUYEN NU VAN & THAI SAUTHI
Tank Address: 5637 BRAMLEY WY
Tank City,St,Zip: San Diego, CA 92120
Business Plan Acceptance Date: Not reported
Reinspection Date Y2K Compatible: 01/14/11
Facility Phone: 619-287-5668

HMMD DISCLOSURE INVENTORY:
Item Number: Not reported
Chemical Name: Not reported
Case Number: Not reported
Quantity Stored At One Time: Not reported
Quantity Stored at One Time: Not reported
Annual Quantity String: Not reported
Annual Quantity String: Not reported
Measurement Units: Not reported
Carcinogen: No
1st Hazard Category: Not reported
2nd Hazard Category: Not reported

HMMD UNDERGROUND TANKS:
Tank Number: Not reported
Tank ID Number: Not reported
Waste or Product: Not reported
Tank Contents: Not reported

HMMD VIOLATIONS:

NU’S AUTO REPAIR & BODY (Continued) **S100940921**

Inspection Date: 04/15/99
Waste Code: Not reported
Occurrences: Not reported
Item Number: 9455

Inspection Date: 04/15/99
Waste Code: Not reported
Occurrences: Not reported
Item Number: 9456

Inspection Date: 04/28/06
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5097

Inspection Date: 04/28/06
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5098

Inspection Date: 04/28/06
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5099

Inspection Date: 04/28/06
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5100

Inspection Date: 04/28/06
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5101

Inspection Date: 01/14/02
Waste Code: Not reported
Occurrences: Not reported
Item Number: 8752

Inspection Date: 01/14/02
Waste Code: Not reported
Occurrences: Not reported
Item Number: 8753

Inspection Date: 01/14/02
Waste Code: Not reported
Occurrences: Not reported
Item Number: 8754

Inspection Date: 01/14/02
Waste Code: Not reported
Occurrences: Not reported
Item Number: 8755

Inspection Date: 12/26/84
Waste Code: Not reported

NU'S AUTO REPAIR & BODY (Continued) **S100940921**

Occurrences: Not reported
Item Number: 1758

Inspection Date: 12/26/84
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1759

Inspection Date: 12/26/84
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1760

Inspection Date: 12/26/84
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1761

Inspection Date: 04/21/03
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5250

Inspection Date: 04/21/03
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5251

Inspection Date: 04/21/03
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5252

Inspection Date: 04/21/03
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5253

Inspection Date: 04/21/03
Waste Code: Not reported
Occurrences: Not reported
Item Number: 5254

Inspection Date: 02/12/98
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7254

Inspection Date: 02/12/98
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7255

Inspection Date: 02/12/98
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7256

NU’S AUTO REPAIR & BODY (Continued) **S100940921**

Inspection Date: 02/12/98
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7257

Inspection Date: 02/12/98
Waste Code: Not reported
Occurrences: Not reported
Item Number: 7258

Inspection Date: 09/29/04
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1286

Inspection Date: 09/29/04
Waste Code: Not reported
Occurrences: Not reported
Item Number: 1287

HMMD WASTE STREAMS:
Inspection Date: 07/14/09
Waste Item #: 181
Waste Code: 181
Waste Name: INORGANIC SOLID WAST
Qnty at Inspection: 55
Quantity String: 55
Annual Qty: 55
Annual Qty String: 55
Measurement Unit: LBS
Treatment Method: 999 UNKNOWN
Storage Method: BOX
Haz Waste Hauler: 9998 UNKNOWN HAZ WST HAUL
Waste Desc: SPRAY BOOTH FILTERS
Carcinogen: No

Inspection Date: 07/14/09
Waste Item #: 213
Waste Code: 213
Waste Name: HYDROCARBON SOLVENTS
Qnty at Inspection: 55
Quantity String: 55
Annual Qty: 55
Annual Qty String: 55
Measurement Unit: GAL
Treatment Method: 999 UNKNOWN
Storage Method: PROCESSING EQUIPMENT
Haz Waste Hauler: 2986 INDUSTRIAL SOLVENT &
Waste Desc: KEROSENE/HOT TANK
Carcinogen: No

Inspection Date: 07/14/09
Waste Item #: 221
Waste Code: 221
Waste Name: WASTE OIL & MIXED OI
Qnty at Inspection: 300
Quantity String: 300

NU'S AUTO REPAIR & BODY (Continued) **S100940921**

Annual Qty: 400
Annual Qty String: 400
Measurement Unit: GAL
Treatment Method: 001 RECYCLE
Storage Method: ABVG TNK
Haz Waste Hauler: 0015 ASBURY ENVIR. SERVIC
Waste Desc: WASTE OIL & MIXED OIL
Carcinogen: No

Inspection Date: 07/14/09
Waste Item #: 342
Waste Code: 342
Waste Name: ORGANIC LIQUIDS W/ME
Qnty at Inspection: 110
Quantity String: 110
Annual Qty: 110
Annual Qty String: 110
Measurement Unit: GAL
Treatment Method: 999 UNKNOWN
Storage Method: METAL DRUM
Haz Waste Hauler: 0015 ASBURY ENVIRONMENTAL
Waste Desc: Not reported
Carcinogen: No

Inspection Date: 07/14/09
Waste Item #: 461
Waste Code: 461
Waste Name: PAINT SLUDGE
Qnty at Inspection: 15
Quantity String: 15
Annual Qty: 30
Annual Qty String: 30
Measurement Unit: GAL
Treatment Method: 001 RECYCLE
Storage Method: METAL DRUM
Haz Waste Hauler: 0971 PACIFIC COAST LACQUE
Waste Desc: PAINTING WASTE
Carcinogen: No

Inspection Date: 07/14/09
Waste Item #: 888
Waste Code: 888
Waste Name: USED OIL FILTERS
Qnty at Inspection: 110
Quantity String: 110
Annual Qty: 110
Annual Qty String: 110
Measurement Unit: GAL
Treatment Method: 888 FILTERS/METAL RE
Storage Method: METAL DRUM
Haz Waste Hauler: 9997 UNREGISTERED HAZ WST
Waste Desc: VORTEX HAULER
Carcinogen: No

HAZNET:
Year: 1998

NU’S AUTO REPAIR & BODY (Continued) **S100940921**

Gepaid:	CAL000038835
Contact:	THAI ANH
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	3095 54TH ST
Mailing City,St,Zip:	SAN DIEGO, CA 921054923
Gen County:	San Diego
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Waste Category:	Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)
Disposal Method:	R01
Tons:	.0667
Facility County:	San Diego

Year:	1995
Gepaid:	CAL000038835
Contact:	THAI ANH
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	3095 54TH ST
Mailing City,St,Zip:	SAN DIEGO, CA 921054923
Gen County:	San Diego
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Disposal Method:	Not reported
Tons:	.1251
Facility County:	San Diego

Year:	1995
Gepaid:	CAL000038835
Contact:	THAI ANH
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	3095 54TH ST
Mailing City,St,Zip:	SAN DIEGO, CA 921054923
Gen County:	San Diego
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Disposal Method:	R01
Tons:	.1251
Facility County:	San Diego

Year:	1993
Gepaid:	CAL000038835
Contact:	THAI ANH
Telephone:	0000000000
Mailing Name:	Not reported
Mailing Address:	3095 54TH ST
Mailing City,St,Zip:	SAN DIEGO, CA 921054923
Gen County:	San Diego
TSD EPA ID:	CAD008252405
TSD County:	Los Angeles
Waste Category:	Unspecified solvent mixture
Disposal Method:	R01
Tons:	.2293

NU'S AUTO REPAIR & BODY (Continued) **S100940921**

Facility County: San Diego

SAN DIEGO CO. SAM:
Case Number: H15015-001
Agency: DEH Site Assessment & Mitigation
Funding: **LOP - Federal Fund**
FType: Soils Only
FStatus: 9
Date: 11/18/1999
Date Began: 8/17/1995

42
West
1/4-1/2
0.492 mi.
2598 ft.

3751 WINONA
SAN DIEGO, CA 92105

Notify 65 **S100178498**
N/A

Relative:
Lower

Actual:
292 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 92105-3012

43
North
1/2-1
0.529 mi.
2792 ft.

56TH ST & MEADE AVE
SAN DIEGO, CA

Notify 65 **S100178337**
N/A

Relative:
Higher

Actual:
432 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: Not reported

44
West
1/2-1
0.529 mi.
2792 ft.

3802 49TH ST
SAN DIEGO, CA 92105

CHMIRS **S100178111**
Notify 65 **N/A**

Relative:
Higher

Actual:
327 ft.

CHMIRS:
OES Incident Number: 97-0207
OES notification: 1/15/199709:38:21 PM
OES Date: Not reported
OES Time: Not reported
Incident Date: Not reported
Date Completed: **Not reported**
Property Use: Not reported
Agency Id Number: Not reported

(Continued) **S100178111**

Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
Special Studies 1: Not reported
Special Studies 2: Not reported
Special Studies 3: Not reported
Special Studies 4: Not reported
Special Studies 5: Not reported
Special Studies 6: Not reported
More Than Two Substances Involved?: Not reported
Resp Agncy Personel # Of Decontaminated: Not reported
Responding Agency Personel # Of Injuries: Not reported
Responding Agency Personel # Of Fatalities: Not reported
Others Number Of Decontaminated: Not reported
Others Number Of Injuries: Not reported
Others Number Of Fatalities: Not reported
Vehicle Make/year: Not reported
Vehicle License Number: Not reported
Vehicle State: Not reported
Vehicle Id Number: Not reported
CA/DOT/PUC/ICC Number: Not reported
Company Name: Not reported
Reporting Officer Name/ID: Not reported
Report Date: Not reported
Comments: Not reported
Facility Telephone: Not reported
Waterway Involved: Yes
Waterway: San Diego Bay
Spill Site: Not reported
Cleanup By: Not reported
Containment: Not reported
What Happened: Not reported
Type: Not reported
Measure: Not reported
Other: Not reported
Date/Time: Not reported
Year: 1997
Agency: City of San Diego Waste Water
Incident Date: 1/15/199712:00:00 AM
Admin Agency: San Diego County Health Services Dept.
Amount: Not reported
Contained: No
Site Type: Other
E Date: Not reported
Substance: Raw Sewage
Quantity Released: Not reported
BBLS: 0
Cups: 0
CUFT: 0
Gallons: 5,540
Grams: 0
Pounds: 0
Liters: 0
Ounces: 0

(Continued) **S100178111**

Pints: 0
Quarts: 0
Sheen: 0
Tons: 0
Unknown: 0
Evacuations: 0
Number of Injuries: 0
Number of Fatalities: 0
Description: Sewer main stoppage caused overflow. Main unplugged to stop leakage, cleanup not feasible due to heavy rains.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 92105-2101

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45 **4500 BLK COLLWOOD BLVD.** **Notify 65** **S100178230**
North **N/A**
1/2-1 **SAN DIEGO, CA**
0.545 mi.
2878 ft.

Relative:
Higher

Actual:
411 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: Not reported

---

46 **WINONA AREA ELEMENTARY SCHOOL** **SCH** **S105628921**
WNW **49TH STREET/POLK STREET** **ENVIROSTOR** **N/A**
1/2-1 **SAN DIEGO, CA 92105**
0.576 mi.
3041 ft.

Relative:
Higher

Actual:
351 ft.

SCH:

Facility ID: 37880007
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: Not reported
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Mitigation And Brownfield Reuse Program
Project Manager: GREG NEAL
Supervisor: Javier Hinojosa
Division Branch: Cleanup Cypress
Site Code: 404310
Assembly: 78
Senate: 39

WINONA AREA ELEMENTARY SCHOOL (Continued) **S105628921**

Special Program Status: Not reported
Status: Inactive - Needs Evaluation
Status Date: 2001-08-29 00:00:00
Restricted Use: NO
Funding: School District
Latitude: 32.75222
Longitude: -117.089429
APN: NONE SPECIFIED
Past Use: RESIDENTIAL AREA
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: SAN DIEGO UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: SAN DIEGO USD-WINONA AREA ELEM-ALT. 2
Alias Type: Alternate Name
Alias Name: SAN DIEGO USD-WINONA AREA ES ALT 2
Alias Type: Alternate Name
Alias Name: WINONA AREA ELEMENTARY SCHOOL
Alias Type: Alternate Name
Alias Name: WINONA AREA ELEMENTARY SCHOOL (PROPOSED)
Alias Type: Alternate Name
Alias Name: 404195
Alias Type: Project Code (Site Code)
Alias Name: 404310
Alias Type: Project Code (Site Code)
Alias Name: 37880007
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 2001-08-29 00:00:00
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Site Type: School Investigation
Site Type Detailed: School
Acres: Not reported
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: GREG NEAL
Supervisor: Javier Hinojosa
Division Branch: Cleanup Cypress
Facility ID: 37880007

WINONA AREA ELEMENTARY SCHOOL (Continued) **S105628921**

Site Code:	404310
Assembly:	78
Senate:	39
Special Program:	Not reported
Status:	Inactive - Needs Evaluation
Status Date:	2001-08-29 00:00:00
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	School District
Latitude:	32.75222
Longitude:	-117.089429
APN:	NONE SPECIFIED
Past Use:	RESIDENTIAL AREA
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	SAN DIEGO UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	SAN DIEGO USD-WINONA AREA ELEM-ALT. 2
Alias Type:	Alternate Name
Alias Name:	SAN DIEGO USD-WINONA AREA ES ALT 2
Alias Type:	Alternate Name
Alias Name:	WINONA AREA ELEMENTARY SCHOOL
Alias Type:	Alternate Name
Alias Name:	WINONA AREA ELEMENTARY SCHOOL (PROPOSED)
Alias Type:	Alternate Name
Alias Name:	404195
Alias Type:	Project Code (Site Code)
Alias Name:	404310
Alias Type:	Project Code (Site Code)
Alias Name:	37880007
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	2001-08-29 00:00:00
Comments:	Not reported

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

47
NE
1/2-1
0.638 mi.
3368 ft.

PRIVATE CITIZEN/RESIDENT
4272 COLLEGE AVE
SAN DIEGO, CA 92115

Notify 65

S100178200
N/A

Relative:
Higher

Actual:
406 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 92115-5722

48
NW
1/2-1
0.662 mi.
3495 ft.

4340 WINONA
SAN DIEGO, CA 92115

Notify 65

S100178500
N/A

Relative:
Higher

Actual:
377 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 92115-5056

49
West
1/2-1
0.722 mi.
3814 ft.

ELECTRICAL TRANSFORMER STORAGE YARD
4759 DWIGHT STREET
SAN DIEGO, CA 92105

ENVIROSTOR

1000181331
N/A

Relative:
Higher

Actual:
349 ft.

ENVIROSTOR:
Site Type: Historical
Site Type Detailed: * Historical
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: * MMONROY
Division Branch: Cleanup Cypress
Facility ID: 37420001
Site Code: Not reported
Assembly: 78
Senate: 39
Special Program: * Site Char & Assess Grant (CERCLA 104)
Status: Refer: Other Agency
Status Date: 1995-08-21 00:00:00
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: Not reported
Latitude: 32.7435633101188
Longitude: -117.092007478258
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED

ELECTRICAL TRANSFORMER STORAGE YARD (Continued) **1000181331**

Potential COC: 10097, 10194, 30018, 30153
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: SAN DIEGO ELECTRIC
Alias Type: Alternate Name
Alias Name: 37420001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 1994-11-17 00:00:00
Comments: CALSITES VALIDATION PROGRAM CONFIRMS NFA FOR DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 1983-02-11 00:00:00
Comments: FACILITY IDENTIFIED VIA NEIGHBORHOOD TIP

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

50
SW
1/2-1
0.776 mi.
4099 ft.

3000 WINONA AVE
SAN DIEGO, CA

Notify 65 **S100178424**
N/A

Relative:
Lower

Actual:
249 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: Not reported

51
NNW
1/2-1
0.831 mi.
4389 ft.

4613 CONTOUR BLVD.
SAN DIEGO, CA 92115

Notify 65 **S100178071**
N/A

Relative:
Higher

Actual:
382 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported

(Continued) **S100178071**

Incident Description: 92115-3423

52
West
1/2-1
0.838 mi.
4427 ft.

4717 UNIVERSITY AVE
IN ALLEY EAST
SAN DIEGO, CA

Notify 65 **S100178046**
N/A

Relative:
Higher

Actual:
353 ft.

Notify 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	Not reported

53
West
1/2-1
0.874 mi.
4617 ft.

47TH AND POLK

SAN DIEGO, CA

Notify 65 **S100178147**
N/A

Relative:
Higher

Actual:
353 ft.

Notify 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	Not reported

54
WNW
1/2-1
0.921 mi.
4862 ft.

HARTSON, ROBERT L.
4318 47TH STREET
SAN DIEGO, CA 92115

Notify 65 **S100179007**
N/A

Relative:
Higher

Actual:
356 ft.

Notify 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	92115-4524

55
NNW
1/2-1
0.925 mi.
4882 ft.

MADISON AVE & ALTADENA AVE
IN ALLEY
SAN DIEGO, CA

Notify 65 **S100178272**
N/A

Relative:
Higher

Actual:
395 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: Not reported

56
West
1/2-1
0.965 mi.
5094 ft.

4569 DWIGHT ST
SAN DIEGO, CA 92105

Notify 65 **S100178024**
N/A

Relative:
Higher

Actual:
339 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 92105-3541

57
North
1/2-1
0.970 mi.
5123 ft.

5345 COLLIER AVENUE
SAN DIEGO, CA 92115

Notify 65 **S100178110**
N/A

Relative:
Higher

Actual:
422 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 92115-3525

Count: 10 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SAN DIEGO	S110986767	OTAY LIMITED VOLUME TRANNSFER OPER	3310 BEYER BLVD		SWF/LF
SAN DIEGO	S109821513	OLD MCRD REFUSE DISPOSAL AREA	4000 BLK N HARBOR DR		SWF/LF
SAN DIEGO	S109821581	BELL JR HIGH SLF/SWEETWATER II	7300 BLOCK PARADISE VALLEY RD		SWF/LF
SAN DIEGO	2010935861	BRIDGE GOES OVER HARBOR DRIVE / CH	BRIDGE GOES OVER HARBOR DR &		ERNS
SAN DIEGO	S108406921	38TH & REDWOOD BURN SITE #8	CAL TRANS RT OF WAY	92105	SAN DIEGO CO. SAM
SAN DIEGO	1006838146	NORTH CHOLLAS BURN SITE	2781 CAMINITO DR; N OF COLLEGE	92115	FINDS
SAN DIEGO	S109458890	SOUTH CHOLLAS LANDFILL SLOPE MODIF	SOUTH CHOLLAS LANDFILL COLLEGE	92105	NPDES
SAN DIEGO	S103866782		COMMERCIAL BASIN		WMUDS/SWAT, CHMIRS
SAN DIEGO	S102006413		NAVAL AIR STATION NORTH IS		WMUDS/SWAT, CHMIRS
SAN DIEGO	S103066037	SAN DIEGO PIPE AND SUPPLY	51502 UNIVERSITY	92105	HIST CORTESE

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/31/2011
Date Data Arrived at EDR: 04/13/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/31/2011
Date Data Arrived at EDR: 04/13/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/31/2011
Date Data Arrived at EDR: 04/13/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPAa??s Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2010
Date Data Arrived at EDR: 01/11/2011
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/15/2011
Next Scheduled EDR Contact: 07/25/2011
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA’s knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/09/2011
Date Data Arrived at EDR: 03/15/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 91

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/11/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/11/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/11/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/11/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/16/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/16/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 04/05/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 70

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/16/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control’s (DTSC’s) Site Mitigation and Brownfields Reuse Program’s (SMBRP’s) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/16/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/23/2011
Date Data Arrived at EDR: 05/24/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 22

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/24/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board’s LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board’s LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 06/06/2011
Next Scheduled EDR Contact: 09/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 04/18/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 06/20/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 06/20/2011
Date Data Arrived at EDR: 06/21/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 17

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/21/2011
Next Scheduled EDR Contact: 10/03/2011
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 04/18/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 06/20/2011
Date Data Arrived at EDR: 06/21/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 17

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/21/2011
Next Scheduled EDR Contact: 10/03/2011
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 06/20/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 04/18/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/13/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 05/09/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/17/2011	Source: EPA Region 10
Date Data Arrived at EDR: 05/19/2011	Telephone: 206-553-2857
Date Made Active in Reports: 06/14/2011	Last EDR Contact: 05/02/2011
Number of Days to Update: 26	Next Scheduled EDR Contact: 08/15/2011
	Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 03/07/2011	Source: EPA Region 1
Date Data Arrived at EDR: 05/20/2011	Telephone: 617-918-1313
Date Made Active in Reports: 06/14/2011	Last EDR Contact: 05/03/2011
Number of Days to Update: 25	Next Scheduled EDR Contact: 08/15/2011
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/16/2011	Source: EPA Region 8
Date Data Arrived at EDR: 05/17/2011	Telephone: 303-312-6271
Date Made Active in Reports: 06/14/2011	Last EDR Contact: 05/02/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 08/15/2011
	Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/10/2011	Source: EPA Region 6
Date Data Arrived at EDR: 05/11/2011	Telephone: 214-665-6597
Date Made Active in Reports: 06/14/2011	Last EDR Contact: 05/02/2011
Number of Days to Update: 34	Next Scheduled EDR Contact: 08/15/2011
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 03/03/2011	Source: EPA Region 4
Date Data Arrived at EDR: 03/18/2011	Telephone: 404-562-8677
Date Made Active in Reports: 05/02/2011	Last EDR Contact: 05/02/2011
Number of Days to Update: 45	Next Scheduled EDR Contact: 08/15/2011
	Data Release Frequency: Semi-Annually

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/31/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/01/2011	Telephone: 415-972-3372
Date Made Active in Reports: 03/21/2011	Last EDR Contact: 05/02/2011
Number of Days to Update: 48	Next Scheduled EDR Contact: 08/15/2011
	Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 11/04/2009	Source: EPA Region 7
Date Data Arrived at EDR: 05/04/2010	Telephone: 913-551-7003
Date Made Active in Reports: 07/07/2010	Last EDR Contact: 05/04/2010
Number of Days to Update: 64	Next Scheduled EDR Contact: 05/16/2011
	Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/20/2011
Date Data Arrived at EDR: 06/21/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 17

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 06/21/2011
Next Scheduled EDR Contact: 10/03/2011
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 07/08/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/17/2011
Date Data Arrived at EDR: 05/19/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 26

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/18/2011
Date Data Arrived at EDR: 05/26/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 19

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/16/2011
Date Data Arrived at EDR: 05/17/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 28

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2011
Date Data Arrived at EDR: 06/01/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 13

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/03/2011
Next Scheduled EDR Contact: 05/16/2011
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/01/2011
Date Data Arrived at EDR: 02/23/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 68

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 03/03/2011
Date Data Arrived at EDR: 03/18/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 45

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 05/04/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 41

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 05/03/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/18/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC’s costs.

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/16/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 70

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 03/29/2011
Date Data Arrived at EDR: 03/29/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: No Update Planned

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 02/24/2011
Date Data Arrived at EDR: 03/23/2011
Date Made Active in Reports: 04/21/2011
Number of Days to Update: 29

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/21/2011
Next Scheduled EDR Contact: 10/03/2011
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 05/24/2011
Date Data Arrived at EDR: 05/24/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 22

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/24/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/09/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/02/2011
Date Data Arrived at EDR: 03/17/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 46

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 06/07/2011
Next Scheduled EDR Contact: 09/19/2011
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/16/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 03/04/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 06/06/2011
Next Scheduled EDR Contact: 09/19/2011
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 02/04/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 07/11/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/28/2011
Date Data Arrived at EDR: 06/29/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/18/2011	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 03/18/2011	Telephone: 916-323-3400
Date Made Active in Reports: 04/20/2011	Last EDR Contact: 06/14/2011
Number of Days to Update: 33	Next Scheduled EDR Contact: 09/26/2011
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2010	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 01/05/2011	Telephone: 202-366-4555
Date Made Active in Reports: 02/25/2011	Last EDR Contact: 07/05/2011
Number of Days to Update: 51	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2010	Source: Office of Emergency Services
Date Data Arrived at EDR: 05/03/2011	Telephone: 916-845-8400
Date Made Active in Reports: 06/15/2011	Last EDR Contact: 05/02/2011
Number of Days to Update: 43	Next Scheduled EDR Contact: 08/15/2011
	Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 06/20/2011	Source: State Water Qualilty Control Board
Date Data Arrived at EDR: 06/21/2011	Telephone: 866-480-1028
Date Made Active in Reports: 07/08/2011	Last EDR Contact: 06/21/2011
Number of Days to Update: 17	Next Scheduled EDR Contact: 10/03/2011
	Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 06/20/2011	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/21/2011	Telephone: 866-480-1028
Date Made Active in Reports: 07/08/2011	Last EDR Contact: 06/21/2011
Number of Days to Update: 17	Next Scheduled EDR Contact: 10/03/2011
	Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/11/2011
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/07/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/12/2011
Date Data Arrived at EDR: 02/11/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/11/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/21/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 08/12/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 112

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 04/05/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 70

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/16/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 5

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/15/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/21/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 99

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 06/02/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/08/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/08/2011
Next Scheduled EDR Contact: 09/19/2011
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 94

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/27/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/30/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/27/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/27/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/07/2011
Date Data Arrived at EDR: 01/21/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB’s who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2010
Date Data Arrived at EDR: 11/10/2010
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 98

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/22/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/18/2010
Date Data Arrived at EDR: 04/06/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 51

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/11/2011
Date Data Arrived at EDR: 01/13/2011
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/12/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/14/2010
Date Data Arrived at EDR: 04/16/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 41

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/27/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/20/2007	Telephone: 916-341-5227
Date Made Active in Reports: 06/29/2007	Last EDR Contact: 06/13/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 09/12/2011
	Data Release Frequency: Quarterly

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/24/2011	Source: State Water Resources Control Board
Date Data Arrived at EDR: 05/24/2011	Telephone: 916-445-9379
Date Made Active in Reports: 06/15/2011	Last EDR Contact: 05/24/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 09/05/2011
	Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/05/2011	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 04/05/2011	Telephone: 916-323-3400
Date Made Active in Reports: 05/04/2011	Last EDR Contact: 07/01/2011
Number of Days to Update: 29	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES].

Date of Government Version: 04/01/2001	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/22/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 01/22/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993	Source: State Water Resources Control Board
Date Data Arrived at EDR: 11/01/1993	Telephone: 916-445-3846
Date Made Active in Reports: 11/19/1993	Last EDR Contact: 06/27/2011
Number of Days to Update: 18	Next Scheduled EDR Contact: 10/10/2011
	Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/15/2010
Date Data Arrived at EDR: 09/16/2010
Date Made Active in Reports: 09/29/2010
Number of Days to Update: 13

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/07/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 36

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/22/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 10/18/2010
Number of Days to Update: 19

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/30/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/21/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 06/06/2011
Next Scheduled EDR Contact: 08/08/2011
Data Release Frequency: Varies

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 02/28/2011
Date Data Arrived at EDR: 03/23/2011
Date Made Active in Reports: 04/21/2011
Number of Days to Update: 29

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/21/2011
Next Scheduled EDR Contact: 10/03/2011
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 03/04/2011
Date Data Arrived at EDR: 03/17/2011
Date Made Active in Reports: 04/20/2011
Number of Days to Update: 34

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 04/19/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/14/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/19/2011
Date Data Arrived at EDR: 04/19/2011
Date Made Active in Reports: 05/12/2011
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/19/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/09/2010
Date Data Arrived at EDR: 08/11/2010
Date Made Active in Reports: 08/20/2010
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/03/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Quarterly

FINANCIAL ASSURANCE 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 03/15/2011
Date Data Arrived at EDR: 03/16/2011
Date Made Active in Reports: 04/26/2011
Number of Days to Update: 41

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/23/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Varies

FINANCIAL ASSURANCE 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 03/01/2007
Date Data Arrived at EDR: 06/01/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 05/05/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/21/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: N/A

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/05/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 04/12/2011
Date Data Arrived at EDR: 04/15/2011
Date Made Active in Reports: 05/12/2011
Number of Days to Update: 27

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/12/2011
Date Data Arrived at EDR: 04/15/2011
Date Made Active in Reports: 05/18/2011
Number of Days to Update: 33

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Semi-Annually

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 03/29/2011
Date Data Arrived at EDR: 04/20/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 27

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 03/03/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Varies

COLUSA COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 12/01/2010
Date Data Arrived at EDR: 04/20/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 27

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 03/03/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 03/10/2011
Date Data Arrived at EDR: 03/11/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 13

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Semi-Annually

EL DORADO COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 03/28/2011
Date Data Arrived at EDR: 05/13/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 33

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 03/28/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA’s are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 04/15/2011
Date Data Arrived at EDR: 04/19/2011
Date Made Active in Reports: 05/12/2011
Number of Days to Update: 23

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 04/18/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 02/08/2011
Date Data Arrived at EDR: 03/03/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 21

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 06/30/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/03/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 21

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 06/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/09/2011
Date Data Arrived at EDR: 06/09/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 29

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/28/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/31/2011
Date Data Arrived at EDR: 06/09/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 6

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/18/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/25/2011	Source: La County Department of Public Works
Date Data Arrived at EDR: 04/28/2011	Telephone: 818-458-5185
Date Made Active in Reports: 05/17/2011	Last EDR Contact: 04/25/2011
Number of Days to Update: 19	Next Scheduled EDR Contact: 08/08/2011
	Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009	Source: Engineering & Construction Division
Date Data Arrived at EDR: 03/10/2009	Telephone: 213-473-7869
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 05/24/2011
Number of Days to Update: 29	Next Scheduled EDR Contact: 09/05/2011
	Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/09/2011	Source: Community Health Services
Date Data Arrived at EDR: 02/09/2011	Telephone: 323-890-7806
Date Made Active in Reports: 03/04/2011	Last EDR Contact: 04/25/2011
Number of Days to Update: 23	Next Scheduled EDR Contact: 08/08/2011
	Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 02/03/2011	Source: City of El Segundo Fire Department
Date Data Arrived at EDR: 02/08/2011	Telephone: 310-524-2236
Date Made Active in Reports: 03/03/2011	Last EDR Contact: 04/25/2011
Number of Days to Update: 23	Next Scheduled EDR Contact: 08/08/2011
	Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003	Source: City of Long Beach Fire Department
Date Data Arrived at EDR: 10/23/2003	Telephone: 562-570-2563
Date Made Active in Reports: 11/26/2003	Last EDR Contact: 05/02/2011
Number of Days to Update: 34	Next Scheduled EDR Contact: 08/15/2011
	Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/18/2011	Source: City of Torrance Fire Department
Date Data Arrived at EDR: 04/20/2011	Telephone: 310-618-2973
Date Made Active in Reports: 05/18/2011	Last EDR Contact: 04/18/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 08/01/2011
	Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/07/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 30

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 04/15/2011
Date Data Arrived at EDR: 04/26/2011
Date Made Active in Reports: 05/18/2011
Number of Days to Update: 22

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/11/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 06/06/2011
Date Data Arrived at EDR: 06/06/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 9

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 01/20/2011
Date Data Arrived at EDR: 03/03/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 21

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 06/20/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/09/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 22

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 03/07/2011
Next Scheduled EDR Contact: 06/20/2011
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/06/2011
Next Scheduled EDR Contact: 09/19/2011
Data Release Frequency: No Update Planned

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 05/02/2011
Date Data Arrived at EDR: 05/20/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 26

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/05/2011
Date Data Arrived at EDR: 05/20/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 26

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/05/2011
Date Data Arrived at EDR: 05/17/2011
Date Made Active in Reports: 06/20/2011
Number of Days to Update: 34

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/17/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/20/2011
Date Data Arrived at EDR: 06/21/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 17

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/26/2011
Date Data Arrived at EDR: 04/28/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 19

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 04/26/2011
Date Data Arrived at EDR: 04/28/2011
Date Made Active in Reports: 05/18/2011
Number of Days to Update: 20

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/27/2011
Next Scheduled EDR Contact: 10/10/2011
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/07/2011
Date Data Arrived at EDR: 04/28/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 19

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/08/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/07/2011
Date Data Arrived at EDR: 04/29/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 18

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/08/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 06/09/2011
Date Data Arrived at EDR: 06/09/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 6

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/16/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/09/2010
Date Data Arrived at EDR: 09/15/2010
Date Made Active in Reports: 09/29/2010
Number of Days to Update: 14

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/17/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2010
Date Data Arrived at EDR: 11/16/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 70

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010	Source: San Diego County Department of Environmental Health
Date Data Arrived at EDR: 06/15/2010	Telephone: 619-338-2371
Date Made Active in Reports: 07/09/2010	Last EDR Contact: 06/14/2011
Number of Days to Update: 24	Next Scheduled EDR Contact: 09/26/2011
	Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008	Source: Department Of Public Health San Francisco County
Date Data Arrived at EDR: 09/19/2008	Telephone: 415-252-3920
Date Made Active in Reports: 09/29/2008	Last EDR Contact: 05/16/2011
Number of Days to Update: 10	Next Scheduled EDR Contact: 08/16/2011
	Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010	Source: Department of Public Health
Date Data Arrived at EDR: 03/10/2011	Telephone: 415-252-3920
Date Made Active in Reports: 03/15/2011	Last EDR Contact: 05/31/2011
Number of Days to Update: 5	Next Scheduled EDR Contact: 08/29/2011
	Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/27/2011	Source: Environmental Health Department
Date Data Arrived at EDR: 06/29/2011	Telephone: N/A
Date Made Active in Reports: 07/08/2011	Last EDR Contact: 06/27/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 10/10/2011
	Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 05/31/2011	Source: San Luis Obispo County Public Health Department
Date Data Arrived at EDR: 05/31/2011	Telephone: 805-781-5596
Date Made Active in Reports: 07/08/2011	Last EDR Contact: 05/31/2011
Number of Days to Update: 38	Next Scheduled EDR Contact: 09/12/2011
	Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 04/19/2011
Date Data Arrived at EDR: 04/20/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 27

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/20/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/21/2011
Date Data Arrived at EDR: 03/22/2011
Date Made Active in Reports: 04/20/2011
Number of Days to Update: 29

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/20/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 11/22/2010
Date Data Arrived at EDR: 03/03/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 21

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 06/29/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 05/29/2009
Date Data Arrived at EDR: 06/01/2009
Date Made Active in Reports: 06/15/2009
Number of Days to Update: 14

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 07/08/2011
Next Scheduled EDR Contact: 09/19/2011
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/31/2009
Date Data Arrived at EDR: 08/31/2009
Date Made Active in Reports: 09/18/2009
Number of Days to Update: 18

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 08/29/2011
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 05/31/2011
Date Data Arrived at EDR: 05/31/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 38

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 05/31/2011
Date Data Arrived at EDR: 05/31/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 38

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/09/2011
Date Data Arrived at EDR: 06/29/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 9

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/20/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 03/21/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 04/22/2011
Number of Days to Update: 28

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/20/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/05/2011
Date Data Arrived at EDR: 04/06/2011
Date Made Active in Reports: 05/12/2011
Number of Days to Update: 36

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 07/05/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 03/14/2011
Date Data Arrived at EDR: 03/15/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 9

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/13/2011
Next Scheduled EDR Contact: 09/26/2011
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 01/26/2011
Date Data Arrived at EDR: 02/25/2011
Date Made Active in Reports: 03/22/2011
Number of Days to Update: 25

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/24/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 04/01/2011
Date Data Arrived at EDR: 04/07/2011
Date Made Active in Reports: 05/12/2011
Number of Days to Update: 35

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/08/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/24/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 04/26/2011
Date Data Arrived at EDR: 05/03/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 43

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 05/02/2011
Next Scheduled EDR Contact: 08/15/2011
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 03/01/2011
Date Data Arrived at EDR: 03/23/2011
Date Made Active in Reports: 04/22/2011
Number of Days to Update: 30

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/21/2011
Next Scheduled EDR Contact: 10/03/2011
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 04/26/2011
Date Data Arrived at EDR: 05/03/2011
Date Made Active in Reports: 06/20/2011
Number of Days to Update: 48

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 07/08/2011
Next Scheduled EDR Contact: 10/24/2011
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 05/12/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 34

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/04/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/11/2009
Number of Days to Update: 16

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/26/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/22/2010
Date Made Active in Reports: 08/26/2010
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/19/2011
Next Scheduled EDR Contact: 08/01/2011
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 05/12/2011
Date Made Active in Reports: 05/24/2011
Number of Days to Update: 12

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/12/2011
Next Scheduled EDR Contact: 08/22/2011
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/04/2011
Next Scheduled EDR Contact: 07/06/2011
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 06/24/2011
Date Made Active in Reports: 06/30/2011
Number of Days to Update: 6

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/31/2011
Next Scheduled EDR Contact: 09/12/2011
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/06/2010
Date Made Active in Reports: 07/26/2010
Number of Days to Update: 20

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/20/2011
Next Scheduled EDR Contact: 10/03/2011
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association’s annual survey of hospitals.
Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.
Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics’ primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics’ primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5’ Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CHOLLAS TRIANGLE
CHOLLAS PARKWAY AND UNIVERSITY AVENUE
SAN DIEGO, CA 92105

TARGET PROPERTY COORDINATES

Latitude (North):	32.74690 - 32˚ 44’ 48.8’’
Longitude (West):	117.0778 - 117˚ 4’ 40.1’’
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	492711.4
UTM Y (Meters):	3623041.2
Elevation:	294 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	32117-F1 NATIONAL CITY, CA
Most Recent Revision:	1975
North Map:	32117-G1 LA MESA, CA
Most Recent Revision:	1994

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

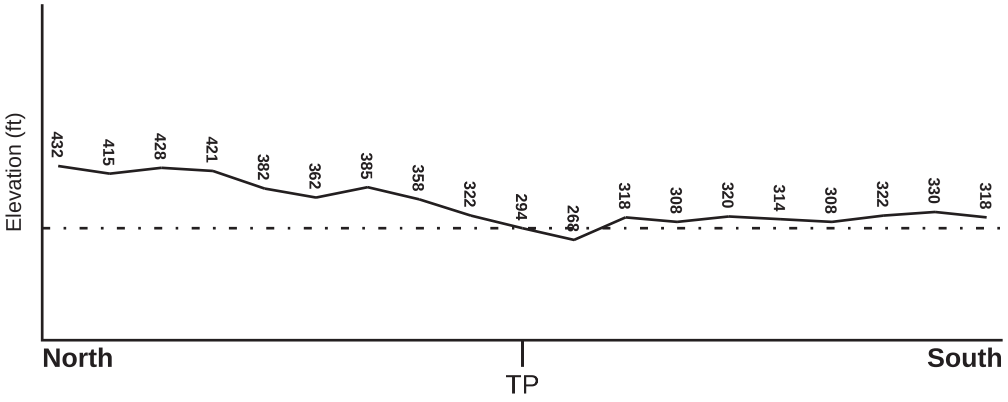
TOPOGRAPHIC INFORMATION

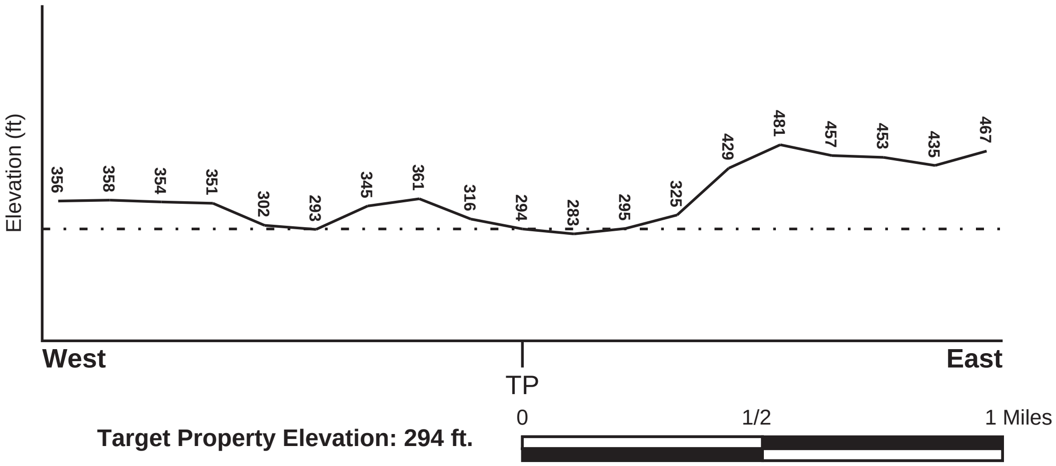
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 294 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
SAN DIEGO, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06073C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NATIONAL CITY	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
1	1/2 - 1 Mile North	S

For additional site information, refer to Physical Setting Source Map Findings.

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* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

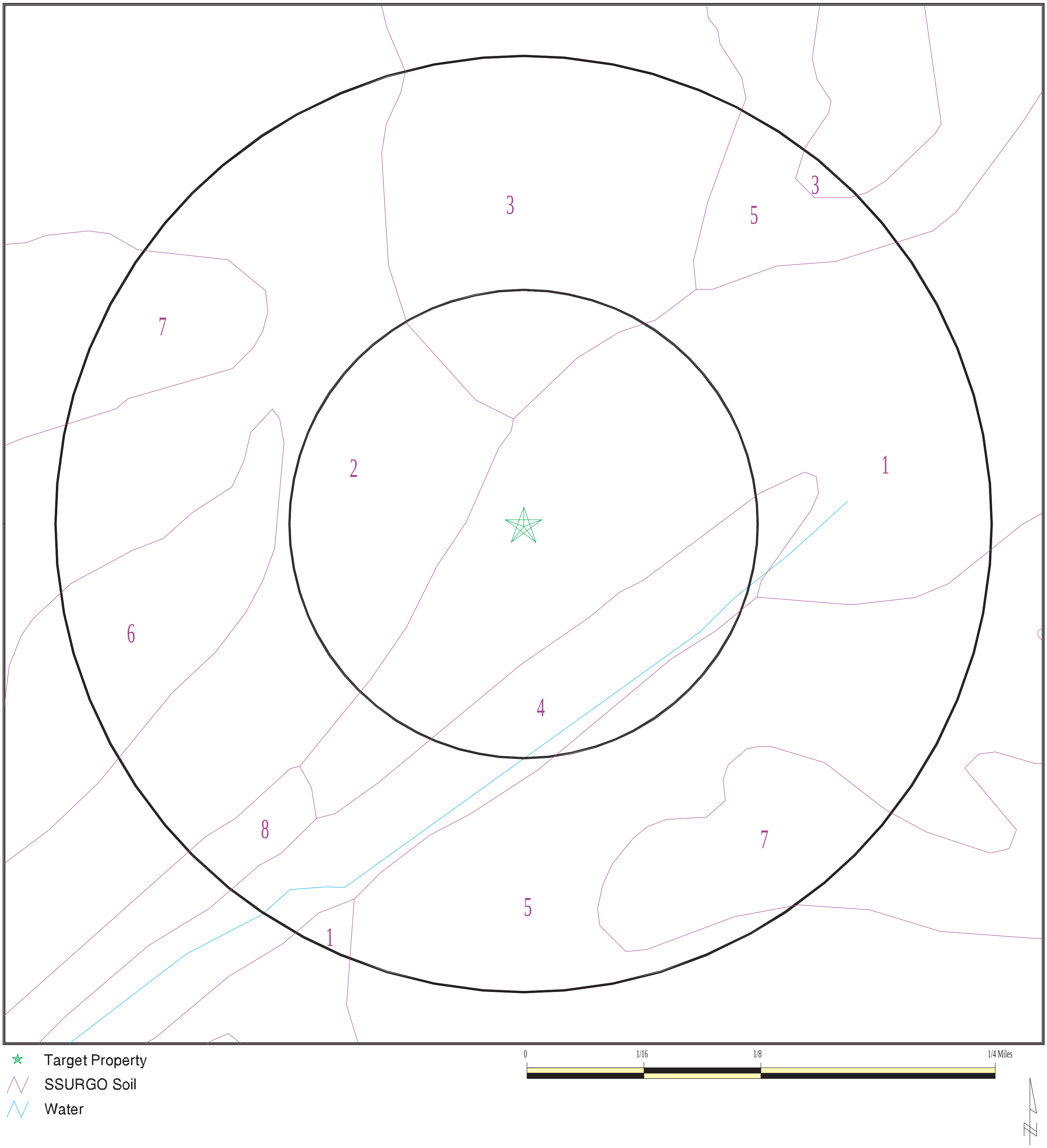
Era:	Cenozoic
System:	Tertiary
Series:	Eocene
Code:	Tec *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Continental Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3121078.2s



SITE NAME: Chollas Triangle
ADDRESS: Chollas Parkway and University Avenue
San Diego CA 92105
LAT/LONG: 32.7469 / 117.0778

CLIENT: Ninyo & Moore
CONTACT: Caren Carlson
INQUIRY #: 3121078.2s
DATE: July 12, 2011 2:04 pm

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name:	OLIVENHAIN
Soil Surface Texture:	cobbly loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Well drained
Hydric Status: Not hydric	
Corrosion Potential - Uncoated Steel:	Moderate
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		**Soil Reaction (pH)**
1	0 inches	9 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 5.1
2	9 inches	42 inches	very cobbly clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 5.1
3	42 inches	59 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 5.1

Soil Map ID: 2

Soil Component Name:	HUERHUERO
Soil Surface Texture:	loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Moderately well drained
Hydric Status: Not hydric	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)
1	0 inches	11 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	11 inches	55 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	55 inches	72 inches	stratified sand to sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 3

Soil Component Name:	DIABLO
Soil Surface Texture:	clay
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		**Soil Reaction (pH)**
1	0 inches	14 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: Min:	Max: Min:
2	14 inches	31 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: Min:	Max: Min:
3	31 inches	35 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name:	RIVERWASH
Soil Surface Texture:	gravelly coarse sand
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Excessively drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 168 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Saturated hydraulic conductivity micro m/sec**	**Soil Reaction (pH)**
1	0 inches	5 inches	gravelly coarse sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILIS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:
2	5 inches	59 inches	stratified extremely gravelly coarse sand to gravelly sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILIS, Gravels, Clean Gravels, Well-graded gravel.	Max: 141 Min: 42	Max: Min:

Soil Map ID: 5

Soil Component Name: OLIVENHAIN

Soil Surface Texture: cobbly loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Saturated hydraulic conductivity micro m/sec**	**Soil Reaction (pH)**
1	0 inches	9 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 5.1
2	9 inches	42 inches	very cobbly clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 5.1
3	42 inches	59 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 5.1

Soil Map ID: 6

Soil Component Name:	HUERHUERO
Soil Surface Texture:	loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Moderately well drained
Hydric Status: Not hydric	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	9 inches	50 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	50 inches	59 inches	stratified sand to sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 7

Soil Component Name:	REDDING
Soil Surface Texture:	gravelly loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Well drained
Hydric Status: Not hydric	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**		
1	0 inches	14 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
2	14 inches	29 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:
3	29 inches	44 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: Min:	Max: Min:

Soil Map ID: 8

Soil Component Name:	MADE LAND
Soil Surface Texture:	variable
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel:	Not Reported
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	variable	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

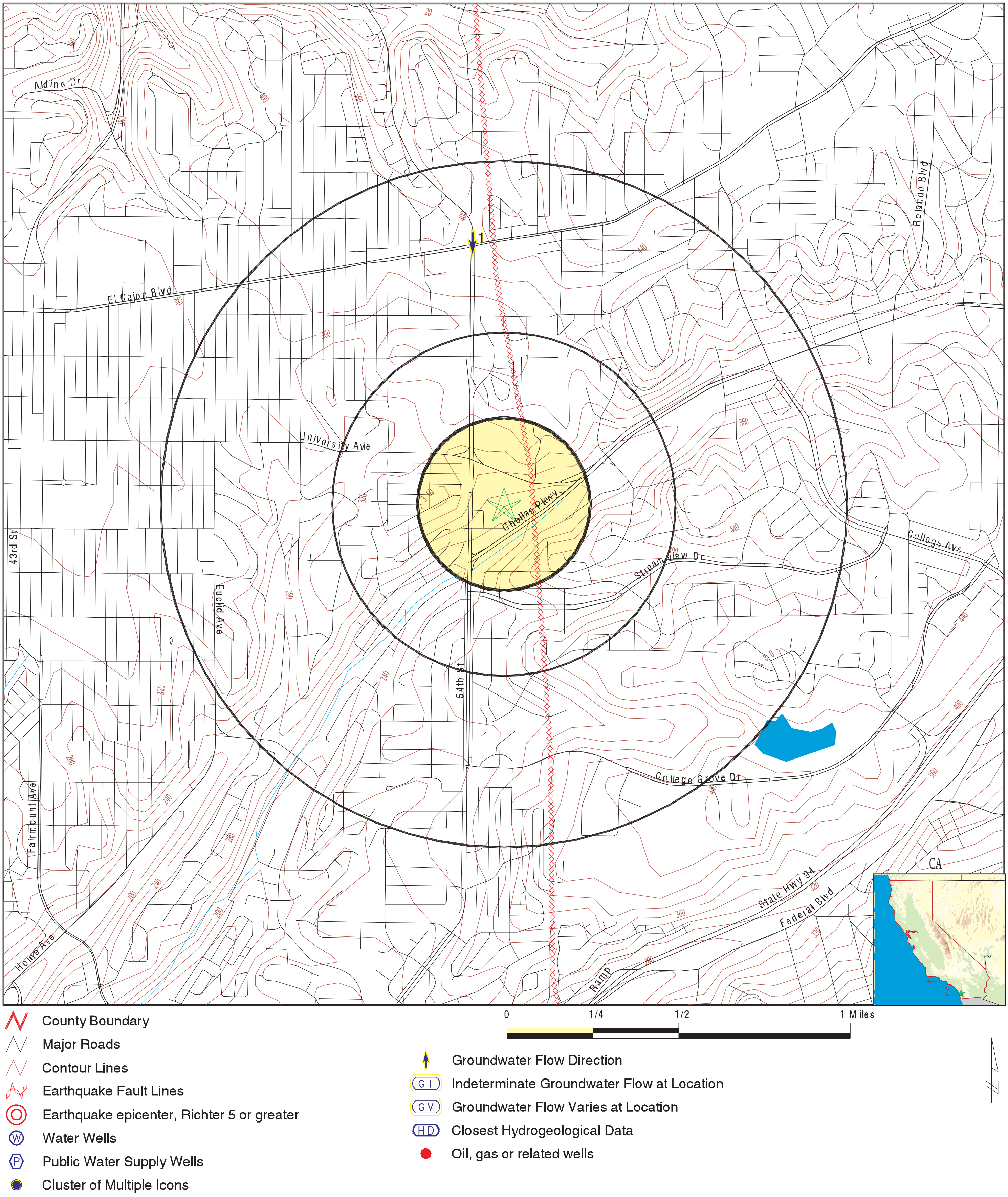
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 3121078.2s



SITE NAME:	Chollas Triangle	CLIENT:	Ninyo & Moore
ADDRESS:	Chollas Parkway and University Avenue San Diego CA 92105	CONTACT:	Caren Carlson
		INQUIRY #:	3121078.2s
LAT/LONG:	32.7469 / 117.0778	DATE:	July 12, 2011 2:04 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
1 **North** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	Not Reported S 25 40 Not Reported 11/16/1988	**AQUIFLOW**	**33841**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92105	8	0

Federal EPA Radon Zone for SAN DIEGO County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for SAN DIEGO COUNTY, CA

Number of sites tested: 30

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.677 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.400 pCi/L	100%	0%	0%
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

APPENDIX C

ON LINE REGULATORY AGENCY REVIEW DOCUMENTS

LINK TO THIS MAP

GEOTRACKER

L

☒ SIGNIFIES A CLOSED SITE

☑ 🟥 Leaking Underground Tank (LUST) Cleanup Sites

☑ 🟩 Other Cleanup Sites

☑ 🟧 Land Disposal Sites

☑ 🟨 Military Sites

☑ ⬜ WDR Sites

☑ 🟫 Permitted Underground Storage Tank (UST) Facilities

☑ ● Monitoring Wells*

* ZOOM IN TO SEE MWS

☐ △ DTSC Cleanup Sites

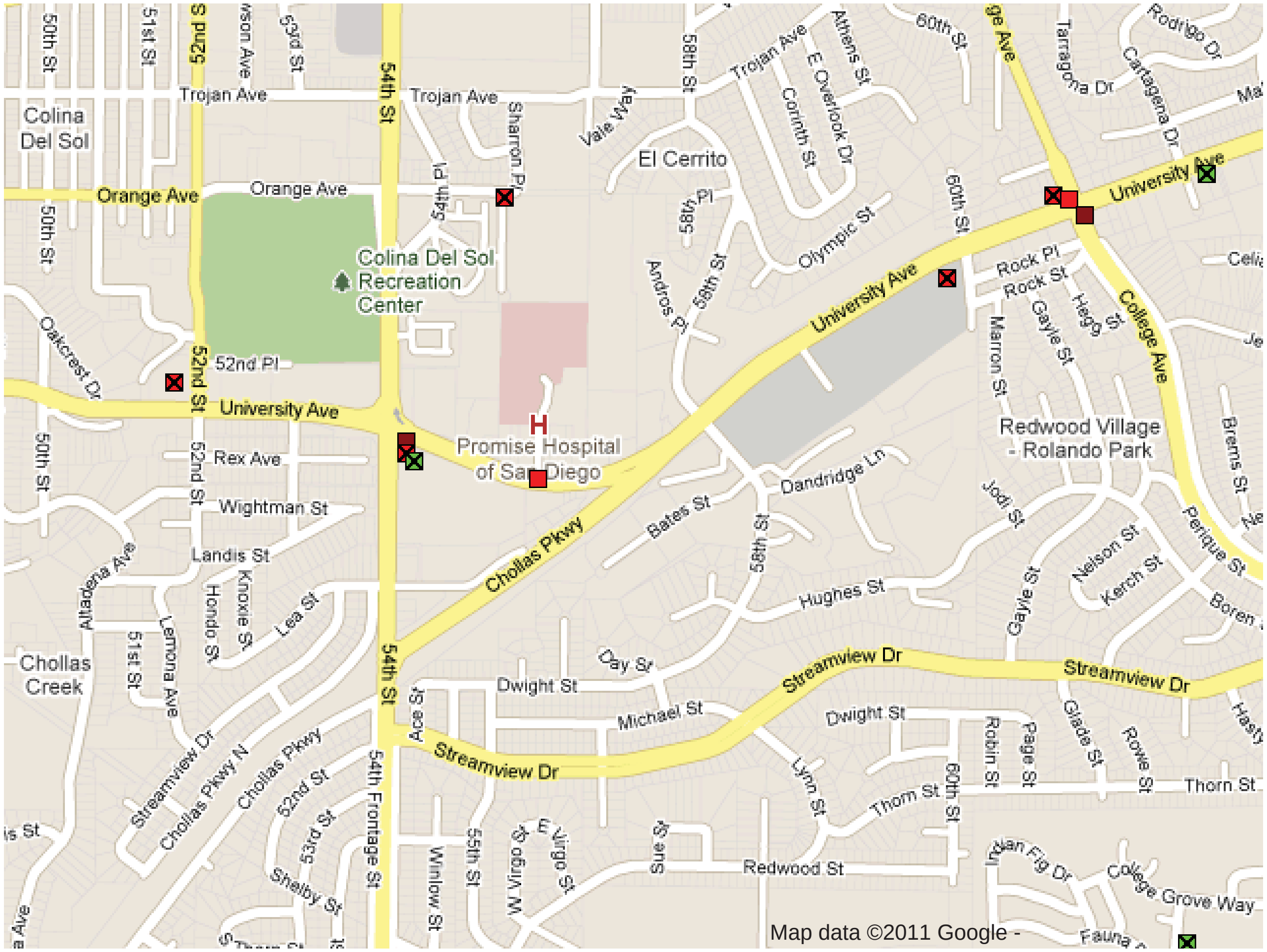
☐ △ DTSC Haz Waste Permit

640x480

O O

☑ Site List - EXPORT TO EXCEL

15 Sites



☐ SHOW SITES WITHIN 1000 FEET OF THE FOLLOWING ADDRESS: Chollas Parkway and University Avenue, San Die Go

L

		LOB L D	L	DD	
🟥	2-B RENTALS	T0607301022	OPEN - SITE ASSESSMENT	5586 UNIVERSITY AV	SAN DIEGO
❎	ALPERT AUTO WHOLESALE INC	T0607302277	COMPLETED - CASE CLOSED	6205 UNIVERSITY AV	SAN DIEGO
☒	ARCO #5132 PSI#5609	T0607302659	COMPLETED - CASE CLOSED	6098 UNIVERSITY AV	SAN DIEGO
☒	ARCO #5132 PSI#5609	T0607301301	COMPLETED - CASE CLOSED	6098 UNIVERSITY AV	SAN DIEGO
🟥	ARCO #5132 PSI#5609	T0607301300	OPEN - REMEDIATION	6098 UNIVERSITY AV	SAN DIEGO
■	ARCO #5132 PSI#5609	18769		6098 UNIVERSITY AVE	SAN DIEGO
☒	M. BRAMMER INC, SHELL STATION	T0607382470	COMPLETED - CASE CLOSED	5401 UNIVERSITY AV	SAN DIEGO
❎	M. BRAMMER INC, SHELL STATION	T0608120176	COMPLETED - CASE CLOSED	5401 UNIVERSITY AV	SAN DIEGO
■	M. BRAMMER INC, SHELL STATION	18634		5401 UNIVERSITY AVE	SAN DIEGO
☒	PRESTIGE WASHES OF AMERICA	T0607303040	COMPLETED - CASE CLOSED	5985 UNIVERSITY AV	SAN DIEGO
☒	PRESTIGE WASHES OF AMERICA	T0607300618	COMPLETED - CASE CLOSED	5985 UNIVERSITY AV	SAN DIEGO
❎	SAN DIEGO FAMILY HOUSING LLC	T10000002420	COMPLETED - CASE CLOSED	6173 FAUNA DR	SAN DIEGO
☒	SDUSD CRAWFORD HIGH SCHOOL	T0607300079	COMPLETED - CASE CLOSED	4191 COLTS WY	SAN DIEGO
☒	WESTBURNE PIPE & SUPPLY	[illegible]	COMPLETED - CASE CLOSED	5150 UNIVERSITY AV	SAN DIEGO

MAP AN ADDRESS: Go!

LINK TO THIS MAP

GEOTRACKER

LAYERS

☒ SIGNIFIES A CLOSED SITE

☑ ▨ Leaking Underground Tank (LUST) Cleanup Sites

☑ ▨ Other Cleanup Sites

☑ ▨ Land Disposal Sites

☑ ☐ Military Sites

☑ ▨ WDR Sites

☑ ■ Permitted Underground Storage Tank (UST) Facilities

☑ ● Monitoring Wells*

* ZOOM IN TO SEE MWS

☐ △ DTSC Cleanup Sites

☐ △ DTSC Haz Waste Permit

MAP SIZE

640x480 ▾

OPTIONS

☑ Site List - EXPORT TO EXCEL

15 Sites

Shell Station

2-B Rentals
open LUST

☐ SHOW SITES WITHIN 1000 FEET OF THE FOLLOWING ADDRESS: Chollas Parkway and University Avenue, San Die Go

SITE LIST

LINK TO THIS MAP

ENVIROSTOR

L

☑ 🟥 Federal Superfund

☑ 🟦 State Response

☑ 🟧 Voluntary Cleanup

☑ 🟨 School Cleanup

☑ 🟩 Evaluation

☑ ▨ School Investigation

☑ ⬛ Military Evaluation

☑ ◻ Tiered Permit

☑ 🟪 Corrective Action

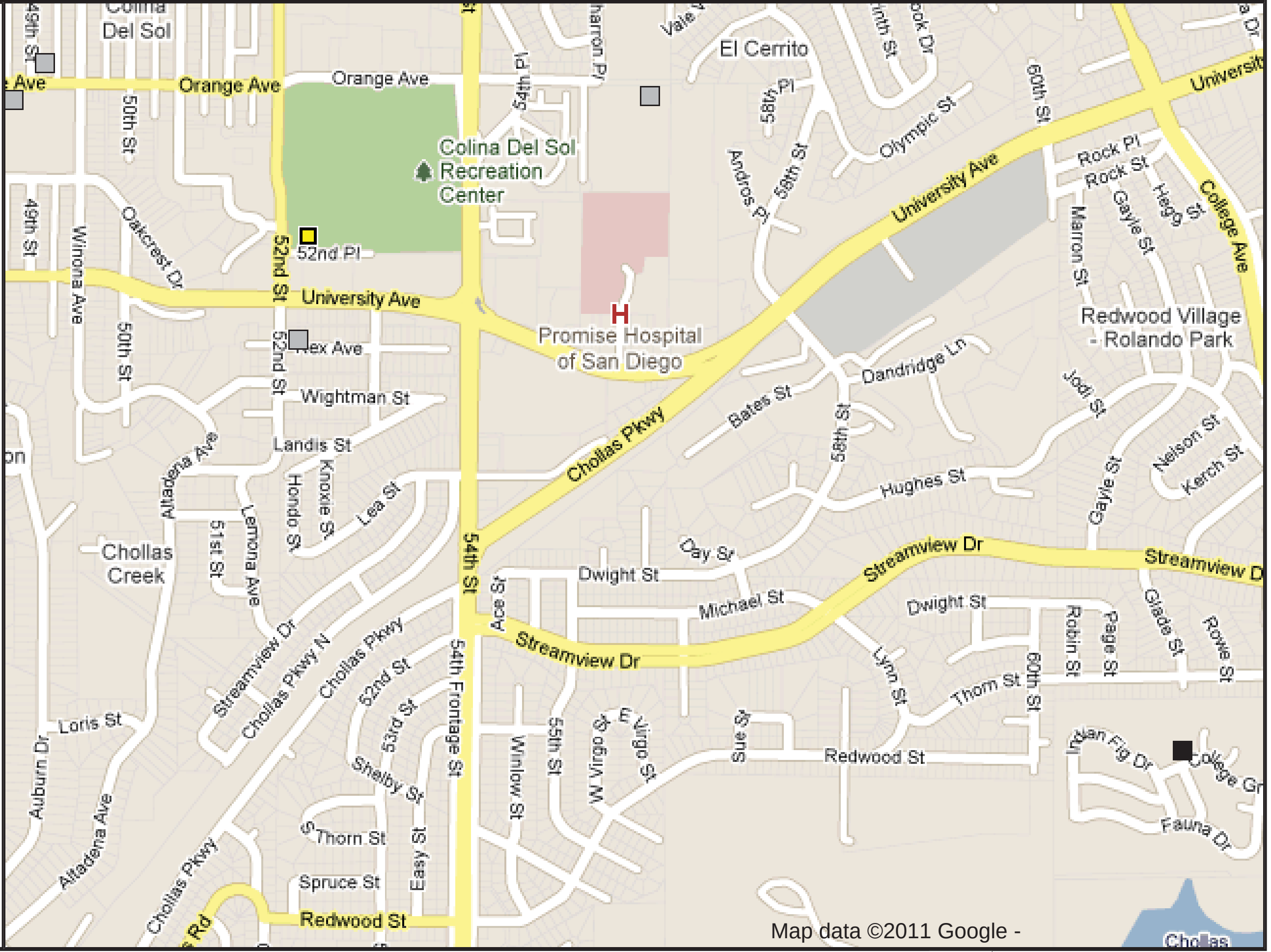
☑ ● Haz Waste Permit

☐ ● Monitoring Wells

☐ △ GeoTracker LUFT

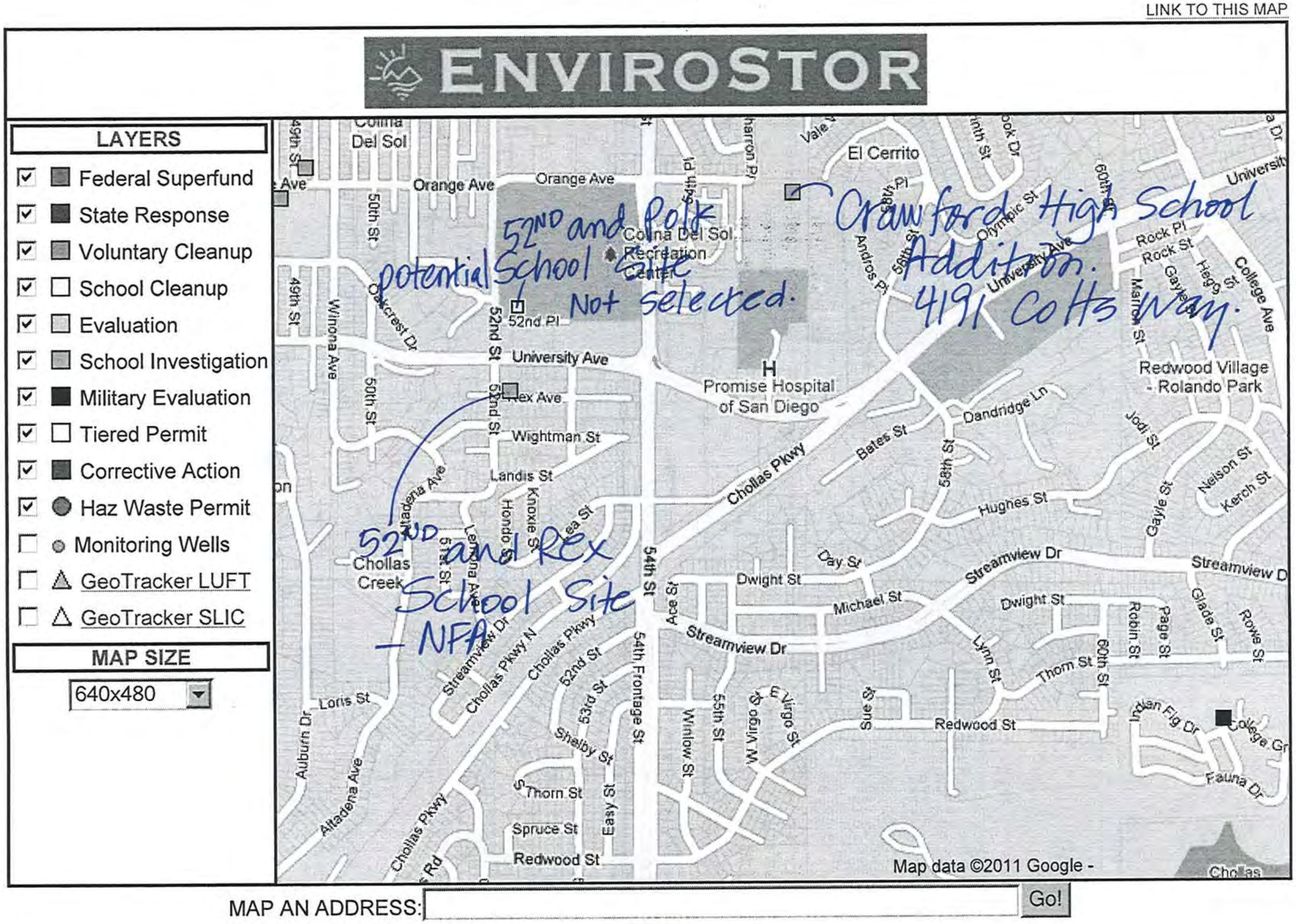
☐ △ GeoTracker SLIC

640x480



MAP AN ADDRESS:

Go!



LINK TO THIS MAP

ENVIROSTOR

LAYERS

- ☑ ▨ Federal Superfund
- ☑ ■ State Response
- ☑ ▨ Voluntary Cleanup
- ☑ ☐ School Cleanup
- ☑ ▨ Evaluation
- ☑ ▨ School Investigation
- ☑ ■ Military Evaluation
- ☑ ☐ Tiered Permit
- ☑ ■ Corrective Action
- ☑ ● Haz Waste Permit
- ☐ ● Monitoring Wells
- ☐ △ GeoTracker LUFT
- ☐ △ GeoTracker SLIC

MAP SIZE

640x480

52ND and Polk potential School Site Not selected.

Crawford High School Addition. 4191 Colts Way.

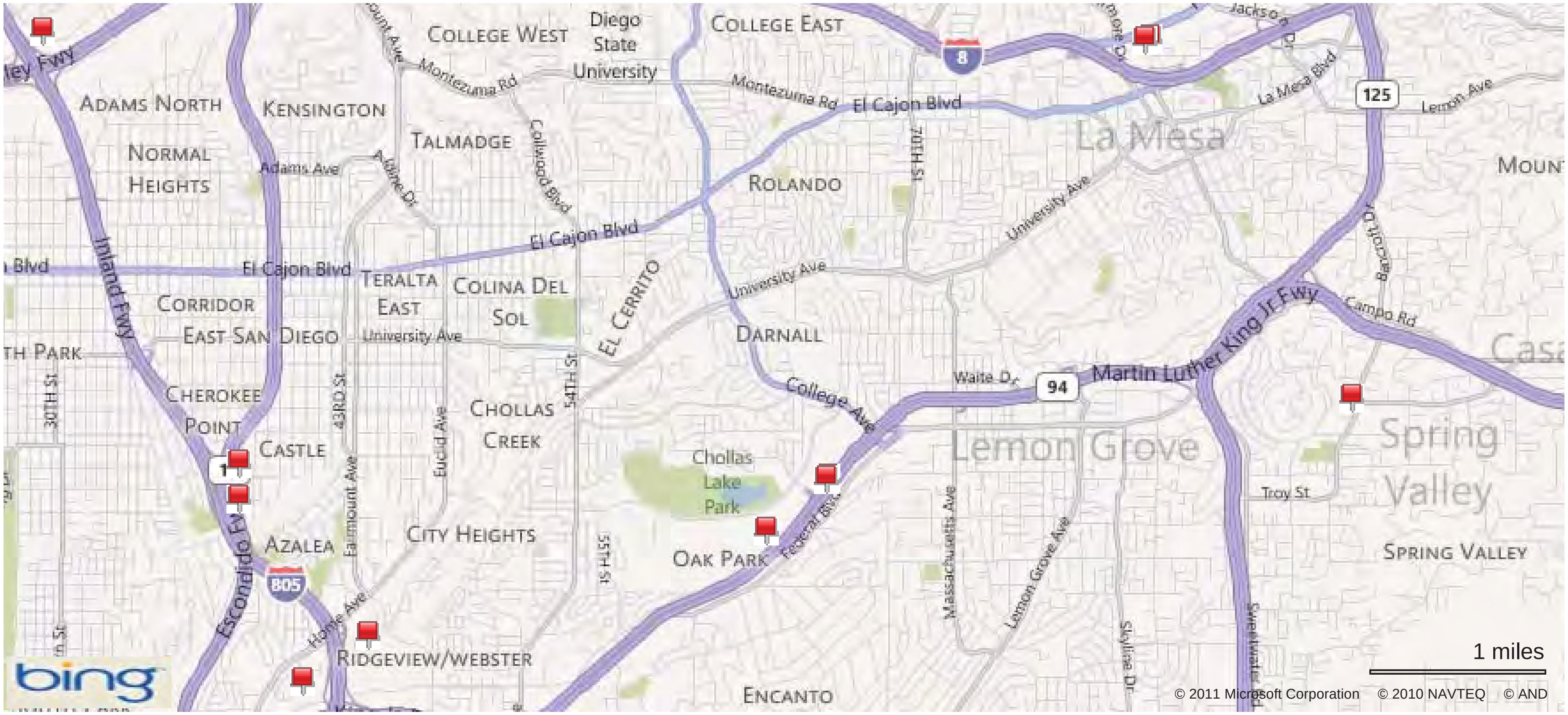
52ND and Rex School Site – NFA

MAP AN ADDRESS: Go!

only school sites identified.

37-AA-0032	Gregory Canyon Landfill	01	Solid Waste Landfill	Suspended	Planned
37-AA-0033	South Miramar Sanitary Landfill	01	Solid Waste Disposal Site	Pre-regulations	Closed
37-AA-0103	Viejas Rural Large Vol. Transfer Station	01	Large Volume Transfer/Proc Facility	To Be Determined	Closed

Page 1 of 7 1 2 3 4 5 6 7 Show All Count: 155



Last updated: Data updated continuously.
Solid Waste Information System(SWIS), http://www.CalRecycle.ca.gov/SWFacilities/Directory/
Skip Amerine, skip.amerine@calrecycle.ca.gov (916) 341-6322

Conditions of Use | Privacy Policy

20 April 2011

Sensitive Receptor Survey

Former 2-B Rentals
5586 University Avenue
San Diego, California

Establishment No. H32242-001

Prepared on Behalf of

University Avenue Manor, LLC
Stanton, California

Prepared for

County of San Diego Department of Environmental Health
Site Assessment and Mitigation Program

Prepared By

MUREX environmental, inc

1.0 INTRODUCTION

On behalf of University Avenue Manor LLC (UAM), Murex Environmental (Murex) has prepared this *Sensitive Receptor Survey* for UAM for its property formerly known as “2-B Rentals” located at 5586 University Avenue in San Diego, California (site; **Figure 1**).

1.1 Objectives

The objectives of this report are:

- To present the findings the Sensitive Receptor Survey;
- To document distances to potential off-site receptors
- To evaluate exposure pathways to potential receptors
- To present the Site Conceptual Model

1.2 Report Organization

This report was prepared in accordance with the County of San Diego Department of Environmental Health Site Assessment and Mitigation (SAM) program manual, the California Code of Regulations, Title 23, Division 3, Chapter 16, Article 11, and the 4 October, 2010 California State Water Resources Control Board Leaking Underground Fuel Tank (LUFT) guidance manual.

This report presents the findings of a sensitive receptor survey, provides a sensitive receptor map, and includes a conceptual site model summary.

2.0 SITE BACKGROUND

The site is located on the north side of University Avenue, situated between 54th Street to the west, Chollas Parkway to the south, and 58th Street to the east, in the city of San Diego, California (Figure 1).

As shown on **Figure 2**, the current use of the property is automobile sales (5556 University Ave), two residential homes (5590 University [apparently uninhabited] and 5592 University [apparently inhabited]), a former auto repair shop (5570 University), and two vacant buildings (5586 and 5582 University), which reportedly housed a former dry cleaners business. An apartment complex and rehabilitation hospital are located on top of the bluff to the north; a convenience store, used car lot, and light commercial buildings are located to the south across University Avenue

UAM is currently reviewing various plans for future site use, which may include demolition and new construction, or possibly renovation and re-use of existing structures for a variety of potential applications, which may be guided by the outcome of health risk calculations performed in the forthcoming risk assessment.

2.1 Site History

Previous site assessment reports indicate that from as early as 1954 until approximately 1970, a dry cleaner (“Master Cleaners”) operated at the subject site. On June 9, 1992, five corroded steel underground storage tanks (USTs) with a combined storage capacity of approximately 11,000 gallons, and associated piping, were removed from the property. Following their removal, soil beneath the tanks was found to be contaminated with up to 14,430 parts per million (ppm) total petroleum hydrocarbons as Stoddard Solvent (TPH-Stoddard). As a result, the CSDDEH ordered an initial site assessment to be completed for the site.

Initial site assessment activities were completed on September 25, 1992, and consisted of 7 soil borings advanced to 15-feet below ground surface (bgs). TPH-Stoddard detections ranged from ND to 13,723 mg/Kg in the initial site assessment.

A second site assessment was required by the CSDDEH in April 1993 with two additional soil borings for soil delineation. The second site assessment found concentrations of TPH-Stoddard in soil up to 5,479 mg/Kg. During the second site assessment groundwater was encountered at approximately 29 feet bgs but was not sampled at the time.

On 2 March 2004 CSDDEH requested an additional assessment to include the vertical and horizontal extent of impact to soil and groundwater beneath the Site.

A third site assessment was performed at the Site in 2007 by Morgan and Associates, Inc. This phase of investigation included the installation of six (6) soil borings to a maximum depth of 55-feet below ground surface (bgs). Five of the six soil borings were converted to groundwater monitoring wells. The results of third site assessment exhibited detectable concentrations of TPH-gasoline, TPH-diesel, TPH-Stoddard, the gasoline constituents benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX), and other gasoline-related aromatic volatile organic compounds (VOCs) in soil, such as trimethylebenzene. Groundwater results indicated similar detectable concentrations of the above analytes with the exception of TPH-Stoddard. However, the third site assessment activities did not fully delineate the horizontal extent of impact to soil and groundwater beneath the site, specifically to the south, west, or easterly direction.

On 17 April 2008, based on the third site assessment results, the CSDDEH requested the preparation and submittal of a work plan for additional investigation, a groundwater monitoring work plan, and a receptor survey and human health risk assessment work plan.

Morgan & Associates, Inc. submitted the requested work plans and associated addendums and revisions in late 2008 and early 2009. The CSDDEH concurred with the work plans and issued conditional approval for the 13 August 2008 *Health Risk Assessment Work Plan* on 10 February 2009 and issued conditional approval for the 20 May 2008 *Fourth Site Assessment Work Plan* (including the 30 December 2008 Addendum and 6 March 2009 Revision) and the 30 June 2008 *Groundwater Monitoring Work Plan* on 11 March 2009.

Based on a review of historical documents, inspection of the various TPH and VOC chemicals detected in soil and groundwater, and interviews with personnel involved with the site over many years, one or more of the five former underground storage tanks were used for the storage of gasoline between 1970 and 1992.

The Fourth Site Assessment investigation work, detailed in the following section, provides the required additional delineation of the extent of TPH and VOC contamination in soil and groundwater at the site.

3.0 SENSITIVE RECEPTOR SURVEY

A sensitive receptor survey was conducted to identify any sensitive receptors within a 1-mile radius from the site. Included in the survey were surface water bodies, municipal and private water supply wells, ecological receptors, and human receptors. Figure 2 depicts the identified receptors within the 1-mile circle.

3.1 Surface Waters

The nearest surface water to the site is Chollas Creek located approximately 600 feet south of the source area. Flows in Chollas Creek are highly variable and storm dependant. Chollas Creek is a 303(d) listed water body for 'toxicity in storm water.' Diazinon, an organophosphate pesticide, is the main constituent of concern for Chollas Creek and was in part the basis for the 303(d) listing.

Chollas Reservoir is located approximately one-mile southeast of the site.

3.2 Extraction Wells (Domestic and Municipal)

No extraction wells (domestic or municipal) exist within a one-mile radius from the Site based on records from the California Department of Water Resources and the SanGIS databases.

3.3 Ecological Receptors

No ecologically sensitive receptors were identified within the boundaries of soil or groundwater contamination, based on records from the California Department of Water Resources and the SanGIS databases.

3.4 On-Site Human Receptors

3.4.1 Residential

Currently there is one (reportedly) inhabited residential structure located on-site at 5592 University Avenue. Other on-site residential buildings are vacant as of the date of this report.

3.4.2 Commercial

A used car lot exists on-site at 5556 University Avenue.

3.4.3 Construction

Plans to develop the property will include the use of construction workers; therefore, construction workers are considered a future sensitive receptor.

3.5 Off-Site Human Receptors

3.5.1 Schools

Darnall School exists approximately 2800 feet east southeast, Waldorf School K-12 exists approximately 3,500 feet southwest, Marshall Elementary School exists approximately 3600 feet southwest, Carver Elementary exists approximately 3350 feet south southeast, Ibarra Elementary School exists approximately 4300 feet west northwest, Fay Elementary School exists approximately 2700 north northwest, Pacific American Academy Charter School exists approximately 2500 feet northwest, William C Crawford High School, Crawford Law and Business School, and Crawford Idea School exist approximately 1000 feet north, Horace Mann Middle School exists approximately 2600 feet north northwest, and Jackson Elementary School exists approximately 3350 feet northwest of the Site.

3.5.2 Child Day Care

Four child day care facilities were located within the search distance: 6060 University Avenue, 5380 El Cajon Blvd., 6020 Hughes Street, and 4260 54th Street.

3.5.3 Hospitals

Promise Hospital of San Diego, 5550 University Ave., located approximately 750 north northwest of the site.

3.6 Summary of Sensitive Receptor Search

The Conceptual Site Model (CSM) pathway determination, presented in Figure 3, summarizes the primary, secondary and tertiary source points and release mechanisms and evaluates each for complete or incomplete exposure pathways. Off-site human receptor pathways are incomplete based on the distance to each receptor and the fact that no off-site human receptor will ingest, inhale or otherwise come into dermal contact with either Site soil or groundwater. The CSM schematic shows that dermal contact to future construction workers, resident adults/children, and commercial/industrial workers are a potentially complete pathway. Additionally, the vapor inhalation pathway is considered potentially complete for current and future resident adults/children and current auto repair shop workers (A soil-gas survey within 5586 University Ave will provide data to evaluate the risk from the indoor inhalation pathway). The future construction worker outdoor inhalation pathway is also considered complete for future construction projects that may include excavation of impacted material.

Based on the information presented above, Murex did not find evidence of threatened sensitive receptors within or immediately downgradient from the Site. Therefore, only on-Site receptors will be considered in the forthcoming Human Health Risk Assessment.

4.0 INITIAL RISK SCREENING

4.1 Receptor Identification Summary

The potential receptors associated with the subject property are as follows:

- On-site Resident
- On-site Commercial Workers
- On-site Construction Workers

These receptors are consistent with the receptors identified in the August 13, 2008 Health Risk Assessment Workplan, prepared by AMEC Geomatrix, and approved by the CSDDEH on 10 February 2009.

For the purposes of the initial screening, it is assumed that only the upper horizon of soil from ground surface to 10 feet deep could potentially come into contact with one of these receptors. For soil gas, two horizons, one at 5 feet bgs and one at 10 feet bgs were selected to represent subsurface soil vapor conditions. At this time, no soil vapor data is available to compare for this initial screening, so only soil was considered.

4.2 Preliminary Screening

As part of the 4th Site Assessment (*Site Assessment Report and Conceptual Site Model*, Murex 2011) Murex compared site COC concentrations to Regulatory Screening Levels (RSLs) for an initial risk screening. RSLs are developed by the Environmental Protection Agency, Region 9, and are contained within the May 2010 published table. Only soil data was considered, as no soil vapor data has yet been collected. A more comprehensive study will be conducted in the risk assessment, which will be submitted at a later date.

In the CSDDEH letter, dated 21 March 2011, a request was made to compare contaminant concentrations to the California Human Health Screening Levels (CHHSLs) rather than EPA screening levels. However, no such CHHSLs exist for any VOCs or petroleum-related compounds in soil, and therefore, no such comparison can be made.

Soil-gas data collected during the upcoming soil-gas investigation will be compared to CHHSLs for initial screening and presented in the Human Health Risk Assessment report as requested by the CSDDEH.

5.0 SITE CONCEPTUAL MODEL SUMMARY

Below is a summary of current site conditions based on investigations conducted to date:

- Depth to groundwater beneath the site ranged from 27.40 to 18.38 feet bgs with groundwater elevations ranging from 279.66 to 276.61 feet aMSL.
- Groundwater flows southwest with an average gradient of 0.015 feet per foot.
- The site is located within the Cholla Hydrologic Subarea (8.22) of the San Diego Mesa Hydrologic Area (8.20) of the Pueblo San Diego Hydrologic Unit (8.00). Groundwater within the Cholla Hydrologic Subarea is considered non-beneficial use.
- The nearest surface water to the site is Chollas Creek located approximately 600 feet south from the source area.
- Site lithology consists of a dense siltstone from ground surface to approximately 15 feet below grade at the source area, underlain by a gravel/cobble layer to the total depth explored during this assessment.
- Impacts to soil have been well delineated to the north, east, and south of the source area. Impact to soil to the west of the source area has not been fully delineated; however, based on topography and lithology, the extent of impact to site soil to the west would in all likelihood not exceed 100 feet from the source area.
- Impacts to groundwater have been well delineated to the north, east, and south of the source area.
- Hydrocarbon impact to groundwater has decreased since the first sample event in 2007. Three monitoring events have occurred since then.
- No sensitive receptors, other than current and future on-site occupants and workers, were identified as threatened by Site conditions.

6.0 DISCUSSION & RECOMMENDATIONS

Data gathered during the 4th Site Assessment and previous investigations indicate the impact to site soil and groundwater remains confined to the Site; however, source area (former UST area) soils and groundwater in the vicinity of the source area remain impacted at levels that may exceed regulatory screening and/or human health risk-based screening levels.

Based on the findings, Murex recommends the following:

1. Obtain soil gas data from within the 5586 University Avenue building as directed by the CSDDEH.
2. Screen vapor sample results against CHHSLs and complete the site-specific human health risk assessment, according to SAM guidelines (cancer risk < 1×10^{-6}, H.I. < 1.0).
3. Evaluate the need for “hot-spot” soil removal or other remediation based on A) the breadth of contaminated media exceeding risk and/or other regulatory thresholds.

7.0 REFERENCES

1. California Geologic Survey (formerly the California Division of Mines and Geology) Bulletin 200, *Geology of the Eastern San Diego Metropolitan Area, California, 1975*
2. County of San Diego *Site Assessment and Mitigation Manual*, 15 February 2004
3. Environmental Protection Agency, Region 9, *Regional Screening Levels*, May 2010.
4. Millcon Environmental, Inc., Letter Report dated 29 September 1992
5. Millcon Environmental, Inc., *Report of Secondary Subsurface Investigation*, 1 September 1993
6. Morgan & Associates, Inc., *Third Additional Site Assessment Report*, 15 January 2008
7. Morgan & Associates, Inc., *Work Plan for the Fourth Site Assessment*, 20 May 2008
8. Morgan & Associates, Inc., *Groundwater Monitoring Work Plan*, 30 June 2008
9. Morgan & Associates, Inc., *Health Risk Assessment Work Plan*, 13 August 2008
10. Morgan & Associates, Inc., *Addendum to the Fourth Site Assessment Work Plan and Groundwater Monitoring Work Plan*, 30 December 2008
11. Morgan & Associates, Inc., *Revisions to Addendum to the Fourth Site Assessment Work Plan and Groundwater Monitoring Work Plan*, 6 March 2009
12. Murex Environmental, Inc., *Site Assessment Report and Conceptual Site Model*, 2 March 2011.

8.0 CLOSING

I certify under penalty of law that this document and all enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained herein is, to the best of my knowledge and belief, true, accurate and complete, however, is reliant upon public agency records, which could be incomplete or inaccurate beyond our control.

Should you have any questions or concerns regarding the material herein, please do not hesitate to contact the undersigned at (714) 508-0800.

Sincerely,
MUREX ENVIRONMENTAL, INC.

REGISTERED PROFESSIONAL ENGINEER
JEREMY R. SQUIRE
JRS
CIVIL # 69466
Exp: June 2012
STATE OF CALIFORNIA

Jeremy R Squire, PE
Senior Engineer

Robert Hess, PG
Senior Geologist

LEGEND

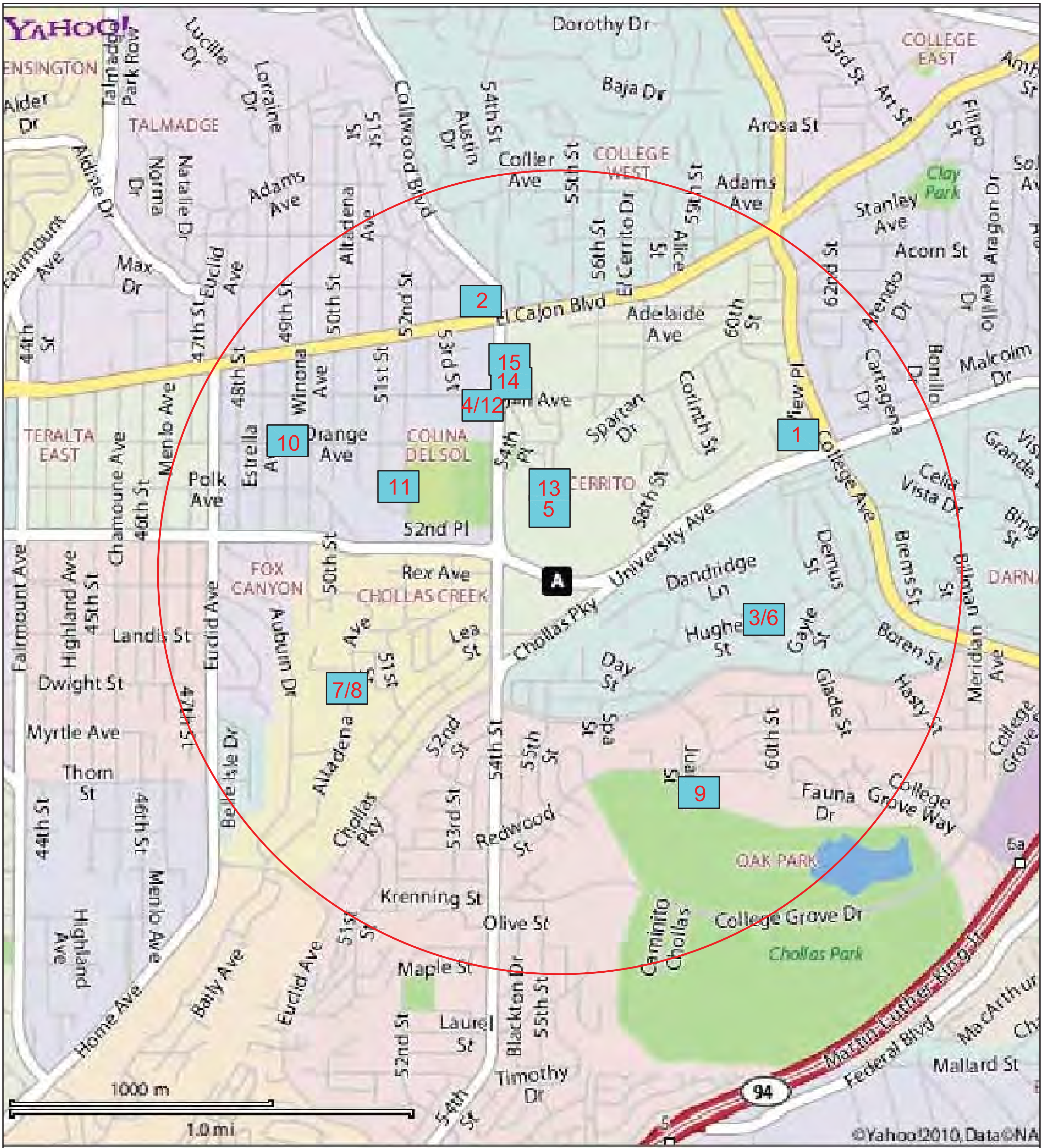
FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE LOCATION MAP

MUREX environmental, inc

FIGURE
1

DRAWN BY: RH DATE: 6/15/2010



LEGEND

A	SITE LOCATION
1	POTENTIAL SENSITIVE RECEPTOR LOCATION AND ID
○	ONE MILE RADIUS AREA

FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE VICINITY MAP
SHOWING POTENTIAL
SENSITIVE RECEPTORS

MUREX
environmental, inc

FIGURE
2

DRAWN BY: RH DATE: 4/16/2011

Sensitive Receptor Survey: Potential Off-Site Receptor Identification

Four child day care facilities were located within the search distance:

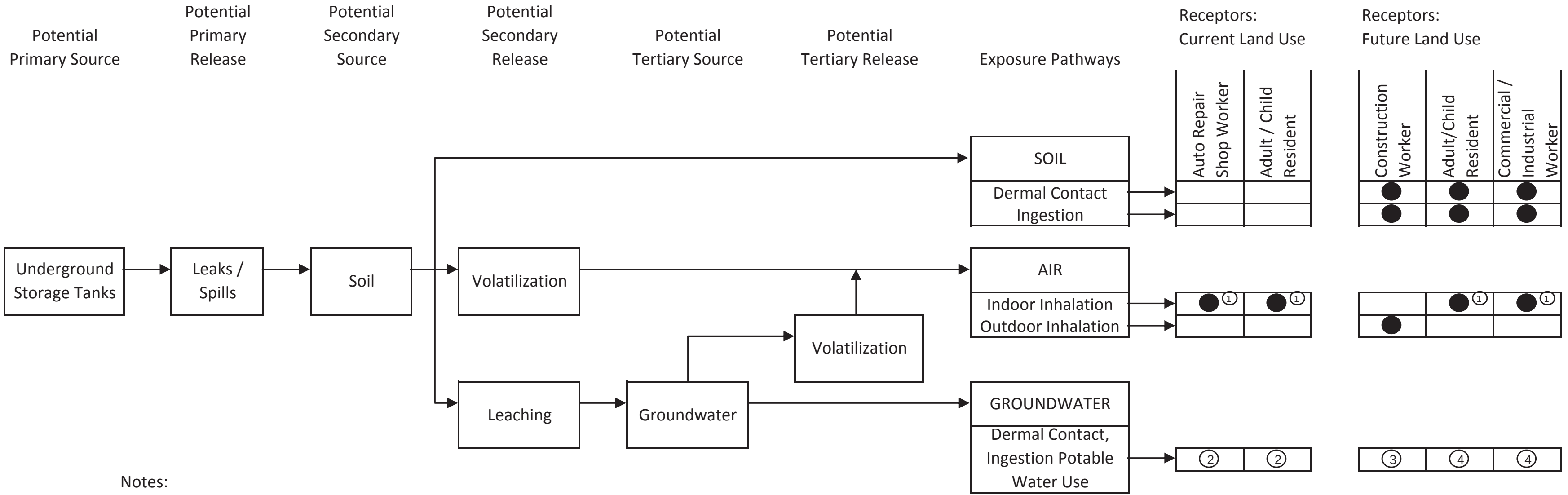
1. 6060 University Avenue
2. 5380 El Cajon Blvd.
3. 6020 Hughes Street
4. 4260 54th Street

One Hospital was located within the search distance:

5. Promise Hospital of San Diego: 5550 University Ave.

Ten Elementary/High School/Continuing Education facilities were located within the search distance

6. Darnall School: 6020 Hughes Street
7. Waldorf School K-12: 3547 Altadena Avenue
8. Marshall Elementary School: 3550 Altadena Avenue
9. Carver Elementary: 3251 Juanita Street
10. Ibarra Elementary School: 4877 Orange Avenue
11. Fay Elementary School: 4080 52nd Street
12. Pacific American Academy Charter School: 4260 54th Steet
13. William C Crawford High School, Crawford Law and Business School, and Crawford Idea School: 4191 Colts Way
14. Horace Mann Middle School: 4345 54th Street
15. Jackson Annex Elementary School: 5345 54th Street



Notes:

①For the purpose of the HHRA current residents, future residents, and commercial/industiral workerswill be assumed to be exposed to vapors while indoors to be protective of worst case exposures. Outdoor inhalation exposures will not be evaluated.

②No drinking water wells are currently located on site; municipal water is supplied by the City of San Diego from an off-site source. Direct contact exposure to current receptors to shallow groundwater is therefore incomplete.

③Direct contact exposure to future construction workers to groundwater during construction/redevelopment is considered incomplete given the depth to groundwater is greater than typical excavation depths for construction (10 feet below ground surface)

④Direct contact exposure for future residents or commercial/industrial workers to shallow groundwater is considered incomplete given the high conductivity of shallow groundwater and the likelyhood that municipal water to continue to be supplied from off-site sources.

FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE CONCEPTUAL MODEL
SCHEMATIC

MUREX
environmental, inc

FIGURE
3

Former 2-B Rentals Second Semi-Annual 2010 Groundwater Monitoring Report

30 December 2010

Site Name	Former 2-B Rentals
Site Address	5586 University Avenue, San Diego, California
Primary Consultant	Murex Environmental, Incorporated
Address	2640 Walnut Ave. Unit F, Tustin, California
Contact	Mr. Jeremy Squire | 714.508.0800 | jeremysquire@murexenv.com
Lead Agency	County of San Diego Department of Environmental Health (CSDDEH)
Agency Contact	Ms. Ellen Beacon | 619.338.2243 | ellen.beacon@sdcounty.ca.gov
Case Number	T2340 / H32242-001
Global ID	T0607301022
EDF Confirmation No.	Pending
Basin Plan	Water Quality Control Plan for the San Diego Basin; SWRCB, RWQCB R9
Hydrologic Unit	Cholla Hydrologic Subarea (8.22) of the San Diego Mesa Hydrologic Area (8.20) of the Pueblo San Diego Hydrologic Unit (8.00) (reference Basin Plan R9)
Aquifer Use	Non-Beneficial Use (reference Basin Plan R9, DEH case file)

Work performed during second semi-annual 2010 reporting period:

1. Completed installation and development of four (4) additional groundwater monitoring wells (MWs 7, 8, 9, & 10).
2. Well locations and elevations were surveyed by a California-licensed land surveyor (all wells, including existing wells, were surveyed for consistency).
3. Completed second semi-annual 2010 groundwater monitoring and sampling during the week of November 8, 2010.

Work proposed during first semi-annual 2011 reporting period:

1. Perform first semi-annual 2011 groundwater sampling and reporting.

Groundwater Monitoring Data

Current phase of project	Site Assessment
Potential Chemicals of Concern	TPH(g), TPH(d), TPH(Stoddard), BTEX, VOCs
Frequency of monitoring and sampling	Semi-Annual
Groundwater sampling date	Week of November 8, 2010
Purge method	Low Flow < 1Lpm
Wells purged and sampled	MW-1, MWs-3, 4, 5, 6, 7, 8, 9, 10
Number of wells On-site	9
Number of wells off-site	0
Number of wells gauged	9
Number of wells sampled	9
Depths to groundwater	27.40 feet to 18.38 feet below TOC
Groundwater elevations	279.66 feet to 276.61 feet aMSL
Groundwater flow direction and gradient	Southwest @ 0.015 feet/foot
Consistent with previous quarters	Yes
TPH(g) range	ND – 8.6 mg/L
Well with highest concentration	MW-4
TPH(d) range	ND – 1.9 mg/L
Well with highest concentration	MW-4
TPH(Stoddard) range	ND
Well with highest concentration	NA
Benzene range	ND – 270 μg/L
Well with highest concentration	MW-4
PCE range	ND – 16 μg/L
Well with highest concentration	MW-4
Liquid Phase Hydrocarbons present	None
Wells/surface water w/in 2000 feet	Unknown
Distance/direction from site	NA
Volume of groundwater purged	~24
Disposal facility	Pending
Current remediation techniques	None
Unusual Site activity	None
Primary Agency directive	Continue Semi-Annual GW Monitoring

Discussion

During the week of November 8, 2010, nine (9) on-site groundwater monitoring wells were gauged, purged via low-flow methodology, and sampled by Murex Environmental, Inc. (Murex) personnel at the former 2-B Rentals (Site) located at 5586 University Avenue, San Diego, California (see Figure 1 for Site Location Map and Figure 2 for Site Map showing well locations). Groundwater monitoring at the Site was last conducted in May 2010 by Murex.

Appendix A provides copies of the certified laboratory reports and completed COCs. Appendix B provides copies of the field sampling forms. Appendices C, D, and E provide the standard operating procedures for field sampling equipment decontamination, quality assurance quality control for sample collection, and low flow sampling methodology respectively.

Groundwater Elevation

Based on the measurements obtained during the week of November 8, 2010, groundwater surface elevations ranged from 279.66 to 276.61 feet above mean sea level. Well construction details are provided in Table I. The historic groundwater level measurements and groundwater elevations are presented in Table II as well as Table IV.

The average horizontal groundwater gradient is approximately 0.015 foot per foot (ft/ft) to the southwest. Groundwater elevations, contour lines, gradient direction and slope are shown on Figure 3. Relative to the May 2010 sampling event, groundwater elevations rose by an average of approximately 2.39 feet. See Appendix F for well hydrographs.

Analytical Results

Results for the second semi-annual 2010 sample event show similar results compared to the May 2010 sampling event. TPHg results have decreased slightly in wells MW-3, MW-4, and MW-6. TPHd and PCE were detected in wells MW-4, MW-6, and MW-8. Stoddard solvent was not detected in any wells during this sample event. Benzene was detected in wells MW-4, MW-8, and MW-9. See Table 4 for tabulated results and Figure 4 for Site Map showing concentrations of contaminants of concern.

TPHg was detected in 5 of the 9 wells sampled this event. The detected concentrations were 300 micrograms per liter (µg/L) in monitoring well MW-3, 8,600 µg/L in monitoring well MW-4, 4,600 µg/L in monitoring well MW-6, 300 µg/L in monitoring well MW-8, and 72 µg/L in monitoring well MW-9. See Figure 5 for TPHg concentration contours.

TPHd was detected in 3 of the 9 wells sampled this event. The detected concentrations were 1.9 milligrams per liter (mg/L) in well MW-4, 1.1 mg/L in well MW-6, and 0.73 mg/L in well MW-8. See Figure 6 for TPHd concentration contours.

TPH(Stoddard) was not detected in any of the wells sampled this event.

Benzene was present in samples collected from wells MW-4, MW-8, and MW-9 at their respective concentrations of 270 µg/L, 6.4 µg/L, and 9.2 µg/L. Samples from all three of these wells contained benzene at concentrations greater than the California Maximum Contaminant Level (MCL) in drinking water of 1 µg/L. See Figure 7 for benzene concentration contours.

Toluene was detected in samples from 2 wells at concentrations ranging from 0.57 µg/L in MW-6 to 380 µg/L in MW-4. Samples from MW-4 contained toluene concentrations greater than the California MCL in drinking water of 150 µg/L.

Ethylbenzene was detected in samples from 2 wells at concentrations ranging from 30 µg/L in MW-6 to 87 µg/L in MW-4. Ethylbenzene was not detected above its California MCL (300 µg/L) in the sampled wells.

Total xylenes, including the *ortho, meta,* and *para* isomers, were detected in samples from MW-4, MW-6 and MW-8 at their respective concentrations of 850 µg, 3.6 µg/L, and 0.82 µg/L. All xylene detections were less than the California MCL of 1,750 µg/L.

In addition to the aforementioned compounds, 16 additional VOCs including PCE were detected in groundwater during this sampling event. PCE was detected at concentrations exceeding the 5 µg/L California MCL in samples from wells MW-4 at a concentration of 16 µg/L and MW-6 at a concentration of 15 µg/L. PCE results for MW-8 were 3.0 µg/L and are below the California MCL. See Table 4 for tabulated results.

Interpretation

These results indicate:

- The horizontal extent of impact to groundwater has not been fully delineated in the down-gradient direction; however, extrapolation of current data suggests that the extent of impact to groundwater does not extend beyond the property limits in the down-gradient direction.
- The significant drop in concentrations of TPH compounds as compared to 2007 could indicate biodegradation, attenuation/retardation of contaminants with groundwater flow, or a combination of these and other factors. Additional data collection events will help to identify any trends.

Waste Disposal

Purged groundwater was temporarily stored and secured onsite in a properly labeled, DOT-approved 55-gallon drum and will be picked up by a licensed waste hauler for disposal at their offsite facility. Disposal manifests will be submitted to the CSDDEH under separate cover or appended to a future report.

Recommendations

Murex recommends continuing monitoring groundwater conditions at the site on a semi-annual basis for 2011.

CLOSING

I certify under penalty of law that this document and all enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained herein is, to the best of my knowledge and belief, true, accurate and complete, however, is reliant upon public agency records, which could be incomplete or inaccurate beyond our control.

Should you have any questions or concerns regarding the material herein, please do not hesitate to contact the undersigned at (714) 508-0800.

Sincerely,
MUREX ENVIRONMENTAL, INC.

REGISTERED PROFESSIONAL ENGINEER
JEREMY R. SQUIRE
JRS
CIVIL # 69466
Exp: June 2012
STATE OF CALIFORNIA

Jeremy R Squire, P.E.
Senior Engineer

Robert Hess, P.G.
Senior Geologist

TABLE I
Well Construction Details
University Avenue Manor (UAM)
5586 University Avenue
San Diego, California

	D		B D	D	D			B		O	L
MW-1	10/18/2007	Groundwater	50	49.5	4	0.01	35-50	0-35	PVC	306.52	15
MW-3	10/21/2007	Groundwater	45	35	4	0.01	15-35	0-15	PVC	297.33	20
MW-4	10/22/2007	Groundwater	45	35	4	0.01	15-35	0-15	PVC	296.97	20
MW-5	10/24/2007	Groundwater	50	40	4	0.01	25-40	0-25	PVC	306.32	15
MW-6	10/23/2007	Groundwater	45	35	4	0.01	15-35	0-15	PVC	297.06	20
MW-7	11/10/2010	Groundwater	38	37	4	0.01	22-37	0-22	PVC	306.43	15
MW-8	11/10/2010	Groundwater	29	28	4	0.01	13-28	0-13	PVC	296.42	15
MW-9	11/8/2010	Groundwater	30	29.5	4	0.01	14.5-29.5	0-14.5	PVC	298.03	15
MW-10	11/9/2010	Groundwater	32	31	4	0.01	16-31	0-16	PVC	299.74	15

NOTES:

ft-bgs	Feet below ground surface
ft-amsl	Feet above mean sea level
PVC	Polyvinyl chloride

TABLE II
Summary of Groundwater Elevation Data
University Avenue Manor (UAM)
5586 University Avenue
San Diego, California

Well ID	Date	Depth to Water (ft-bTOC)	Top of Casing Elevation (ft-amsl)*	Groundwater Elevation (ft-amsl)	Total Depth (ft-bgs)
MW-1	11/8/2007	27.51	305.68	278.17	49.50
MW-1	5/26/2010	26.95	305.68	278.73	49.50
MW-1	11/8/2010	27.00	306.52	279.52	49.50
MW-3	11/8/2007	18.89	294.59	275.70	35.00
MW-3	5/26/2010	18.32	294.59	276.27	35.00
MW-3	11/8/2010	18.38	297.33	278.95	35.00
MW-4	11/8/2007	19.03	294.16	275.13	35.00
MW-4	5/26/2010	18.48	294.16	275.68	35.00
MW-4	11/10/2010	18.43	296.97	278.54	35.00
MW-5	11/8/2007	27.36	303.55	276.19	39.00
MW-5	5/26/2010	26.83	303.55	276.72	39.00
MW-5	11/10/2010	26.66	306.32	279.66	39.00
MW-6	11/8/2007	18.90	294.28	275.38	35.00
MW-6	5/26/2010	18.42	294.28	275.86	35.00
MW-6	11/10/2010	18.53	297.06	278.53	35.00
MW-7	11/13/2010	27.40	306.43	279.03	37.00
MW-8	11/13/2010	18.70	296.42	277.72	28.00
MW-9	11/12/2010	21.42	298.03	276.61	29.50
MW-10	11/12/2010	21.05	299.74	278.69	31.00

Notes

*	All wells surveyed Nov. 2010
ft-bTOC	feet below top of casing
ft-amsl	feet above mean sea level
ft-bgs	feet below ground surface

TABLE III
Summary of Field Analytical Parameters
University Avenue Manor (UAM)
5586 University Ave.
San Diego, California

Well ID	Diameter (in.)	Date Sampled	pH	Temp (ºC)	Conductivity (mV)	ORP	DO (mg/L)	TDS	Turbidity (NTU)
MW-1	4	5/26/2010	6.66	23.43	9.83	218	7.75	6.22	3.55
MW-1	4	11/8/2010	6.83	20.52	10.6	144	3.61	*	3.11
MW-3	4	5/26/2010	6.61	22.54	10.1	117	3.78	6.29	6.65
MW-3	4	11/8/2010	6.49	21.08	11	121	2.71	*	6.74
MW-4	4	5/26/2010	6.74	22.53	9.2	-53	4.01	5.79	5.08
MW-4	4	11/10/2010	6.76	20.96	8.36	-50	5.51	*	5.8
MW-5	4	5/26/2010	6.69	21.84	9.83	146	6.58	6.19	6.07
MW-5	4	11/10/2010	6.48	20.51	8.98	123	2.54	*	6.2
MW-6	4	5/26/2010	6.85	21.71	9.05	-137	4.16	5.70	17.3
MW-6	4	11/10/2010	6.73	19.64	8.17	-180	8.53	*	26.2
MW-7	4	11/13/2010	6.94	21.81	9.08	11	3.9	5.72	130
MW-8	4	11/13/2010	7.29	21.47	7.81	153	3.38	4.92	16.1
MW-9	4	11/12/2010	7.09	21.89	7.12	53	2.89	4.49	54.3
MW-10	4	11/12/2010	6.98	21.01	5.48	40	3.53	3.45	220

Notes:

*	TDS measurments unavailable
Temp (ºC)	Temperature in degrees Celcius
mV	Millivolts
ORP	Oxidation-reduction potential
DO	Dissolved oxygen
mg/L	Milligrams per liter

Table IV
Summary of Laboratory Analytical Results
University Avenue Manor (UAM)
San Diego, CA

Well Number and TOC Elevation	Date Sampled	Depth to Water	Groundwater Elevation[3]	TPH-gasoline ug/L	TPH-diesel mg/L **	TPH-stoddard solvent mg/L **	TRPH mg/L **	*n*-Butylbenzene	*sec*-Butylbenzene	*tert*-Butylbenzene	Chlorobenzene	Chloroethane	Chloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	*cis*-1,2-Dichloroethene	*trans*-1,2-Dichloroethene	1,2-Dichloropropane	1,3-Dichloropropane	Isopropylbenzene	*p*-Isopropyltoluene	Methylene Chloride	Naphthalene	*n*-Propylbenzene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichlorofluoromethane	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	Vinyl Chloride	Benzene	Toluene	Ethylbenzene	*m/p*-Xylenes	*o*-Xylene
Detection Limit ug/L*				50.0	0.5	0.5	6.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.50	0.50	0.50	1.0	0.50
MCL				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	0.5	6	6	10	5	NA	NA	NA	5	NA	NA	5	200	5	150	NA	NA	0.5	1.0	150	300	1750	1750
MW-1	11/8/2007	27.51	279.01	ND	3.18[1]	ND	2.56[1,2]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
306.52	5/26/2010	26.95	279.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	11/8/2010	27.00	279.52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	11/8/2007	18.89	278.44	18700	ND	ND	ND	ND	28.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	34	ND	ND	ND	101	ND	ND	ND	ND	245	921	ND	ND	140	29.4	171	148
297.33	5/26/2010	18.32	279.01	390	ND	ND	ND	ND	1.6	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.5**	ND	ND	ND	ND
	11/8/2010	18.38	278.95	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	11/8/2007	19.03	277.94	34900	ND	ND	ND	ND	31.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	56	ND	ND	ND	142	ND	ND	ND	ND	352	1410	ND	**364**	**220**	60.2	404	403
296.97	5/26/2010	18.48	278.49	12000	1.3	22	ND	ND	43	6.2	ND	ND	ND	2.4	**8.7**	1.1	ND	ND	**15**	ND	75	43	ND	16	120	**14**	3.7	ND	ND	320	1300	ND	**270**	**290**	80	280	310
	11/10/2010	18.43	278.54	8600	1.9	ND	ND	33	40	5.6	ND	ND	ND	2.6	**0.82**	1.5	ND	ND	**15**	ND	78	46	ND	15	190	**16**	3.9	1.2	ND	470	1800	ND	**270**	**380**	87	410	440
MW-5	11/8/2007	27.36	278.96	222	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.98	ND	ND	ND	ND	7.16	25.8	ND	ND	1.5	ND	3.57	4.76
306.32	5/26/2010	26.83	279.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	11/10/2010	26.66	279.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	ND	ND	ND	ND	ND
MW-6	11/8/2007	18.90	278.16	78400	ND	ND	ND	ND	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50.5	ND	ND	ND	186	ND	ND	ND	ND	478	1940	ND	ND	ND	ND	118	187
297.06	5/26/2010	18.42	278.64	6100	0.75	16	ND	ND	40	6.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	43	54	ND	8.1	77	**9.4**	ND	ND	ND	340	1300	ND	**1.3**	1.4	22	3.1	7.2
	11/10/2010	18.53	278.53	4600	1.1	ND	ND	ND	49	8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	63	77	ND	9.4	210	**15**	ND	ND	ND	540	1600	ND	ND	0.57	30	1.1	2.5
MW-7	11/13/2010	27.40	279.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-8	11/13/2010	18.70	277.72	300	0.73	ND	ND	5.3	23	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22	ND	ND	ND	ND	3.0	ND	ND	ND	ND	ND	ND	**6.4**	ND	ND	ND	0.82
MW-9	11/12/2010	21.42	276.61	72	ND	ND	ND	ND	1.6	ND	ND	ND	ND	ND	3.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**9.2**	ND	ND	ND	ND
MW-10	11/12/2010	21.05	278.69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

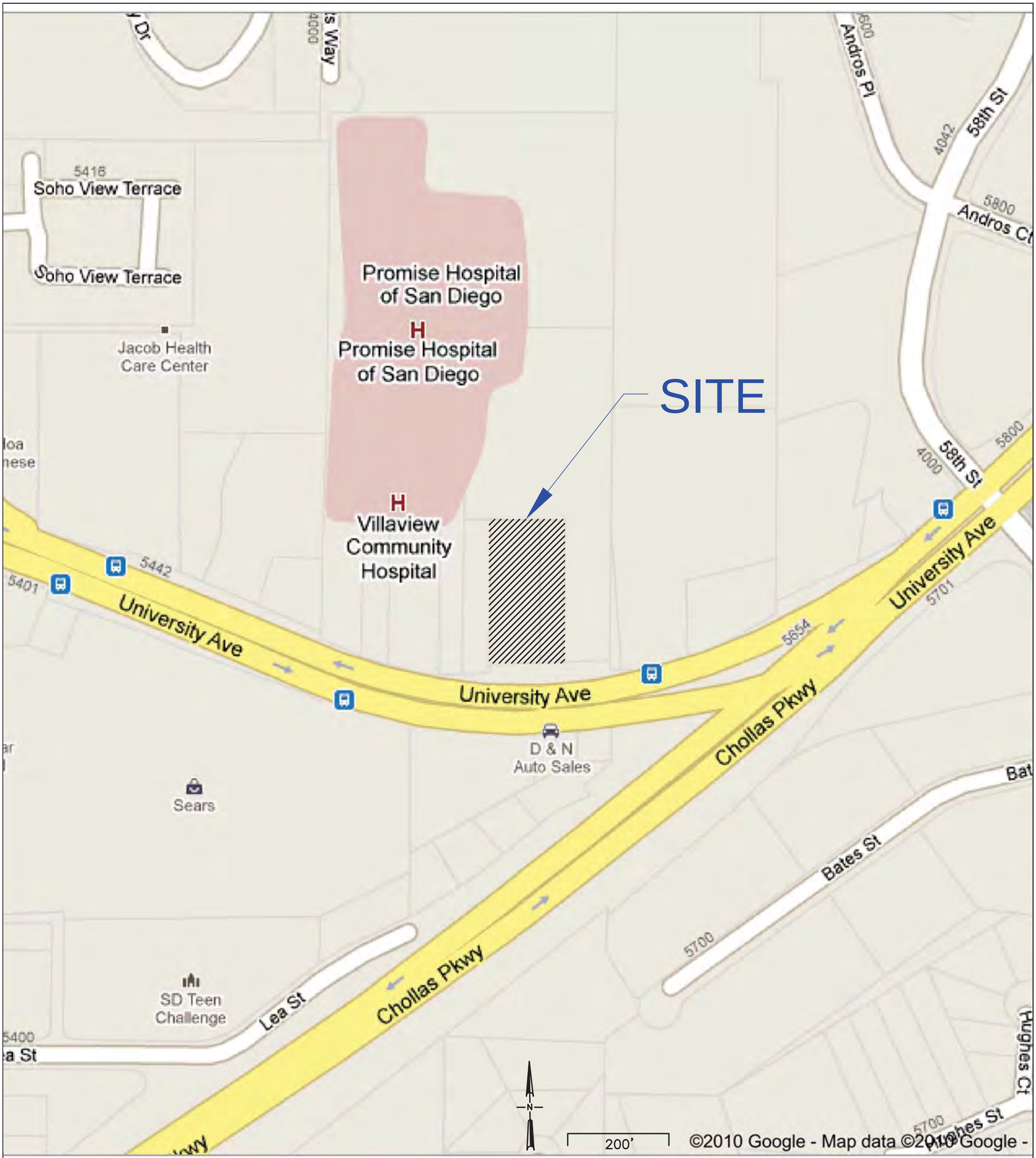
All result reported in micrograms per liter unless otherwise noted

*	Detection limits vary based on dillution (see Certified Lab Reports)
**	Results in mg/L
--	Not analyzed
NS-I	Not sampled (inaccessible)
NS-DRY	Not sampled (dry well)
NA	Not available
ND	Not detected above laboratory detection limit
MCL	Maximum contaminant limit (CA DHS)
BOLD	Exceeds MCL

[1] Results from Nov 2007 reported in ug/L converted to mg/L for consistency

[2] MAI Nov 2007 Reported as TRPH while Geotracker indicates Carbon range C28 - C40

[3] Groundwater elevations have been corrected to the November 2010 survey



LEGEND

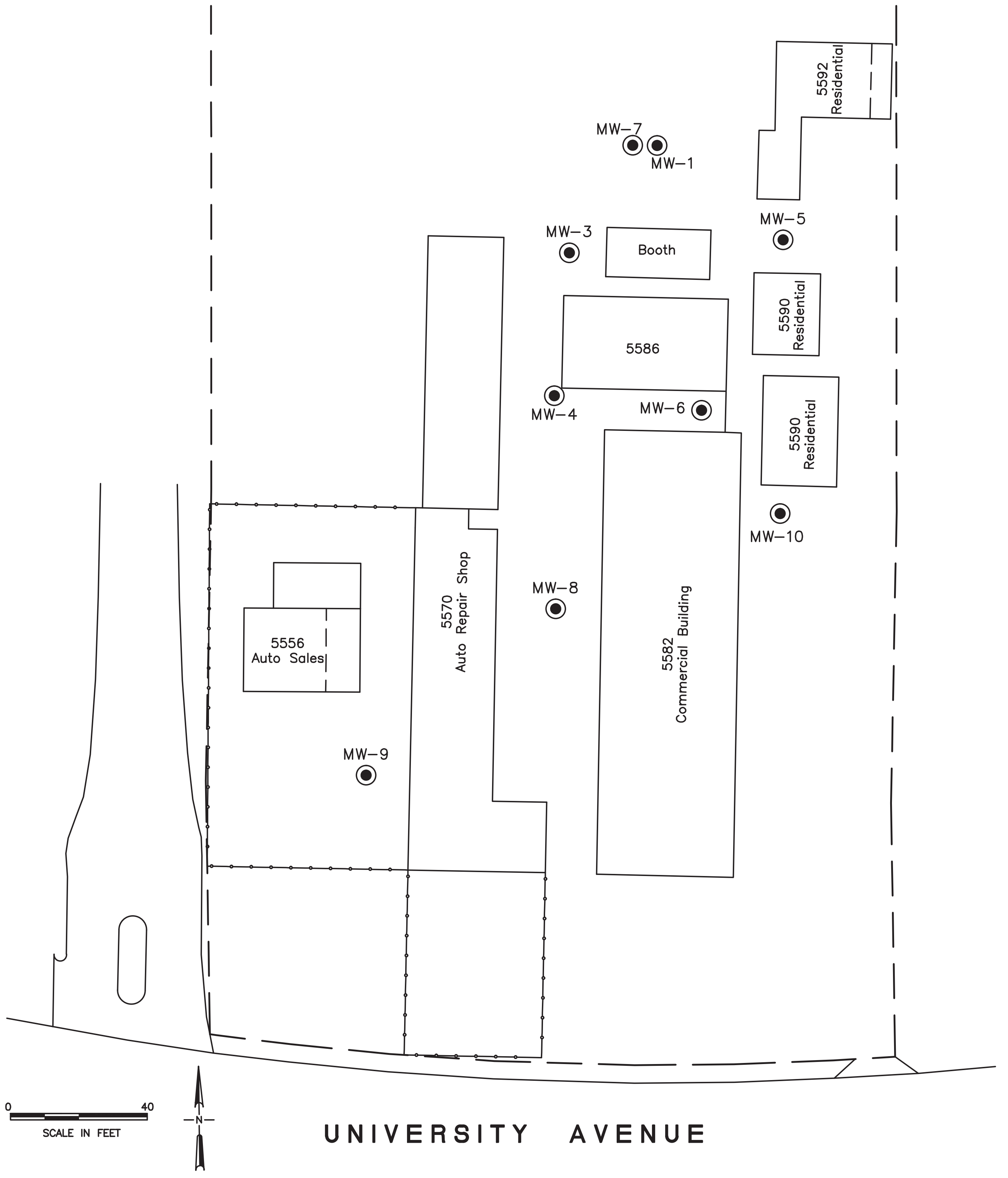
FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE LOCATION MAP

MUREX
environmental, inc

FIGURE
1

DRAWN BY: RH DATE: 6/15/2010



LEGEND

MW-1 ● EXISTING GROUNDWATER MONITORING WELL

—•—•— CYCLONE FENCE

—·—·—·— PROPERTY LIMITS

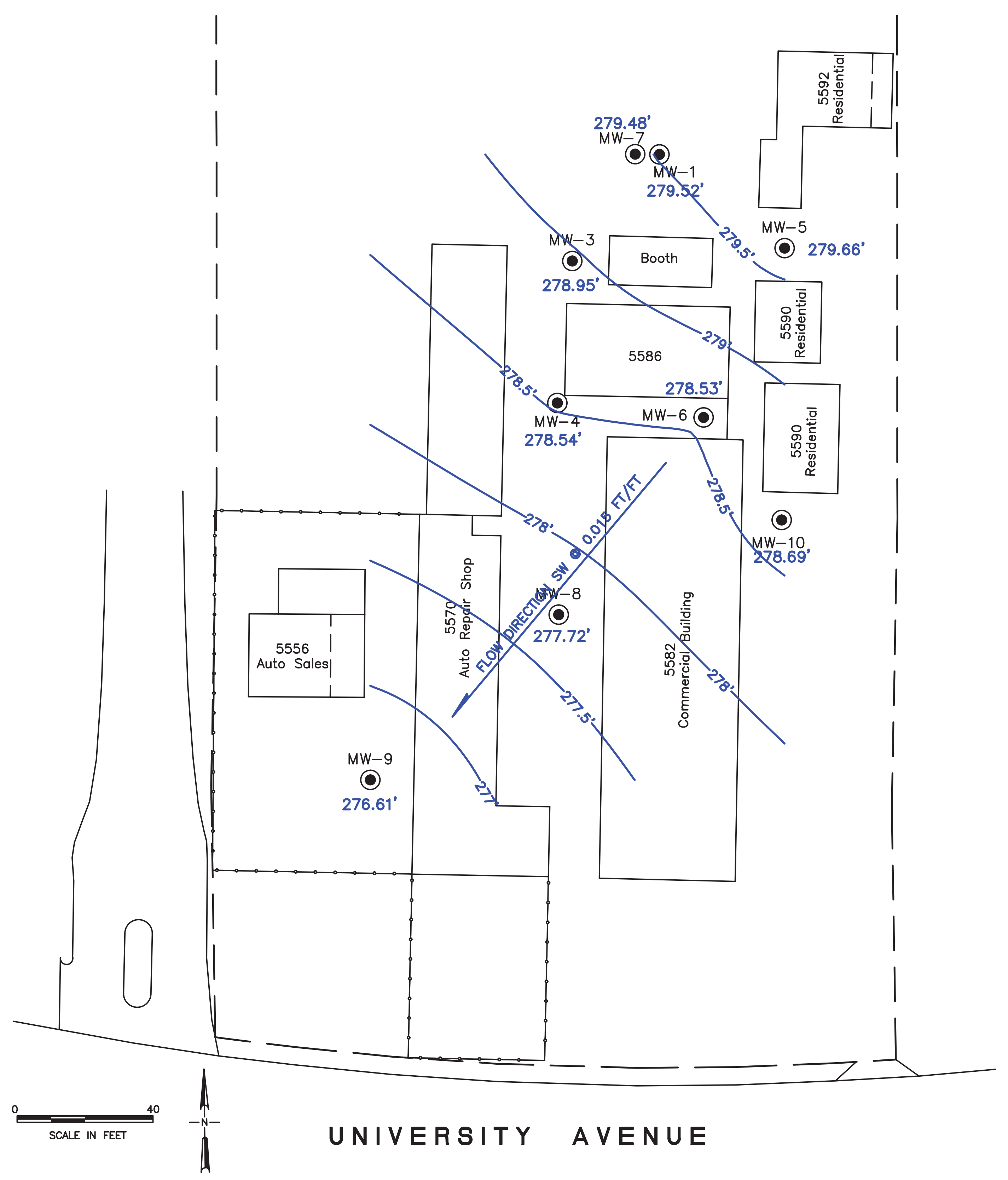
FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE MAP SHOWING
MONITORING WELL LOCATIONS

MUREX
environmental, inc

FIGURE
2

SOURCE OF MAP: AZIMUTH GROUP 11/25/2010 DRAWN BY: RH DATE: 12/13/2010



LEGEND

MW–1 ◉	EXISTING GROUNDWATER MONITORING WELL
279.52'	GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
———	GROUNDWATER ELEVATION CONTOUR (CI = 0.5') DASHED WHERE INFERRED
—•—•—	CYCLONE FENCE
-·-—-·-	PROPERTY LIMITS

SOURCE OF MAP: AZIMUTH GROUP 11/25/2010

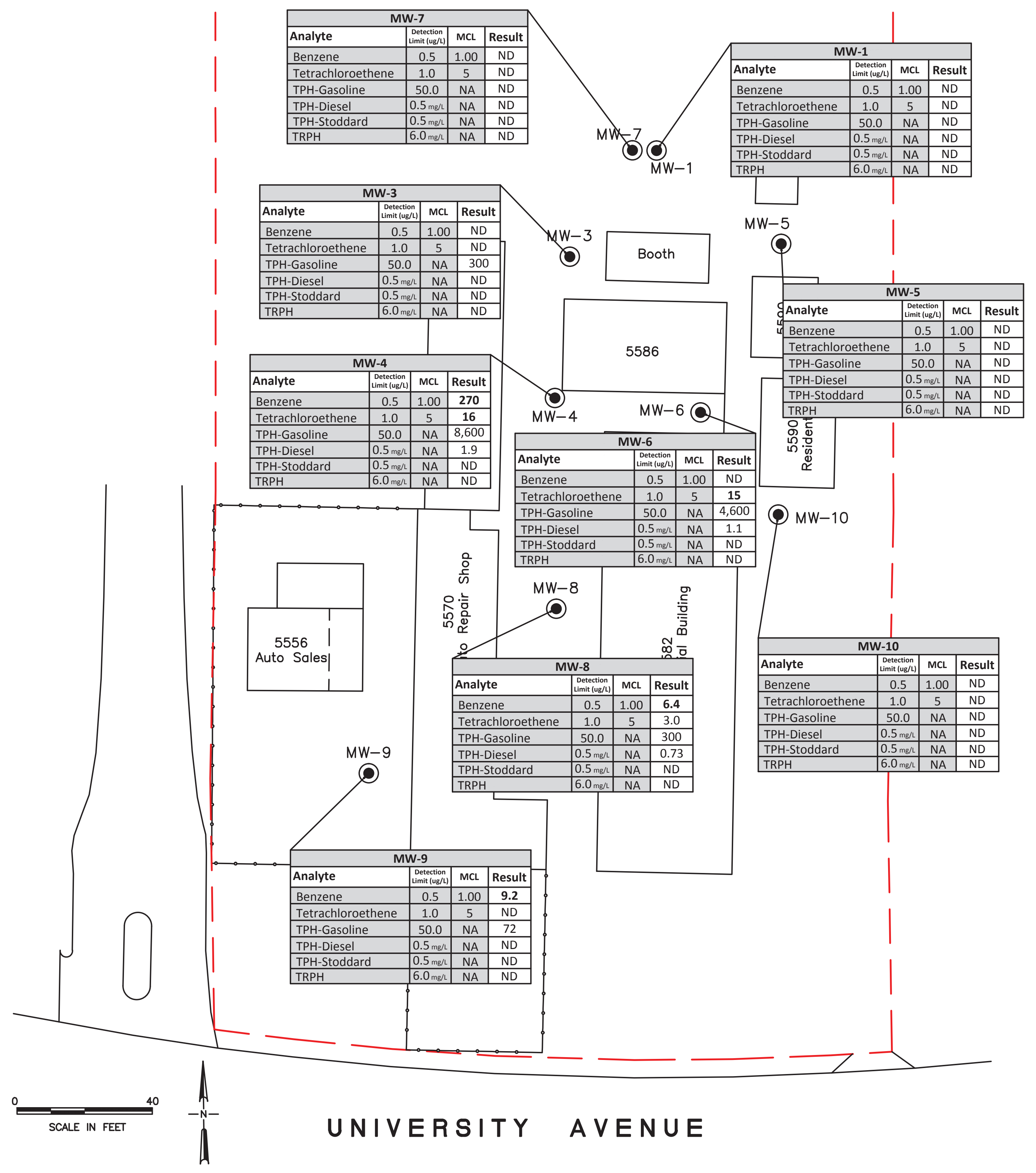
DRAWN BY: RH DATE: 12/13/2010

FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE MAP SHOWING GROUNDWATER ELEVATION CONTOURS, FLOW DIRECTION AND GRADIENT

MUREX environmental, inc

FIGURE
3



MW-7

Analyte	Detection Limit (ug/L)	MCL	Result
Benzene	0.5	1.00	ND
Tetrachloroethene	1.0	5	ND
TPH-Gasoline	50.0	NA	ND
TPH-Diesel	0.5 mg/L	NA	ND
TPH-Stoddard	0.5 mg/L	NA	ND
TRPH	6.0 mg/L	NA	ND

MW-1

Analyte	Detection Limit (ug/L)	MCL	Result
Benzene	0.5	1.00	ND
Tetrachloroethene	1.0	5	ND
TPH-Gasoline	50.0	NA	ND
TPH-Diesel	0.5 mg/L	NA	ND
TPH-Stoddard	0.5 mg/L	NA	ND
TRPH	6.0 mg/L	NA	ND

MW-3

Analyte	Detection Limit (ug/L)	MCL	Result
Benzene	0.5	1.00	ND
Tetrachloroethene	1.0	5	ND
TPH-Gasoline	50.0	NA	300
TPH-Diesel	0.5 mg/L	NA	ND
TPH-Stoddard	0.5 mg/L	NA	ND
TRPH	6.0 mg/L	NA	ND

MW-5

Analyte	Detection Limit (ug/L)	MCL	Result
Benzene	0.5	1.00	ND
Tetrachloroethene	1.0	5	ND
TPH-Gasoline	50.0	NA	ND
TPH-Diesel	0.5 mg/L	NA	ND
TPH-Stoddard	0.5 mg/L	NA	ND
TRPH	6.0 mg/L	NA	ND

MW-4

Analyte	Detection Limit (ug/L)	MCL	Result
Benzene	0.5	1.00	**270**
Tetrachloroethene	1.0	5	**16**
TPH-Gasoline	50.0	NA	8,600
TPH-Diesel	0.5 mg/L	NA	1.9
TPH-Stoddard	0.5 mg/L	NA	ND
TRPH	6.0 mg/L	NA	ND

MW-6

Analyte	Detection Limit (ug/L)	MCL	Result
Benzene	0.5	1.00	ND
Tetrachloroethene	1.0	5	**15**
TPH-Gasoline	50.0	NA	4,600
TPH-Diesel	0.5 mg/L	NA	1.1
TPH-Stoddard	0.5 mg/L	NA	ND
TRPH	6.0 mg/L	NA	ND

MW-10

Analyte	Detection Limit (ug/L)	MCL	Result
Benzene	0.5	1.00	ND
Tetrachloroethene	1.0	5	ND
TPH-Gasoline	50.0	NA	ND
TPH-Diesel	0.5 mg/L	NA	ND
TPH-Stoddard	0.5 mg/L	NA	ND
TRPH	6.0 mg/L	NA	ND

MW-8

Analyte	Detection Limit (ug/L)	MCL	Result
Benzene	0.5	1.00	**6.4**
Tetrachloroethene	1.0	5	3.0
TPH-Gasoline	50.0	NA	300
TPH-Diesel	0.5 mg/L	NA	0.73
TPH-Stoddard	0.5 mg/L	NA	ND
TRPH	6.0 mg/L	NA	ND

MW-9

Analyte	Detection Limit (ug/L)	MCL	Result
Benzene	0.5	1.00	**9.2**
Tetrachloroethene	1.0	5	ND
TPH-Gasoline	50.0	NA	72
TPH-Diesel	0.5 mg/L	NA	ND
TPH-Stoddard	0.5 mg/L	NA	ND
TRPH	6.0 mg/L	NA	ND

LEGEND

MW–1 ● EXISTING GROUNDWATER MONITORING WELL

DATA TABLE LEGEND

--	NOT ANALYZED
NS - I	NOT SAMPLED (INACCESSIBLE)
NS - DRY	NOT SAMPLED (DRY WELL)
NA	NOT AVAILABLE
ND	NOT DETECTED ABOVE LABORATORY DETECTION LIMIT
MCL	MAXIMUM CONTAMINANT LIMIT (CA DHS)
BOLD	EXCEEDS MCL

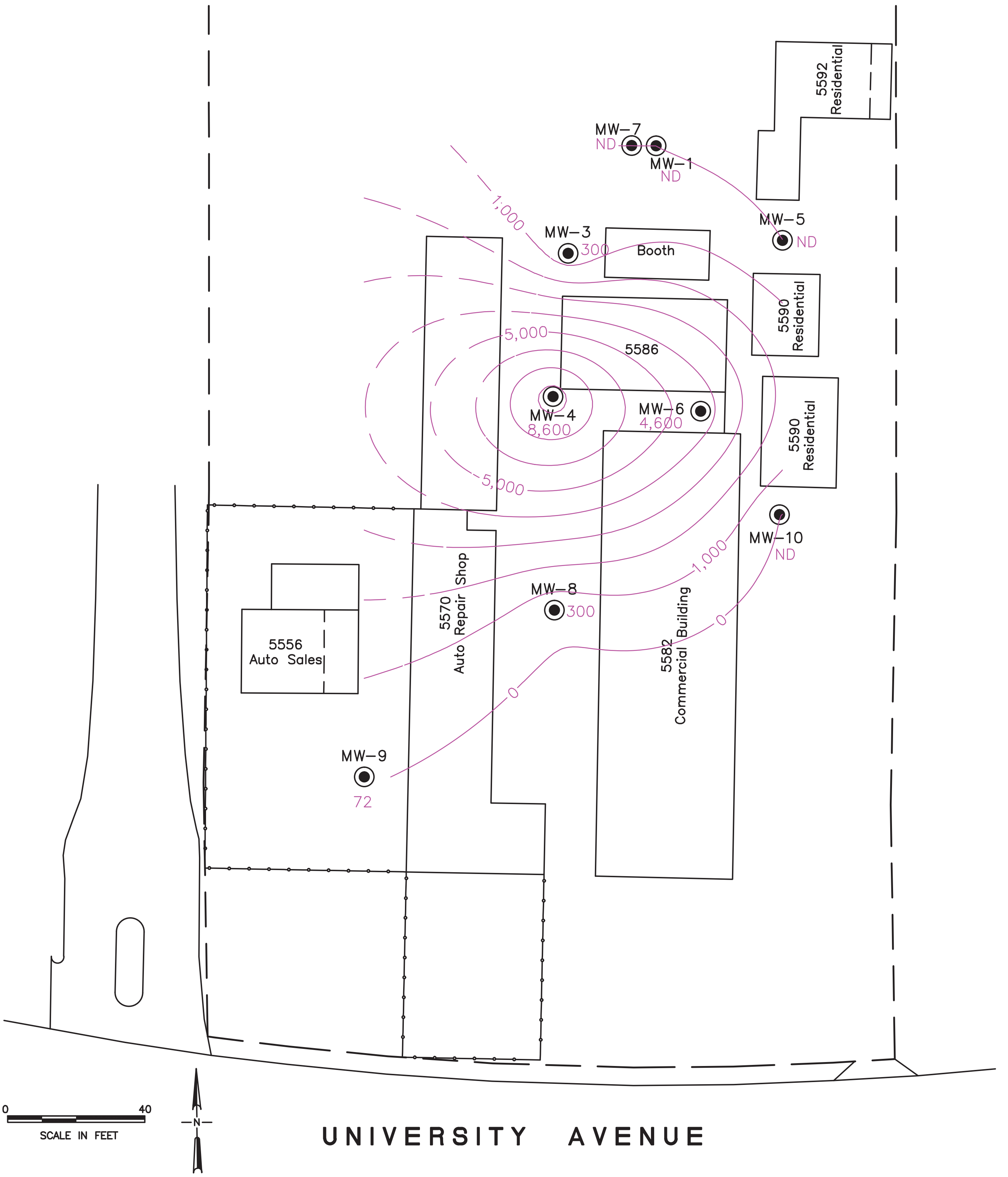
SOURCE OF MAP: AZIMUTH GROUP 11/25/2010 DRAWN BY: RH DATE: 12/30/2010

FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE SKETCH SHOWING GROUNDWATER SAMPLING RESULTS - NOV. 2010

MUREX environmental, inc

FIGURE
4



LEGEND

MW-1 ●	EXISTING GROUNDWATER MONITORING WELL
ND	TPH-G RESULTS (ug/L)
——	TPH-G ISOCONCENTRATIONS (ug/L) DASHED WHERE INFERRED
—•—•—	CYCLONE FENCE
—·—·—·—	PROPERTY LIMITS

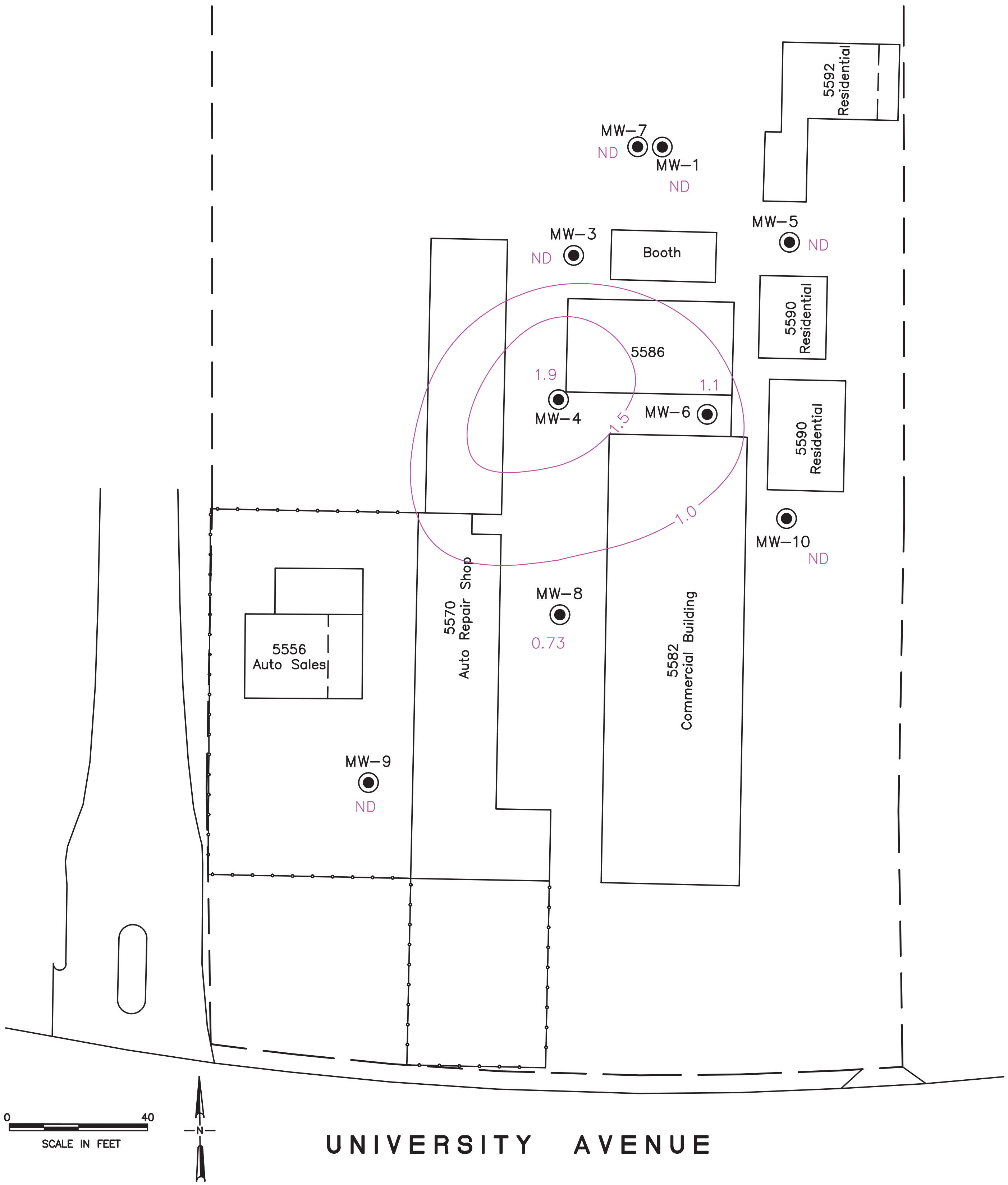
FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE MAP SHOWING TPH-G IN GROUNDWATER (ug/L)

MUREX environmental, inc

FIGURE
5

SOURCE OF MAP: AZIMUTH GROUP 11/25/2010 DRAWN BY: RH DATE: 12/13/2010



LEGEND

MW-1 ● EXISTING GROUNDWATER MONITORING WELL

ND TPHd RESULTS (mg/L)

——— TPHd ISOCONCENTRATIONS (mg/L) DASHED WHERE INFERRED

SOURCE OF MAP: AZIMUTH GROUP 11/25/2010

DRAWN BY: RH

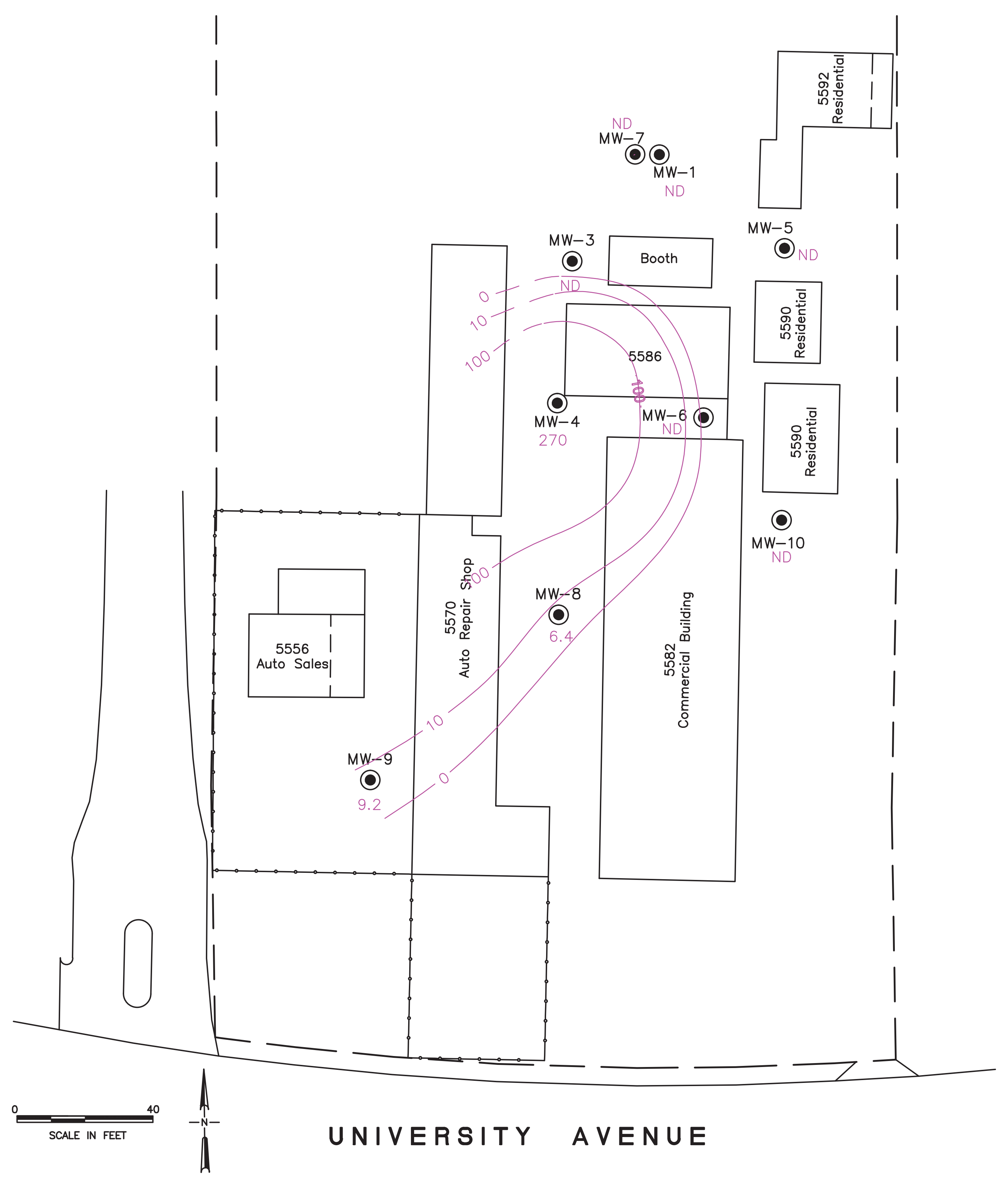
DATE: 12/30/2010

FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE SKETCH SHOWING TPHd CONTOURS - NOV. 2010

MUREX
environmental, inc

FIGURE
6



LEGEND

MW-1 ● EXISTING GROUNDWATER MONITORING WELL

ND BENZENE RESULTS (ug/L)

—— BENZENE ISOCONCENTRATIONS (ug/L) DASHED WHERE INFERRED

SOURCE OF MAP: AZIMUTH GROUP 11/25/2010 DRAWN BY: RH DATE: 12/30/2010

FORMER 2-B CLEANERS
5586 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

SITE SKETCH SHOWING BENZENE CONTOURS - NOV. 2010

MUREX environmental, inc

FIGURE
7

County of San Diego

GARY W. ERBECK
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
(619) 338-2222 FAX (619) 338-2088
1-800-253-9933
www.sdcdeh.org

April 26, 2006

Mr. Marvin Katz
Shell Oil Products US
20945 S. Wilmington Avenue
Carson, CA 90810

Dear Mr. Katz:

UNAUTHORIZED RELEASE #H03209-002
SHELL SERVICE STATION
5401 UNIVERSITY AVENUE
SAN DIEGO, CALIFORNIA

This letter confirms the completion of a site investigation and corrective action for the underground storage tank system located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the underground storage tank system is greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release at the site is required.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code. Please contact Jon Senaha at (619) 338-2195 if you have questions regarding this matter.

Sincerely,

For GARY W. ERBECK, Director
Department of Environmental Health
Site Assessment and Mitigation Program

GWE:JS:ae

Enclosure

cc: John Odermatt, Regional Water Quality Control Board
Ron Duff, SWRCB, UST Cleanup Fund Program
Jeffrey Maxwell, Miller Brooks Environmental

"Environmental and public health through leadership, partnership and science"

Case Closure Summary
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

DATE: April 20, 2006

Agency Name: COUNTY OF SAN DIEGO, ENVIRONMENTAL HEALTH, SAM	Address: P.O. BOX 129261	
City/State/Zip: SAN DIEGO, CA 92112-9261	Phone: (619) 338-2222	FAX: (619) 338-2377
Responsible Staff Person: JON SENAHA	Title: ENVIRONMENTAL HEALTH SPECIALIST	

II. CASE INFORMATION

Site Facility Name: SHELL STATION

Site Facility Address: 5401 UNIVERSITY AV, SAN DIEGO 921052304

RB LUSTIS Case No:	Local Case No: H03209-002	LOP Case No: N/A
URF Filing Date: 6/5/2003	SWEEPS No: N/A	

Responsible Parties	Address	Phone Number
Shell Oil Products US, Marvin Katz	20945 S. Wilmington Ave, Carson, CA	(310) 550-5846

Tank No.	Size in Gal.	Contents	Status	Date
T001	10000 gallons	PLUS UNLEADED	REMOVED	5/27/2003
T002	10000 gallons	SUPER UNLEADED	REMOVED	5/27/2003
T003	10000 gallons	REGULAR UNLEADED	REMOVED	5/27/2003
T004	10000 gallons	DIESEL	REMOVED	5/27/2003

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause Release: STRUCTURAL FAILURE, SUBSTANCE RELEASED FROM UST	Substance Released: GASOLINE (UNLEADED)

Site Characterization complete: YES	Date Approved By Oversight Agency: 11/23/2005	
Monitoring Wells Installed? NO	Number: 0	Proper Screened Interval? NA
Highest GW Depth B.G. Surface: NA	Lowest Depth: > 50-Feet	Flow Direction: Unknown

Most Sensitive Current Use: Beneficial Groundwater Use: None Designated
Existing Beneficial Surface Water Use: REC2 and Potential: REC1

Are Drinking Water Wells Affected? NO	Aquifer Name: 908.22-Chollas Hydrologic Sub Area
Is Surface Water Affected? NO	Nearest SW name: CHOLLAS CREEK, 1100 FEET

Off-Site Beneficial Use Impacts (addresses/locations): NA

Report(s) on file? YES	Where is Report(s) Filed? COUNTY OF SAN DIEGO, ENVIRONMENTAL HEALTH

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)		Action (Treatment or Disposal)	Date
SOIL	1119	CUBIC YARD	TREAT OFF-SITE	5/30/2003
OILY SLUDGE	300	GALLON	TREAT OFF-SITE	5/27/2003
TANK(S)	10000	GALLON	RECYCLED	5/27/2003
TANK(S)	10000	GALLON	RECYCLED	5/27/2003
TANK(S)	10000	GALLON	RECYCLED	5/27/2003
TANK(S)	10000	GALLON	RECYCLED	5/27/2003

Case Closure Summary
Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued) H03209-002

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS	MAXIMUM	REMAINING
VAPOR		
Gasoline	= 24000 ug/l	= 24000 ug/l
Benzene	= 38 ug/l	= 38 ug/l
Toluene	= 0.24 ug/l	= 0.24 ug/l
Ethyl benzene	= 3.8 ug/l	= 3.8 ug/l
Xylene (individual isomers or total)	= 44 ug/l	= 44 ug/l
Methyl-tert-butyl ether (MTBE)	= 340 ug/l	= 340 ug/l
tert-Butyl Alcohol (TBA)	= 12 ug/l	= 12 ug/l
SOIL		
ETHANOL	< 0.25 mg/kg	< 0.25 mg/kg
Gasoline	= 1400 mg/kg	= 1400 mg/kg
Diesel	= 580 mg/kg	= 580 mg/kg
Benzene	= 0.49 mg/kg	= 0.49 mg/kg
Toluene	= 3.3 mg/kg	= 3.3 mg/kg
Ethyl benzene	= 2.4 mg/kg	= 2.4 mg/kg
Xylene (individual isomers or total)	= 1.91 mg/kg	= 1.91 mg/kg
Methyl-tert-butyl ether (MTBE)	= 13 mg/kg	= 13 mg/kg
tert-Butyl Alcohol (TBA)	= 12 mg/kg	= 12 mg/kg
tert-Amyl-methyl ether (TAME)	= 0.037 mg/kg	= 0.037 mg/kg
Ethyl-tert-butyl ether (ETBE)	< 0.25 mg/kg	< 0.25 mg/kg
di-isopropyl ether (DIPE)	= 0.076 mg/kg	= 0.076 mg/kg

This case was opened due to elevated concentrations of petroleum hydrocarbons found in soil samples collected during UST removal activities on May 27, 2003 and dispenser and piping removal activities on June 5, 2003. Approximately 1119 cubic yards of soil was excavated and treated offsite during these activities.

In February 2004, seven soil borings (B-1 through B-7) were drilled onsite to a maximum depth of 50 feet below ground surface. Groundwater was not observed in any of the soil borings. Based on the findings, the vertical and horizontal extent of soil contamination has been assessed to the extent practical.

In July 2005, soil vapors samples were collected from four onsite locations. Based on the findings, the soil vapors beneath the site do not pose a hazard or carcinogenic risk for occupants at the site.

The consultant estimates 96.3 cubic yards of petroleum hydrocarbon-impacted soil greater than 100 mg/kg remains in the subsurface soil at the site. The residual contamination will not impact any sensitive receptors within a 1-mile radius of the site.

Case Closure Summary
Leaking Underground Fuel Storage Tank Program

IV. CLOSURE

H03209-002

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? YES -

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? YES -

Does corrective action protect public health for current land use? YES

Case oversight completed based upon the following site use: GASOLINE STATION -- Gasoline Station

Site Management Requirements:
ANY CONTAMINATED SOIL EXCAVATED AS PART OF SUBSURFACE CONSTRUCTION WORK MUST BE MANAGED IN ACCORDANCE WITH THE LEGAL REQUIREMENTS AT THAT TIME.

Should corrective action be reviewed if land use changes? YES

Monitoring Wells Decommissioned: YES N/A	**Number Decommissioned: 0**	**Number Retained: 0**

List Actions Taken: NOTICE OF REIMBURSEMENT / LOCAL

List Enforcement Actions Rescinded: NOTICE OF REIMBURSEMENT / LOCAL

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: KEVIN HEATON	**Title: SENIOR HYDROGEOLOGIST**
Signature:	**Date:** 4/17/06

VI. RWQCB NOTIFICATION

Date Submitted to RB:	**RB Response: NA - SOILS ONLY**	
RWQCB Staff Name: NA	**Title:**	**Date:**

VII. ADDITIONAL COMMENTS, DATA, ETC.

This document and the related CASE CLOSURE LETTER, shall be retained by the lead agency as part of the official site file.

APPENDIX F

CHOLLAS TRIANGLE
MARKET ANALYSIS

MR+E

Draft

Chollas Triangle Market Analysis

Prepared for
Civitas
City of San Diego

Prepared by
MR+E

10/14/11
R. 11/22/11

3308 Helms
Culver City CA 90232
www.mrpluse.com

Section I Introduction and Executive Summary

Introduction

This report provides an overview of the market conditions affecting the development opportunities for the Chollas Triangle community master plan. The goal of this analysis is to provide data and input to the physical and community planning process in order to identify program elements and development opportunities within the plan area.

Existing Conditions

The communities that surround the Chollas Triangle make up a significant base of spending and economic activity. In many respects the Mid-city portion of the City of San Diego can be thought of as a medium-size city that is primarily residential in character with commercial activity located along transportation corridors. The Chollas Triangle site represents an opportunity to provide a town center or point of focus for this community which despite its relative modest means, when compared to the County as a whole, still represents a significant consumer base that has economic needs that can be met within the community

The median value owner occupied dwelling units in 2010 within the Plan area was just over $211,000. This was significantly lower than the County average of about $342,000 or the City average of approximately $353,000. Because of this the Plan area represents a reserve of attainably priced housing within the broader San Diego region. Prices began to accelerate faster than the State average beginning in late 2001. This was sustained until the beginnings of the financial crisis in 2008 when median sales prices declined faster in the region than for California as a whole. As of 2011, the median sales price for a house in the community was just over $233,000. This compares to the statewide median of just under $252,000 and the County median of approximately $368,000.

Presently there is a significant concentration of very low income population within the Plan area occurring at nearly double the rate of the County as a whole. In the most recent recession, lower income communities have been hit especially hard. As a result, economic development efforts geared towards local employment and new business formation in the community will be especially helpful.

The San Diego Market

Like the rest of the nation the real estate market in San Diego has suffered tremendously since the onset of the 2008 credit crisis. Unemployment, declining residential values and declining household incomes have reduced consumer demand for a broad variety of goods and services. This has translated into negative absorption across all major land-use types in the market. That being said, San Diego has several structural advantages that buffer the local economy from many of the worst effects of the national conditions.

Therefore, the region is currently experiencing negative absorption and rental rates that are below replacement costs for most asset classes. In these circumstances only built to suit pre-lease projects that are narrowly focused to the demands of an end-user are likely to be built in this environment.   In the short term the San Diego market is unlikely to produce significant new development pressures for new construction until existing inventory is absorbed and high levels of unemployment begin to abate.

At present the total San Diego market is experiencing the following vacancy rates:

- Office—17.4%
- Retail—8.2%
- Multiunit housing—4.9%
- Industrial—9.8%

Existing inventory will need to be cleared from the market and rental rates will need to begin to exceed replacement costs before significant new levels of development are likely to occur in the market. The demand for multiunit housing is likely to emerge earlier than the other asset classes as San Diego's economy stabilizes and returns to historically realized rates of growth.

The Chollas Triangle Market

The Chollas Triangle market area, like the rest of San Diego, is currently experiencing market conditions that are not conducive to new development. In almost every instance the capitalized value of current income streams and comparable sales prices for existing property are below replacement cost new development. While the immediate market conditions are soft, the location of the Chollas Triangle in the midst of a dense and dynamic community, along with the size of the site, is consistent with a town center development strategy.

The first segment of the real estate market that is likely to be viable on the Chollas Triangle site will be multi-family residential. As capital markets began to stabilize and new household formation continued regionally, based on improving economy development opportunities for market rate, multiunit rental apartments will become viable at the

Chollas Triangle site. Demand for this type of development may begin to emerge over the next 18 to 24 months depending on macro-economic conditions such as credit markets, regional unemployment rates and competitive developments elsewhere in the area.

Program Recommendations

Either as a leading investment or concurrent, with the first phase of development, it will be necessary to improve Chollas Creek and Chollas Pkwy. turning them into a community amenity. With this accomplished the Chollas Triangle site, particularly along its southern and eastern margins, becomes particularly attractive for residential development. In contrast the North and West side of the site currently fronts two of the most significant arteries in Mid-City San Diego and serves as logical sites for retail and consumer oriented commercial developments. Once the landscape improvements are made to the creek and Parkway the latent value of Chollas Triangle's strategic location can be unlocked.

In terms of program recommendations, it is clear that the regional economy of San Diego will need to improve with decreasing rates of unemployment and increasing household incomes before new development pressure comes to bear on this site. That being said the near and intermediate term demand is beginning to develop for multifamily residential development in the Mid-City portion of San Diego. Once issues of access to capital and development finance are addressed and the economy begins to stabilize it is likely that this sector of the real estate economy will be the first to rebound.

Similarly the retail landscape has been significantly challenged by the financial crisis that began in 2008. As the industry begins to stabilize along with incomes in the market it is likely to anticipate that University Avenue will continue to develop as a commercial retail corridor. Chollas Triangle offers a site to combine these market tendencies into a synergistic mixed-use town center development with likely following attributes:

- 250 to 500 residential units capable of being both owner and renter occupied
- Community scale retail development with one or more mid box anchors totaling between 100,000 and 130,000 sq. ft.
- Ancillary office space, including live work and store front office opportunities ranging between 10,000 and 25,000 sq. ft. of total on-site commercial office use.

Section II Existing Conditions

Introduction

This section provides an overview of the existing economic and social conditions within the Chollas Triangle area. The data in this section is based on a combination of demographic and economic data sources. The principal resource used in preparing this quantitative overview was provided from the US Census. Two data sets were used. The first was the recently released 2010 census which included basic information about population and households but lacked details about social and economic characteristics. The second source, also from the US Census, is the American Community Survey (ACS) which represents a rolling four-year survey sample that covers dates from 2005 to 2009. Data from the ACS will be adjusted to conform to the 100% counts of the 2010 census in this review.

In terms of the geographic area being analyzed this section proceeds on the basis of analysis of the three areas of geography.

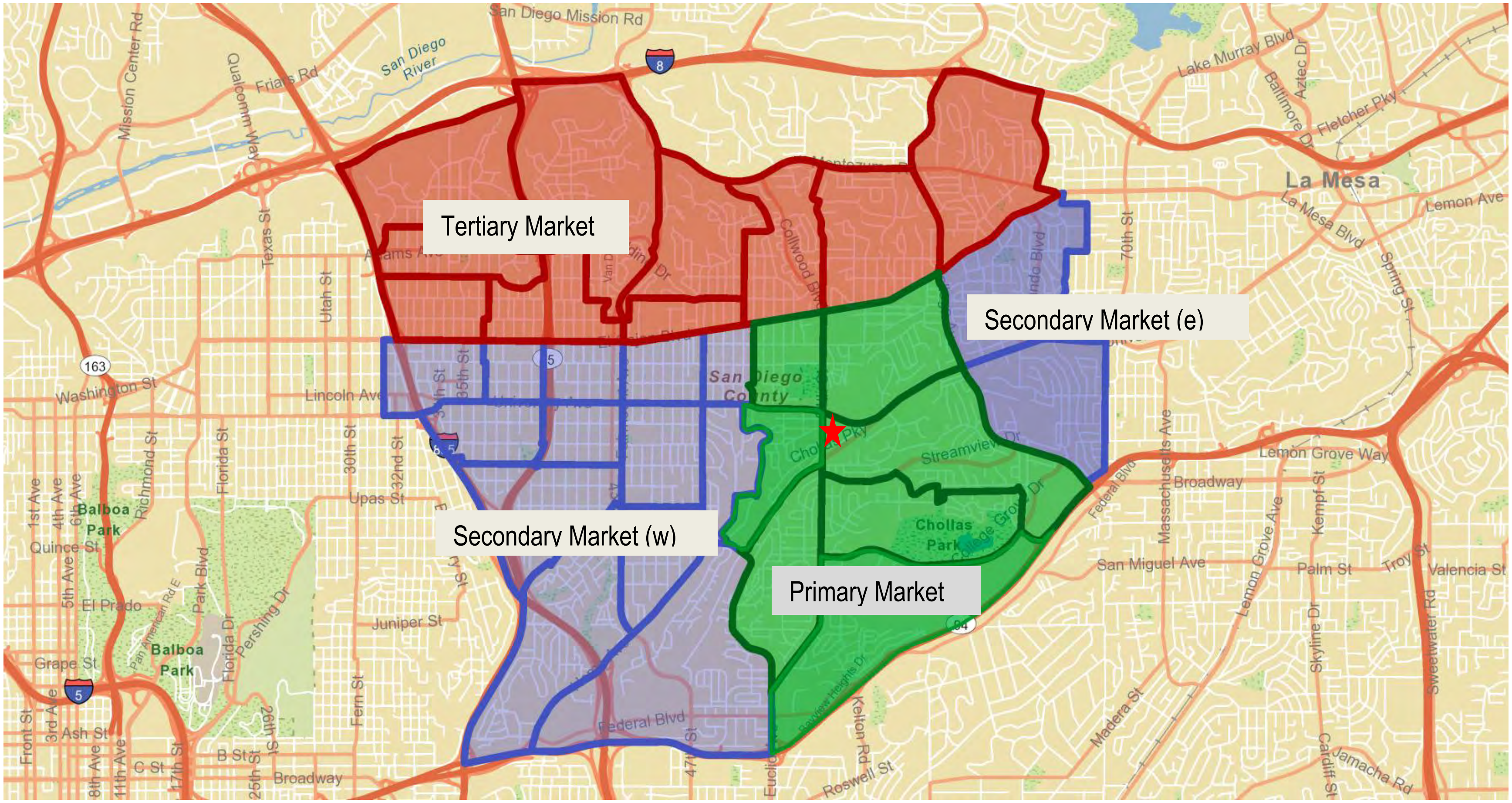
1) ***Plan area***-- This consists of the census tracts that include the Chollas Triangle and the first ring of census tracts that are adjacent to the site. This covers an area roughly from El Cajon Blvd. in the north to SR-94 in the south, Gayle Street on the east and Euclid Avenue on the west.
2) ***Secondary market area***-- This is made up of a set of census tracts located to both the east and west of the plan area. The secondary market area's boundaries on the west side run from a northern boundary along El Cajon Blvd., west along I-805, south along SR- 94 and east along Euclid Ave. The eastern section of the secondary market covers an area from Gayle Street on the west to the city boundary with La Mesa in the east and the area south of El Cajon Blvd.
3) ***Tertiary market area***-- This market area covers the area north of El Cajon Blvd., south of I-8 and Montezuma Blvd.

A map of these three areas as shown in figure II-1. The market area includes portions of City Heights, Eastern Area, Normal Heights and Kensington Talmagde. However, the study area is not coterminous with any of the existing plan areas of the City of San Diego.

Where ever possible, data for the Plan area will be compared to values for the County as a whole. The objective is to provide a relative measure of the proportional representation of any given variable within the plan area. This information is presented either as a percentage share of the total County amount or as an index comparing the proportion of variables within the plan area to its representation on the County wide level. For each variable, an index level above 100% represents a relative overrepresentation of the characteristic within the Plan area when compared to San Diego County. An index level below 100% represents a relative underrepresentation of the characteristic in

Figure I-1

Market Areas



the Plan area when compared to the County. Note that these indices are not additive and they are intended to represent proportional shares rather than an absolute measure of the amount of any particular characteristic.

Population and Households

Table II-1 shows the basic characteristics for population, households and age for the Chollas Triangle area. The Plan area itself is home to a population of approximately 36,000 people in 11,400 households. This represents 1.2% of the total population of San Diego County. The surrounding market area includes an additional 85,000 people in just over 25,000 households. The combined populations of the two areas would be equivalent to a medium-sized California city population of over 121,000.

In terms of age distribution, the population within the Plan area is considerably younger than the population in the County as a whole. The Plan area has a median age of 28.3 years compared to 34.6 for San Diego County. Consistent with this, populations under age 34 are significantly overrepresented in the plan area when compared to San Diego County with 10% of the total Plan area population made up of children under five years old, 10% aged 20-24 and 10% aged 25-29. The presence of children in the Plan area is reflected in the average household size of 3.14 persons per household which is 13% larger than the County average of 2.77 persons per household.

If the Plan area and Secondary market were its own city, it would be larger than Carlsbad, El Cajon or Vista. In this respect, the total market area represents a significant population base with Chollas Triangle at the center of a sizable community in its own right.

Income

Data for income distribution by household is presented in table II-2. The median household income within the Plan area is significantly lower than the median household income for both San Diego City and the County as a whole. Plan area households show median income of just under $38,000 compared to approximately $60,000 in the City and County. Median household incomes within the Plan area are the lowest of any of the areas of geography analyzed as part of this report. Consistent with this, nearly 23% of total households within the plan area report incomes less than $20,000 per year.

There is a significant concentration of very low income population within the Plan area occurring at nearly double the rate of the County as a whole. In the most recent recession, lower income communities have been hit especially hard. As a result, economic development efforts geared towards local employment and new business formation in the community will be especially helpful.

Table II-1
Population and Household 2010
Chollas Plan Area

	Plan Area	Secondary Market Area	Tertiary Market	San Diego City	San Diego County	Index Plan Area Compared To County
Summary						
Total Population	36,201	84,859	44,374	1,324,681	3,120,279	1.2%
Total Households	11,483	25,416	18,487	484,263	1,088,562	1.1%
Average Household Size	3.14	2.95	2.23	2.62	2.77	113.4%
Family Households	7,722	17,502	8,642	289,303	724,981	1.1%
Population by Age						
Population 0-4	3,682	9,221	3,639	90,397	221,845	
Population 5-9	3,170	7,672	2,840	83,991	209,316	
Population 10-14	2,460	5,961	2,751	76,221	195,078	
Population 15-19	2,730	7,600	3,106	96,161	224,861	
Population 20-24	3,646	9,313	4,038	120,285	258,856	
Population 25-29	3,620	8,807	4,127	115,837	246,575	
Population 30-34	3,126	6,543	3,106	103,687	221,556	
Population 35-39	2,387	5,512	3,151	95,284	211,759	
Population 40-44	2,047	5,081	3,017	91,624	211,269	
Population 45-49	1,939	4,763	3,195	93,682	224,698	
Population 50-54	1,805	3,972	2,724	86,367	211,893	
Population 55-59	1,396	3,204	2,219	71,632	179,361	
Population 60-64	1,125	2,428	1,785	58,056	145,725	
Population 65-69	848	1,538	1,172	40,055	101,888	
Population 70-74	654	1,092	879	30,657	77,126	
Population 75-79	570	787	841	26,150	66,045	
Population 80-84	488	656	760	21,857	54,821	
Population 85+	508	709	1,024	22,738	57,607	
Median Age	28.3	29.70	31.5	33.8	34.6	81.8%
Percentage						
Population 0-4	10.2%	10.9%	8.2%	6.8%	7.1%	143.1%
Population 5-9	8.8%	9.0%	6.4%	6.3%	6.7%	130.5%
Population 10-14	6.8%	7.0%	6.2%	5.8%	6.3%	108.7%
Population 15-19	7.5%	9.0%	7.0%	7.3%	7.2%	104.6%
Population 20-24	10.1%	11.0%	9.1%	9.1%	8.3%	121.4%
Population 25-29	10.0%	10.4%	9.3%	8.7%	7.9%	126.5%
Population 30-34	8.6%	7.7%	7.0%	7.8%	7.1%	121.6%
Population 35-39	6.6%	6.5%	7.1%	7.2%	6.8%	97.2%
Population 40-44	5.7%	6.0%	6.8%	6.9%	6.8%	83.5%
Population 45-49	5.4%	5.6%	7.2%	7.1%	7.2%	74.4%
Population 50-54	5.0%	4.7%	6.1%	6.5%	6.8%	73.4%
Population 55-59	3.9%	3.8%	5.0%	5.4%	5.7%	67.1%
Population 60-64	3.1%	2.9%	4.0%	4.4%	4.7%	66.5%
Population 65-69	2.3%	1.8%	2.6%	3.0%	3.3%	71.7%
Population 70-74	1.8%	1.3%	2.0%	2.3%	2.5%	73.1%
Population 75-79	1.6%	0.9%	1.9%	2.0%	2.1%	74.4%
Population 80-84	1.3%	0.8%	1.7%	1.6%	1.8%	76.7%
Population 85+	1.4%	0.8%	2.3%	1.7%	1.8%	76.0%

Source: ESRI, US Census and MR+E

Table II-2
Income 2010
Chollas Plan Area

	Plan Area	Secondary Market Area	Tertiary Market	San Diego City	San Diego County	Index Plan Area Compared To County
Summary						
Total Population	36,201	84,859	44,374	1,324,681	3,120,279	1.2%
Total Households	11,483	25,416	18,487	484,263	1,088,562	1.1%
Average Household Size	3.14	2.95	2.23	2.62	2.77	113.4%
Family Households	7,722	17,502	8,642	289,303	724,981	1.1%
Household Income						
HHs w/Inc <$1,0000	1,141	3,092	18,487	29,869	55,973	2.04%
HHs w/Inc $10,000-14,999	748	2,133	1,532	18,234	36,462	2.05%
HHs w/Inc $1,5000-19,999	1,016	2,652	1,301	23,000	47,984	2.12%
HHs w/Inc $20,000-24,999	779	1,901	1,274	18,555	39,730	1.96%
HHs w/Inc $25,000-29,999	796	1,775	880	22,166	48,958	1.63%
HHs w/Inc $30,000-34,999	758	1,436	868	18,383	41,579	1.82%
HHs w/Inc $35,000-39,999	814	1,684	1,052	24,620	56,130	1.45%
HHs w/Inc $40,000-44,999	610	1,396	869	25,322	58,084	1.05%
HHs w/Inc $45,000-49,999	586	1,261	885	20,465	47,110	1.24%
HHs w/Inc $50,000-59,999	1,121	2,470	592	45,270	104,343	1.07%
HHs w/Inc $60,000-74,999	1,320	2,340	1,797	56,805	134,094	0.98%
HHs w/Inc $75,000-99,999	898	1,795	1,619	70,528	164,004	0.55%
HHs w/Inc $100,000-12,4999	427	672	2,364	37,860	89,534	0.48%
w/Inc $125,000-149,999	196	324	1,252	28,648	65,374	0.30%
HHs w/Inc $150,000-199,999	115	219	771	22,397	50,627	0.23%
HHs w/Inc $200,000-249,999	102	165	629	10,682	24,098	0.42%
HHs w/Inc $250,000-499,999	49	84	401	9,335	20,021	0.24%
HHs w/Inc $500,000+	7	17	401	2,123	4,444	0.16%
Median HH Income	37,929	40,584	49,913	59,025	60,699	62.49%
Average HH Income	48,259.0	48,927	65,103	77,395	78,340	61.60%
Aggregate HH Income	554,162,638	1,114,137,322	1,203,559,161	37,479,488,346	85,277,390,088	0.65%
Median Value Owner Occupied DU	211,374	232,366	545,185	353,681	342,408	61.73%
Percentage						
HHs w/Inc <$1,0000	9.9%	12.2%	100.0%	6.2%	5.1%	193.2%
HHs w/Inc $10,000-14,999	6.5%	8.4%	8.3%	3.8%	3.3%	194.5%
HHs w/Inc $1,5000-19,999	8.8%	10.4%	7.0%	4.7%	4.4%	200.7%
HHs w/Inc $20,000-24,999	6.8%	7.5%	6.9%	3.8%	3.6%	185.9%
HHs w/Inc $25,000-29,999	6.9%	7.0%	4.8%	4.6%	4.5%	154.1%
HHs w/Inc $30,000-34,999	6.6%	5.6%	4.7%	3.8%	3.8%	172.8%
HHs w/Inc $35,000-39,999	7.1%	6.6%	5.7%	5.1%	5.2%	137.5%
HHs w/Inc $40,000-44,999	5.3%	5.5%	4.7%	5.2%	5.3%	99.6%
HHs w/Inc $45,000-49,999	5.1%	5.0%	4.8%	4.2%	4.3%	117.9%
HHs w/Inc $50,000-59,999	9.8%	9.7%	3.2%	9.3%	9.6%	101.8%
HHs w/Inc $60,000-74,999	11.5%	9.2%	9.7%	11.7%	12.3%	93.3%
HHs w/Inc $75,000-99,999	7.8%	7.1%	8.8%	14.6%	15.1%	51.9%
HHs w/Inc $100,000-12,4999	3.7%	2.6%	12.8%	7.8%	8.2%	45.2%
w/Inc $125,000-149,999	1.7%	1.3%	6.8%	5.9%	6.0%	28.4%
HHs w/Inc $150,000-199,999	1.0%	0.9%	4.2%	4.6%	4.7%	21.5%
HHs w/Inc $200,000-249,999	0.9%	0.6%	3.4%	2.2%	2.2%	40.1%
HHs w/Inc $250,000-499,999	0.4%	0.3%	2.2%	1.9%	1.8%	23.2%
HHs w/Inc $500,000+	0.1%	0.1%	2.2%	0.4%	0.4%	14.9%

Source: ESRI, US Census and MR+E

Housing

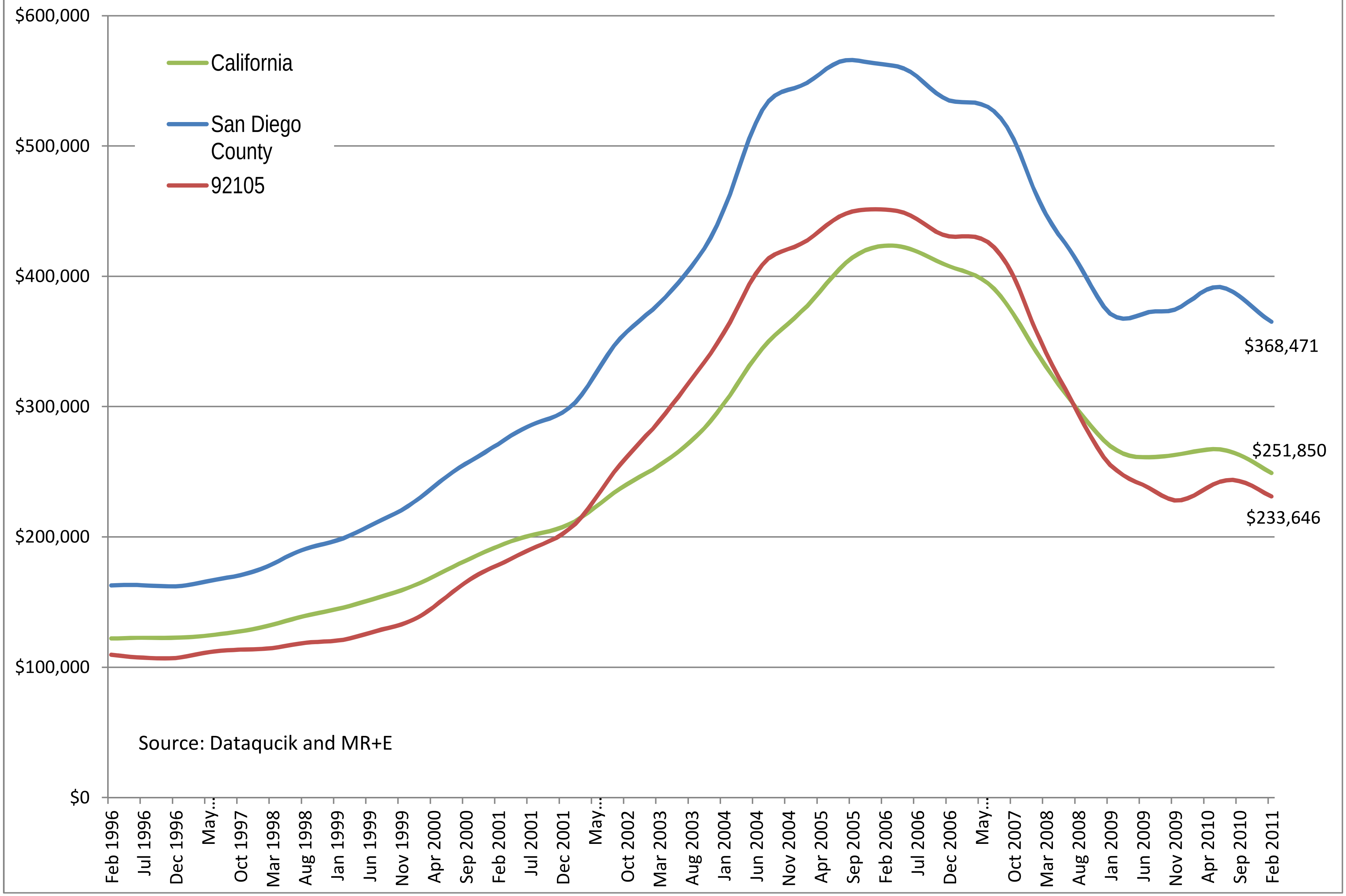
There are 11,483 households in the Plan area representing a little over 1% of the County total. 38% of dwelling units in the Plan area are owner occupied compared to 51% for the County as a whole. Generally speaking rates of homeownership are lowest along the main commercial thoroughfares of El Cajon and University Avenues, with higher rates of homeownership occurring along the north and south margins. The median year of construction for dwelling units within the Plan area was 1971 with only 4% of the total housing stock built since the year 2000. This represents a stable and mature housing market that is largely built out with only limited infill and redevelopment opportunities for new housing construction.

The median value owner occupying dwelling units in 2010 within the Plan area was just over $211,000. This was significantly lower than the County average of about $342,000 or the City average of approximately $353,000. Because of this the Plan area represents a reserve of attainably priced housing within the broader San Diego region. The relative affordability of the region is illustrated on figure II-2. This charts the median sales price for single-family homes in San Diego County California in zip code 92105 which covers the Plan area and portions of the Secondary market area. This data covers from the beginning of 1996 to the present. Over this time, sales prices in the Mid-City area have co-varied with San Diego County as a whole. Prices began to accelerate faster than the State average beginning in late 2001. This was sustained until the beginnings of the financial crisis in 2008 when median sales prices declined faster in the region than for California as a whole. As of 2011, median sales price for a house in zip code 92105 was just over $233,000. This compares to a statewide median of just under $252,000 and a County median of approximately $368,000.

The plan area represents a stock of attainably priced housing and as such plays an important role in the overall housing economy of San Diego. These home values are consistent with the demographic and income profile of the community, which indicates that housing in the plan area is likely occupied by first-time homeowners.

Figure II-2

Medain Sales Price, Single Famly Homes



Source: Dataqucik and MR+E

Consumer Expenditures

Despite the relatively low median household income, the population within the plan area is responsible for a significant amount of consumer spending. Capturing this potential market, along with the spending located in the Secondary and Tertiary markets, will play an important role in developing a land use program for the Chollas Triangle and determining a comprehensive economic development strategy. At present, Plan area households spend over $191 million per year on consumer goods and services including $24 million for general merchandise, $27 million for food outside the home and $14 million for apparel. Estimates of household expenditures by category are shown on table II-3.

Summary and Implications

The communities that surround the Chollas Triangle make up a significant base of spending and economic activity. In many respects the Mid-city portion of the City of San Diego can be thought of as a medium-size city that is primarily residential in character with commercial activity located along transportation corridors. The Chollas Triangle site represents an opportunity to provide a town center or focus for this community which despite its relative modest means when compared to the County as a whole still represents a significant consumer base that has economic needs that can be met within the community. These needs include opportunities for capturing a greater percentage of the community's retail expenditures, increasing employment density to capture a larger proportion of the local labor force and attainability priced housing opportunities in particular newer construction. All of which can be physically accommodated on the Chollas Triangle site.

Table II-2
Household Expenditures
Chollas Plan Area

	Plan Area	Secondary Market Area	Tertiary Market	San Diego City	San Diego County	Index Plan Area Compared To County
Summary						
Total Population	36,201	84,859	44,374	1,324,681	3,120,279	1.2%
Total Households	11,483	25,416	18,478	484,263	1,088,562	1.1%
Average Household Size	3.14	2.95	2.23	2.62	2.77	113.4%
Family Households	7,722	17,502	8,642	289,303	724,981	1.1%
Expenditures by Category						
Apparel Stores	$ 14,234,581	$ 29,365,928	$ 28,554,233	$ 942,664,346	$ 2,110,701,794	0.67%
Auto Dealers & Auto Suppliers	35,512,211	71,112,763	69,747,090	2,324,080,651	5,297,333,216	0.67%
Building Materials & Farm Implements	2,441,276	4,617,371	4,455,918	179,527,916	428,906,794	0.57%
Drug Stores	3,952,370	7,553,531	7,744,776	268,265,116	636,361,230	0.62%
Eating & Drinking Places	27,039,178	55,515,623	53,717,954	1,768,153,182	3,979,597,674	0.68%
Food Stores	37,795,335	78,506,018	73,383,625	2,422,635,499	5,468,962,495	0.69%
General Merchandise	24,600,984	48,943,499	49,683,619	1,631,303,282	3,694,575,815	0.67%
Home Furnishings & Appliances	6,949,682	13,751,142	13,772,654	486,492,428	1,113,994,245	0.62%
Packaged Liquor Stores	8,629,327	17,571,737	17,574,878	563,782,342	1,258,175,264	0.69%
Service Station	30,495,792	61,261,755	60,085,466	1,958,157,986	4,472,809,130	0.68%
Total	191,650,736	388,199,367	378,720,213	12,545,062,748	28,461,417,657	0.67%
Expenditures Per Household						
Apparel Stores	1,240	1,155	1,545	1,947	1,939	63.9%
Auto Dealers & Auto Suppliers	3,093	2,798	3,775	4,799	4,866	63.6%
Building Materials & Farm Implements	213	182	241	371	394	54.0%
Drug Stores	344	297	419	554	585	58.9%
Eating & Drinking Places	2,355	2,184	2,907	3,651	3,656	64.4%
Food Stores	3,291	3,089	3,971	5,003	5,024	65.5%
General Merchandise	2,142	1,926	2,689	3,369	3,394	63.1%
Home Furnishings & Appliances	605	541	745	1,005	1,023	59.1%
Packaged Liquor Stores	751	691	951	1,164	1,156	65.0%
Service Station	2,656	2,410	3,252	4,044	4,109	64.6%
Total	16,690	15,274	20,496	25,905	26,146	63.8%

Source: ESRI, US Census and MR+E

Section III the San Diego Market

Introduction

This section will provide an overview analysis of the commercial real estate market in San Diego with the goal of contextualizing demand for future development at the Chollas Triangle site. This will include an overview of the broader economic conditions in the County as well as a description of the real estate market in the County by specific sector. Including:

- Office
- Retail
- Multifamily housing
- Industrial

The San Diego Economy

Like the rest of the State of California, San Diego has suffered significant contractions across a broad variety of economic sectors in the wake of the 2008 credit crisis. Presently the County reports an unemployment rate of over 10%, which represents an historic high that has not been experienced since the end of the Cold War and reduction of Naval expenditures in the early 1990s. Despite this set of reversals there are positive trends in San Diego, the unemployment rate is approximately 2% lower than the statewide rate and the local economy is sufficiently diversified to allow for long-term resilience positioning itself for growth over the long run as the national economy and financial markets began to stabilize and improve. That being said unemployment rates are likely to remain high for the intermediate future at least through 2012. High unemployment rates exacerbate feelings of uncertainty and economic insecurity which inhibits investment in long-term asset classes such as real estate. At the same time median housing values are declining countywide which further limits consumer confidence and provides a lower rate of return for investment in real estate.

Consumer expenditures remain the most important single sector driving growth in the San Diego economy however demand for business investment in equipment and technology products from the US to the rest of the world represent an opportunity for long-term growth in the region. Federal expenditures, and particularly via the Department of Defense, have long played an important role in San Diego's economy however this is likely to be curtailed in the intermediate future as the United States begins to draw down from the wars in Iraq and Afghanistan.

Federal government stimulus spending that was designed to combat the recession peaked in 2010 and will continue to decline unless Congress initiates a new round of spending. This is placed extreme pressure on state and local government spending which is led to further cycles of disinvestment in the region.

As the California economy begins to recover several industries that San Diego is particularly well positioned for will move to the forefront of demand for new investments. These include:

- International tourism
- Technology and biotechnology
- Higher education

Sectors that are anticipated to continue to contract in the intermediate future include:

- Residential construction
- Defense / aerospace
- Consumer services

As the employment balance begins to change in San Diego the demand for commercial real estate and the housing needs of the regional labor force will need to adjust to accommodate a changed economic environment.

Office

At present San Diego's market wide vacancy rate stands at 17.4%. The central business district in downtown San Diego, which is historically performed better than the market as a whole, currently has a vacancy rate of 18.5%. On a regional perspective the tightest markets are currently in La Jolla which reports a 7.9% vacancy rate ranging to a high of 41.4% in Scripps Ranch. While these vacancy rates are historically quite high the picture has been improving in the County due to moderate but steady recovery of employment. In 2010-2011 the region added 6300 jobs in the professional and business services sector which is a key contributor to office occupancy. This resulted in positive absorption of over 340,000 sq. ft. which has been the strongest positive absorption that has occurred since 2008.

Tenants leading this expansion include:

- UCSD extension
- Autoanything
- Nokia
- QUALCOMM

Asking rents range from an average of $2.53 per square foot for class A space to $1.98 per square foot on average for class B space on the countywide basis. Within the downtown area class a rents on average are currently set at

$2.42 with an average asking rents of $2.07 for class B space. Each of these average spreads is below replacement cost indicating that for the foreseeable future any new construction that would take place would need to be owner occupied built to suit office development tied to the needs of a particular tenant. At present the lowest asking rent for class A space in the County is in Oceanside at $1.80 and the highest asking rent for class A space is $3.75 in the Torrey Pines district. In terms of class B space, prices range from the high of $2.56 in the North Beach cities area to a low of $1.48 in Oceanside.

Asking rents have seen a slow but noticeable decline since 2008 and the forecast is for this to continuing to the intermediate future as long as the unemployment rate remains high in the County. Class A properties will be in the greatest demand as the market begins to recover which will eventually spread to secondary markets and class B&C assets. New speculative construction is unlikely. Any new office development will require significant tenant commitments in order to be built. This leads to a circumstance where new development will not be a factor in shaping market fundamentals for the foreseeable future.

Over the long run it is expected that Mission Valley, UTC downtown and Delmar will be among the first markets to show signs of improvement due to the quality of their available office stock. At present there are a wide variety of tenant incentives coupled with the established demographics of the County that continue to make these submarkets particularly competitive. Areas dominated by class B and C office space are likely to see much lower rates of recovery that will be experienced in the premier submarkets of the County.

Retail

With consumer confidence at near historic lows and high unemployment across most sectors, San Diego has experienced a contraction in asking rent and an increase in net negative absorption. From the beginning of the economic crisis in 2008 to 2010 San Diego experienced a total of 1.2 million sq. ft. of net negative absorption. Unemployment, which is a key factor in depressing consumer confidence, must improve significantly in the local area for retail values to return to historically experienced levels. Sectors that are anticipated to drive absorption in the intermediate future include big-box and many box category killers along with grocery stores and staple item retailers. Trailing segments will include high-end and specialty retailers, especially those dependent on tourism. This is a reflection of the ongoing contraction in household incomes and a reduction in the aggregate wealth of households both nationally and within the region.

Retailers with plans to expand in the San Diego market include:

- Costco
- Fresh and easy
- Big lots
- Ross dress for less
- Walgreens

Due to a lack of available financing for speculative projects only prerelease developments are likely to occur in the foreseeable future. Because retail development typically follows new housing construction with a one year time lag the region is unlikely to experience significant demand for net new retail growth until the housing market recovers.

Direct retail vacancies in San Diego are estimated at 8.2% through midyear 2011 which represents nearly 2% increase in total retail vacancies compared to the year before. The majority of this negative absorption has been experienced at community retail centers which shed over 76,000 sq. ft. of in the second quarter of 2011.

Interestingly, areas that had been fast-growing in the earlier part of the decade are now leading in terms of negative absorption and increasing vacancy rates. For example in 2011 San Marcos has had a net negative absorption of over 63,600 sq. ft. Temecula has experienced the loss of over 52,400 sq. ft. In terms of overall market vacancy rates the softest markets for retail space are presently being experienced in Miramar with a vacancy rate of 38.1% followed by Murrietta with a 21% vacancy rate and Temecula with a vacancy rate of 17%.

In terms of the average asking rates in the market are presently at $1.73 per square foot, which represents a decline of 23% lower than the previous quarter and 28% lower than the rental rates in 2010. The submarkets with the highest rates were Delmar / Solana Beach / Rancho Santa Fe area at $3.89 followed by La Jolla at $3.00. Ramona and Lemon Grove reported the lowest level rates at $1.19 and $1.25 each.

In terms of submarkets only six of the 33 markets tracked achieved positive net absorption in the second quarter of 2011. These included Oceanside, Claremont, and San Marcos. Markets with the largest negative growth were Temecula, Miramar and Carmel Mountain Ranch.

In positive news within the retail sector, 2011 has seen new construction activity return for the first time in over a year. Two significant projects are currently underway. The first is the Mercado Del Barrio a 100,000 sq. ft. center in the downtown Hillcrest Old town submarket and the other is the City Heights Center. 20,000 sq. ft. center in the mid-city district.

Multifamily Housing

Historically San Diego has been one of the nation's leading rental markets. The presence of a transient population made up of members of the military, contractors and students at area universities created a strong base of demand for multifamily housing. In addition San Diego is also a significant market for vacation rentals which also supports the multi-unit housing market.

However like all sectors of the real estate economy multifamily housing development has slowed in San Diego due to tight capital markets and an aversion to finance speculative development without preleasing commitments, which is typical of multifamily housing. As a result there have not been any significant deliveries of multifamily projects in the County in the past year.

At the same time vacancy rates are currently at 4.9% countywide which makes San Diego one of the most robust rental markets in the country. As result the market for existing multifamily housing has stabilized with the market experiencing cap rate compression in class A and class B assets. Currently average Rates for apartments in San Diego arranging from 5.9% to 5.6% for class A properties this is a reduction from cap rates over 6.5% that were achieved in 2010 and 2009.

Demand for multifamily housing in San Diego is ultimately tied to new household formation. The components of this growth include: natural growth of the existing population, domestic in-migration and international immigration. Household formation stemming from natural growth has slowed in recent years as young people delay household formation due to economic stress and high rates of unemployment. Domestic and international immigration are driven largely by climate opportunities and as a result this segment of demand has slowed well below traditional levels. In the long run the market for multifamily housing in San Diego can be dissipated to improve as the economy recovers and unemployment rates begin to decline. At the same time the traumatic effects of the 2008 credit crisis and the effects of unsustainable run ups in owner occupied housing is likely to produce a transformed mortgage market in the future. This should produce new structural conditions that are supportive of both rental properties and multifamily projects in the market. The demand for multiunit housing is likely to emerge earlier than the other asset classes as the economy of San Diego stabilizes and returns to historically realized rates of growth.

Industrial

The Chollas Triangle site is not particularly conducive to large-scale industrial use due to the site location and its accessibility to major transportation structure. Additionally, industrial uses tend to be strongly agglomerative and unless adjacent supportive industrial development can be induced to the area, it is unlikely to be a major component of any land use plan. That being said the site has some advantages in that it is a large assembled parcel that is serviced by urban infrastructure and as a result may be of interest to a specific build to suit user.

In general, San Diego has experienced flat to declining asking rental rates for all classes of industrial space from 2007 to the present. Market wide vacancy rate is 9.8% which is essentially unchanged from 2009 levels. New absorption has occurred in the Miramar and Otay Mesa submarkets. This growth has been driven by defense aerospace and support services related to the Navy and Marine activities, and an increase in cross-border traffic which has been experienced through 2009/10 in the Otay Mesa market.

Summary and Implications

Like the rest of the nation the real estate market in San Diego has suffered tremendously since the onset of the 2008 credit crisis. Unemployment, declining residential values and declining household incomes have reduced consumer demand for a broad variety of goods and services. This has translated into negative absorption across all major land-use types in the market. That being said San Diego has several structural advantages that buffer the local economy from many of the worst effects of the national conditions. These include a diversified employment base, the presence of the military and associated defense aerospace contracting, and a well-developed technology and biotechnology sector. The long-term prognosis for the San Diego economy is positive. The underlying strengths of the region continue to support development and investment in the context of a soft national economy.

That being said the region is currently experiencing negative absorption and rental rates that are below replacement cost for most asset classes. In these circumstances only build to suit pre-lease projects that are narrowly focused to the demands of an end-user are likely to be built in this environment. In the short term the San Diego market is unlikely to produce significant new development pressures for new construction until existing inventory is absorbed and high levels of unemployment begin to abate.

Section IV The Chollas Triangle Market

Introduction

This section will provide an overview of market conditions in the area of the broader Chollas Triangle plan area. As the previous section described the real estate market throughout San Diego is experiencing an extended contraction. In general almost all asset classes are leasing at market rates significantly below replacement cost, which implies the need for additional market demand and absorption before any new real estate development can be expected to occur. Over the short term (from the present to the next 12 to 18 months) economic conditions are unlikely to change in the material manner that will generate demand for significant new development projects either in the broader San Diego market or within the plan area.

However at the same time it is important to recognize that demand will eventually recover and that the Chollas Triangle's site offers opportunities within the logic of the distribution of urban land uses within San Diego that can effectively be the site of redevelopment and new investment. In order for this to occur, changes in the public realm, including improvements to parks and open space, pedestrian amenities, site improvements and improve transit assess ability, will need to be put in place in order to create conditions where the Chollas Triangle can capitalize on improved economic conditions over time.

This section will provide an overview of the existing market conditions in the area around the Chollas Triangle and will describe the circumstances under which new investment might be drawn into the plan area. The sectors of the real estate economy examined include:

- Multifamily residential
- Retail
- Office

Development opportunities each segment will be considered in the analysis that follows.

Multifamily residential

Multifamily residential has the greatest potential for near and midterm development opportunities at the Chollas Triangle site. In general the multifamily market in San Diego is beginning to stabilize and the Mid-City district is anticipated to continue to be a location for absorbing new households as the city's economy continues to grow. Historically this area has been able to accommodate a wide variety of new households stemming from international migration and the proximity to educational institutions. Ranging from K-12 to San Diego State University this provides a foundation of durable demand.

At the same time the site has the opportunity to become amenitized by improvements to the creek and creation of public open space connected to the regional trail network, pedestrian linkages and improved transit service. These factors combined with the existing residential characteristics of the surrounding neighborhoods imply long-term and durable opportunities for multifamily residential development.

Table IV-1 shows apartment median rents and vacancy rates for all of San Diego County and the Mid-City market East of I-15. After experiencing significant declines from 2006 to 2009 both the Mid-City market and the County market are beginning to stabilize and return to median rents approaching prerecession levels. The Mid-City market currently has a 4.6 % vacancy rate compared to countywide average of 3.9%, rents in the Mid-City area average $1,055 compared to $1,183 for the County as a whole.

Table VI--2 shows the range of median asking rents in the County compared to the Mid-City market per square foot and per unit by unit type. Rents range from $716 for studio apartment in the Mid-City market to $1,500 for three-bedroom units. This compares to countywide average of $957 for studio apartment and $1,910 for three-bedroom units. On a per square foot basis prices range $1.55 to $1.22 in the Mid-City market as compared to $2.07 to $1.53 for the County. At present these rates are below replacement cost for new construction. However, with oncoming demand and compression in cap rates that are being experienced market wide, upward pressure is likely to continue on both rental rates and price per square foot. This should result in developer interest in providing new inventory to the market, particularly as current vacancy rates sink to below 4%.

The age of the units and the relationship to rent is shown on table IV-3. In general there is little to no vacancy in the newer units and significantly less inventory as well with no new capacity added after 2009 in the market. Rent premiums are achieved on newer properties which should support development as existing capacity is absorbed.

Comparable data for multi-family residential sales is provided on table IV-4. This covers sales that occurred in 2010 and 2011 in the primary and secondary market areas.

Table IV-1

Apartment
Median Rents and Vacancy Rate

	E of I-15	SD Cty	E of I-15	SD Cty
2011	$1,055	$1,183	4.6%	3.9%
2010	$1,013	$1,159	5.5%	4.9%
2009	$972	$1,136	7.9%	6.2%
2008	$1,011	$1,216	6.8%	5.7%
2007	$1,052	$1,276	5.9%	4.9%
2006	$1,091	$1,340	5.9%	4.8%

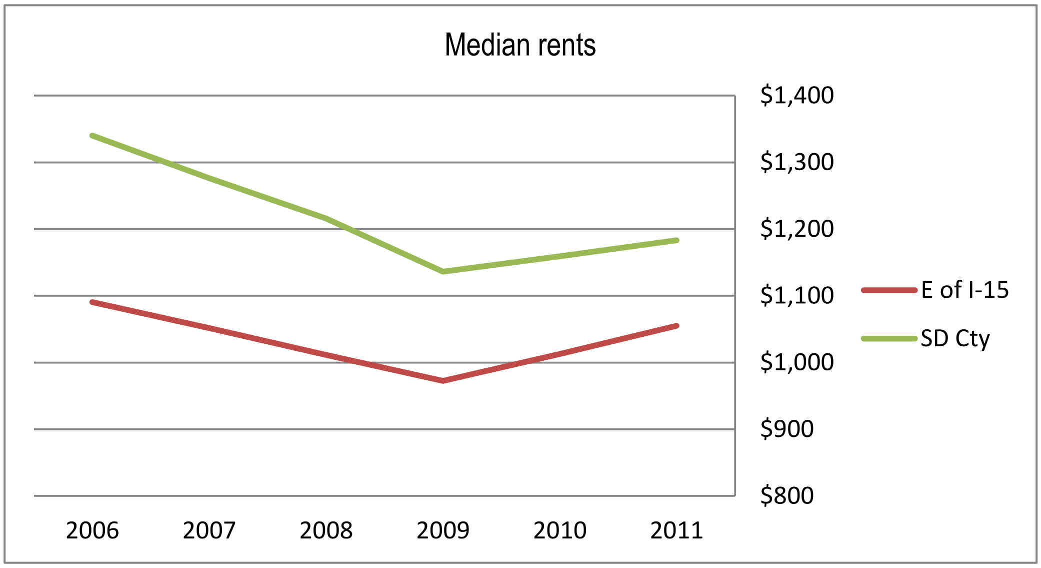


Table IV-2

Apartment
Asking rents

	Per Unit		Per Sq. Ft.		Ave Size (sq. ft)	
	E of I-15	SD County	E of I-15	SD County	E of I-15	SD County
Studio	$716	$957	$1.55	$2.07	461	475
1 BR	$876	$1,157	$1.32	$1.69	663	680
2 BR	$1,144	$1,453	$1.22	$1.50	937	955
3 BR	$1,500	$1,910	$1.22	$1.53	1,233	1,330

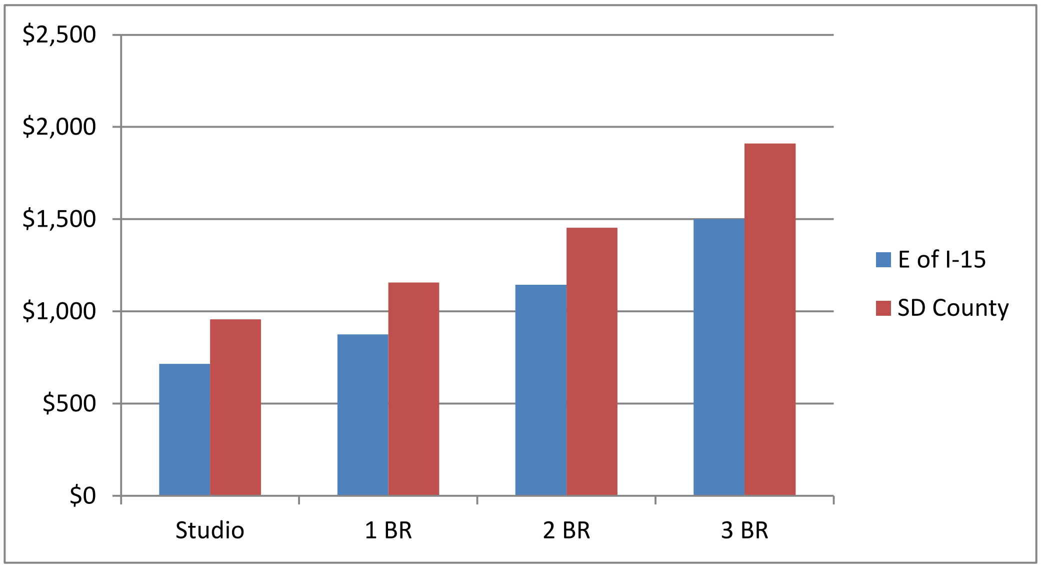


Table IV-3

Apartment Rents and Vacancy

San Diego, East of I-15

Year Built	Rent	Vacancy
Before 1970	$1,041	6.10%
1970-1979	$870	2.30%
1980-1989	$1,105	2.90%
1990-1999	$979	0.0%
2000-2009	$1,469	0.0%
After 2009	n/a	n/a
Total	$1,055	4.50%

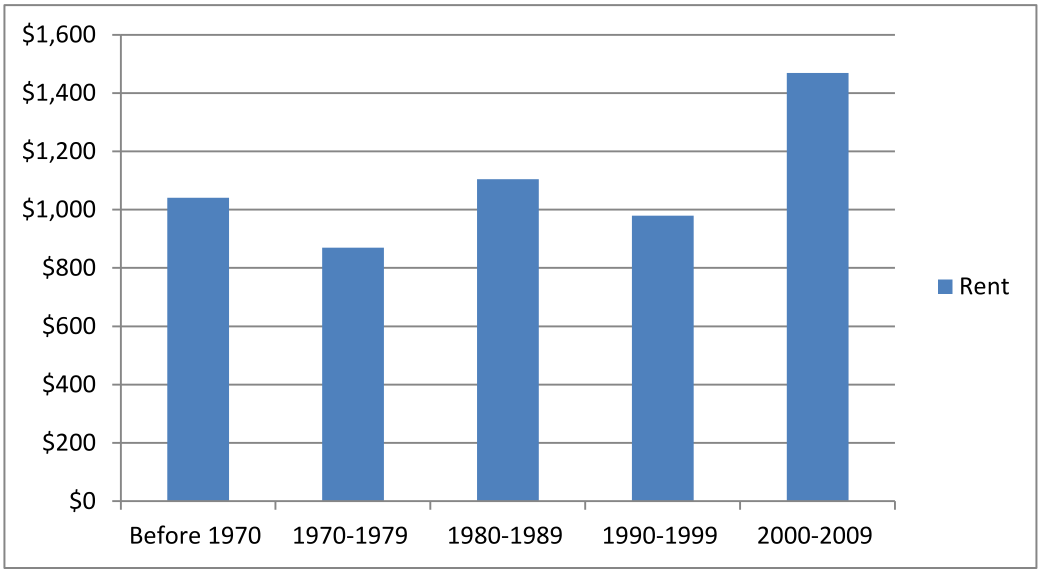


Table IV-4

Comparable Multi Family Residential Sales

5372-78 Wightman St - San Diego, CA
Property Type: Multifamily
Garden/Low-Rise
No. Units: 4
Building Size: 2,968 SF
Sale Date: 1/5/2009
Sale Price: $402,000.00
Price/Unit: $100,500.00

5366 Lea St - San Diego, CA
Duplex/Triplex/Fourplex
No. Units: 2
Building Size: 1,184 SF
Sale Date: 10/30/2009
Sale Price: $108,000.00
Price/Unit: $54,000.00

3911 58Th St - San Diego, CA
Duplex/Triplex/Fourplex
No. Units: 2
Building Size: 2,121 SF
Sale Date: 2/5/2010
Sale Price: $258,000.00
Price/Unit: $129,000.00

5704 E University Ave - San Diego, CA
Garden/Low-Rise
No. Units: 56
Building Size: 43,063 SF
Year Built: 1965
Sale Date: 12/21/2009
Sale Price: $950,000.00
Price/Unit: $16,964.29

University Terrace - 5722 University Ave, San Diego, CA
Garden/Low-Rise
No. Units: 56
Building Size: 40,700 SF
Year Built: 1965
Sale Date: 12/31/2009
Sale Price: $4,500,000.00
Price/Unit: $80,357.14

5977 Streamview Dr - San Diego, CA
Garden/Low-Rise
No. Units: 4
Building Size: 3,818 SF
Sale Date: 12/18/2008
Sale Price: $396,000.00
Price/Unit: $99,000.00

4140, 4150 & 4155 Bonillo Dr - 4140 Bonillo Dr, San Diego, CA
Garden/Low-Rise
No. Units: 122
Building Size: 76,400 SF
Year Built: 1959
Sale Date: 5/15/2009
Sale Price: $11,577,000.00
Price/Unit: $94,893.44

3565-3567 College Ave - San Diego, CA
Garden/Low-Rise
No. Units: 4
Building Size: 2,760 SF
Sale Date: 3/17/2009
Sale Price: $473,500.00
Price/Unit: $118,375.00

3508 College Ave - San Diego, CA
Garden/Low-Rise
No. Units: 10
Building Size: 6,956 SF
Year Built: 1956
Sale Date: 12/3/2009
Sale Price: $850,000.00
Price/Unit: $85,000.00

6115 Carling Way - San Diego, CA
Duplex/Triplex/Fourplex
No. Units: 2
Building Size: 3,295 SF
Sale Date: 7/21/2010
Sale Price: $385,000.00
Price/Unit: $192,500.00

4435-4439 College Ave - San Diego, CA
Garden/Low-Rise
No. Units: 4
Building Size: 2,704 SF
Sale Date: 7/8/2009
Sale Price: $530,000.00
Price/Unit: $132,500.00

6036 Estelle Street, #1/2/3/4 - 6036 Estelle St, San Diego, CA
Duplex/Triplex/Fourplex
No. Units: 4
Building Size: 3,057 SF
Year Built: 1942
Sale Date: 6/10/2009
Sale Price: $710,000.00
Price/Unit: $177,500.00

6175-6177 Acorn St - San Diego, CA
Garden/Low-Rise
No. Units: 2
Building Size: 1,547 SF
Sale Date: 2/8/2010
Sale Price: $320,000.00
Price/Unit: $160,000.00

6280 Acorn St - San Diego, CA
Garden/Low-Rise
No. Units: 32
Building Size: 20,568 SF
Year Built: 1959
Sale Date: 4/23/2010
Sale Price: $2,250,000.00
Price/Unit: $70,312.50

4539-4541 54Th St - San Diego, CA
Duplex/Triplex/Fourplex
No. Units: 2
Building Size: 1,624 SF
Sale Date: 10/2/2009
Sale Price: $340,000.00
Price/Unit: $170,000.00

4784-4786 College Ave - San Diego, CA
Duplex/Triplex/Fourplex
No. Units: 2
Building Size: 1,848 SF
Sale Date: 6/16/2010
Sale Price: $305,000.00
Price/Unit: $152,500.00

4474-4478 52Nd St - San Diego, CA
Garden/Low-Rise
No. Units: 3
Building Size: 1,872 SF
Sale Date: 7/14/2010
Sale Price: $332,000.00
Price/Unit: $110,666.67

4435-4437 52Nd St - 4435 52Nd St, San Diego, CA
Garden/Low-Rise
No. Units: 7
Building Size: 5,259 SF
Year Built: 2000
Sale Date: 7/19/2010
Sale Price: $830,000.00
Price/Unit: $118,571.43

4366 51St St - San Diego, CA
Garden/Low-Rise
No. Units: 9
Building Size: 4,425 SF
Sale Date: 7/12/2010
Sale Price: $710,000.00
Price/Unit: $78,888.89

4274-4282 51St St - San Diego, CA
Garden/Low-Rise
No. Units: 6
Building Size: 2,736 SF
Sale Date: 5/28/2010
Sale Price: $325,000.00
Price/Unit: $54,166.67

4846-4848 Art St - San Diego, CA
Garden/Low-Rise
No. Units: 2
Building Size: 2,262 SF
Sale Date: 3/30/2010
Sale Price: $400,000.00
Price/Unit: $200,000.00

5032-5036 Trojan Ave - San Diego, CA
Duplex/Triplex/Fourplex
No. Units: 2
Building Size: 1,020 SF
Sale Date: 5/29/2009
Sale Price: $170,000.00
Price/Unit: $85,000.00

4511 Altadena Ave - San Diego, CA
Garden/Low-Rise
No. Units: 2
Building Size: 1,043 SF
Sale Date: 7/22/2010
Sale Price: $370,000.00
Price/Unit: $185,000.00

4593 Altadena Ave - San Diego, CA
Garden/Low-Rise
No. Units: 3
Building Size: 2,065 SF
Sale Date: 12/28/2009
Sale Price: $400,000.00
Price/Unit: $133,333.33

Sales price range from a high of $200,000 per unit on a two unit garden low rise project to a low of $16,900 per 56 unit complex, built in 1965 located on University Avenue. This continues to remain below replacement cost for new development.

In general, demand will focus on rental units in the initial years. The first phase residential project that should be developed on the site would be approximately a 250 unit rental development. Ideally the project should be able to support market rents given improvements to the site area and the creation of the park along the Creek. The first project should ideally include at least 80% market rate rental units. Later phases may allow for owner occupied sale units on-site however the market support is not sufficient at this time. Based on review of existing sales prices for condo projects in the surrounding area, a target sales price between $200,000 and $250,000 per dwelling unit is likely to be an achievable price point in the market area. However it is important to note that this valuation can change considerably depending on future market conditions that cannot be reliably identified at this time.

In terms of the mix of units the demographics of the community suggest relatively strong demand for two bedroom units with the following recommended mix of unit types in the first phase focused on rental units:

• Studio	30%
• One bedroom	20%
• Two-bedroom	40%
• Live work / Other specialized	10%

If the program is oriented more towards condominium sales, which are not likely to be supported in the initial years, the unit mix will require larger units. In particular the condominium / townhouse community at Parc 54 offers a good model of the type of units that would be in demand in a for sale market. Under these conditions the unit mix would be more oriented towards two and three bedroom units. As a planning factor the average unit size would be approximately 1,200 sq. ft. net living area with individual units ranging from 900 sq. ft. one bedroom units to 1,400 sq. ft. three bedroom units.

Note that these specific market conditions at the time of development are likely to lead to modification of these distributions. However, the current characteristics of the community market demand suggest that the successful development within the project area should be focused on accommodating family households in larger units.

Future phases and owner-occupied residential development can be anticipated to have a different distribution of unit types reflecting market demand when the development occurs on site. However, generally speaking, owner-occupied two and three bedroom units are more in demand than smaller products.

Retail

The Chollas Triangle site is already a significant retail location in Mid-City. University Avenue serves as one of the major commercial corridors through Central San Diego. The University Sq., Plaza to the East of the Chollas Triangle site along with the Kmart that is presently located there serves to reinforce the retail nature of this portion of the corridor. As the demographic analysis in the previous sections discussed, while the immediate market area is characterized by low and moderate income households there is sufficient density to support retail activity in the area of along University Avenue and El Cajon Blvd.

Unemployment and declining personal incomes have significantly impacted the retail market in San Diego as it has throughout the United States. In particular, lower to moderate income households have seen greater pressure on their discretionary spending in recent years. This is led to a weakening of demand for retail spaces. In addition the market challenges are further compounded by the loss of several major national retail chains to bankruptcy since the beginning of the recession. Over time retail demand will equilibrate as households began to stabilize their internal balance sheets and the economy begins to grow again. At the same time the nature of the markets in or around the Chollas Triangle site suggests that community oriented retail, focused on providing goods and services that meet the daily needs of nearby residents, is most likely to be successful on the site.

In general, the Mid-City market East of I-15 has lagged in terms of development and rental rates the countywide averages. Table VI-5 shows trends in median rents and vacancy rates for the Mid-City East market compared to the County as a whole. At present the Mid-City East market is experiencing a vacancy rate above 10.4% compared to the County's rate of just over 8.6%. Median rents are below the countywide average at $22.50 per square foot. Rents have stabilized somewhat since the decline that was experienced post 2007, and is now experiencing rental rates above pre-recessionary levels. This performance has been achieved at the expense of occupancy which continues to be at a high enough level that existing inventory will need to be absorbed prior to any new significant retail development in the Mid-City East market.

Demand for new retail space on this site is unlikely to materialize until vacancy rates market wide begin to return to pre-recessionary levels. The timing on this is dependent upon stabilization of the unemployment rate and growth in personal incomes within the market area. The first opportunities that are likely to emerge will be retail outlets that are able to access the diverse population of the community. One example of this is the current subdivision of the K-Mart by the Northgate González Market This is an example of niche retail opportunity that can come about when the specific needs of the local community are taken into consideration as part of an overall marketing plan. That being said, demand for net new retail development within the plan area is likely to emerge over the next 3 to 5 years.

Table IV-5

Retail

Median Rents and Vacancy Rate

	East	SD Cty	East	SD Cty
2011	$22.5	$26.4	10.4%	8.6%
2010	$20.7	$26.1	10.0%	8.4%
2009	$19.3	$24.6	9.8%	8.0%
2008	$19.6	$26.5	8.0%	6.1%
2007	$20.4	$28.1	5.9%	4.1%
2006	$21.2	$29.5	5.8%	3.8%

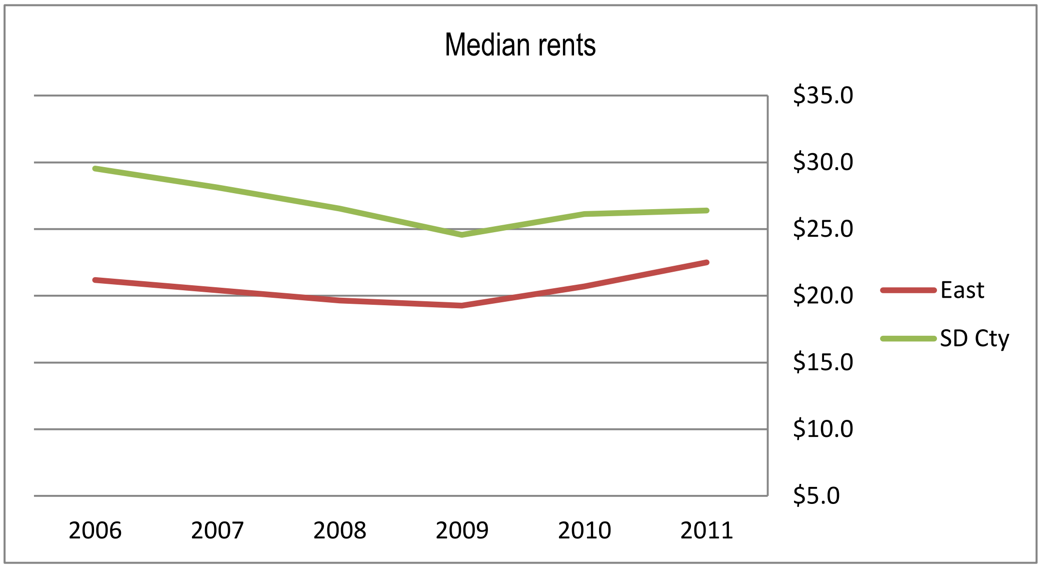


Table IV-6

Selected Retail Sales Comparables

El Cajon Blvd. 6548-Freestanding Restaurant/Retail - 6548-6550 El Cajon Blvd, San Diego, CA
Property Type: Retail
Restaurant
Building Size:
Sale Date: 11/12/2010
Sale Price: $225,000.00

7-Eleven - 6571 El Cajon Blvd, San Diego, CA
Property Type: Retail
Free Standing Bldg
Building Size: 3,130 SF
Year Built: 1981
Sale Date: 11/10/2010
Sale Price: $1,090,000.00
Price/SF $ 348.24

6375 El Cajon Blvd - San Diego, CA
Property Type: Retail
Neighborhood Center
Building Size: 9,042 SF
Sale Date: 5/3/2011
Sale Price: $1,730,000.00
Price/SF $ 191.33

4175 Bonillo Dr - San Diego, CA
Property Type: Retail
Retail (Other)
Building Size: 4,562 SF
Sale Date: 2/10/2011
Sale Price: $435,000.00
Price/SF $ 95.35

6035 University Ave - San Diego, CA
Property Type: Retail
Retail (Other)
Building Size: 11,786 SF
Sale Date: 5/3/2011
Sale Price: $1,000,000.00
Price/SF $ 84.85

3505 Fairmount Ave - San Diego, CA
Property Type: Retail
Retail (Other)
Building Size: 1,104 SF
Sale Date: 5/19/2011
Sale Price: $156,000.00
Price/SF $ 141.30

Rite Aid - 1735 Euclid Ave, San Diego, CA
Property Type: Retail
Free Standing Bldg
Building Size: 17,500 SF
Year Built: 1960
Sale Date: 6/28/2011
Sale Price: $1,284,500.00
Price/SF $ 73.40

Federal Blvd. Owner | User Bldg. - 5160 Federal Blvd., San Diego, CA
Property Type: Retail
Free Standing Bldg
Building Size: 21,652 SF
Year Built: 1955
Sale Date: 7/8/2011
Sale Price: $2,000,000.00
Price/SF $ 92.37

Selected Retail Center Comparables

University Square Plaza
5900 University
Neighborhood Center
Current Asking Rent (Non anchor) $35.00
Current Asking Rent (Anchor) $22.80
Current Vacancy Rate 2.2%
Distance from Subject (miles) .05
Property Size (SF) 205,000
Remodel 2008
Anchor/Major Tenants:
Food 4 Less,53,000 SF
Marshall's, 99 Cent Only, Wells Fargo, T Mobile, Panda Express, Carl's Jr., Game Stop, Starbucks, and Subway

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Campus Plaza
6155 El Cajon Blvd
Community Center
Current Asking Rent (Non anchor) $34.50
Current Asking Rent (Anchor) $24.08
Current Vacancy Rate 3.1%
Distance from Subject (miles) 1.24
Property Size (SF) 111,577
Year Built 1983
Anchor/Major Tenants Unknown Anchor 11,613 SF
Vons S 40,822 SF
Wells Fargo Bank 43,142 SF

City Heights Plaza
4149 University Ave
Neighborhood Center
Current Asking Rent (Non anchor) $28.77
Current Asking Rent (Anchor) N/A
Current Vacancy Rate 0.0%
Distance from Subject (miles) 1.52
Property Size (SF) 40,000
Year Built 1985
Anchor/Major Tenants Hoa Hing Market S

Burger King Plaza
4124 University Ave
Neighborhood Center
Current Asking Rent (Non anchor) $21.61
Current Asking Rent (Anchor) N/A
Current Vacancy Rate 0.0%
Distance from Subject (miles) 1.56
Property Size (SF) 13,100
Year Built 1986
Anchor/Major Tenants Burger King O 3,200 SF
Cafe Dore
Laundry Land
Pizzamania

Aragon Plaza
6506 El Cajon Blvd
Neighborhood Center
Current Asking Rent (Non anchor) $17.49
Current Asking Rent (Anchor) N/A
Current Vacancy Rate 0.0%
Distance from Subject (miles) 1.71
Property Size (SF) 27,000
Year Built 1975
Anchor/Major Tenants Coin Laundry
House of Treasure
Starlight Dance

Gateway Plaza
6929 Federal Blvd
Neighborhood Center
Current Asking Rent (Non anchor) $16.01
Current Asking Rent (Anchor) N/A
Current Vacancy Rate 0.0%
Distance from Subject (miles) 1.86
Property Size (SF) 15,169
Year Built 1970
Anchor/Major Tenants Att Wireless O 1,200 SF
Cleaners
Cold Stone Creamery
El Potosino
Frazee Paint

Lemon Grove Square
7117 Broadway
Neighborhood Center
Current Asking Rent (Nonanchor) $23.73
Current Asking Rent (Anchor) $11.64
Current Vacancy Rate 4.5%
Distance from Subject (miles) 2.07
Property Size (SF) 93,000
Year Built 1977
Anchor/Major Tenants Jackson Hewitt
Payless Shoe Source
Smart & Final S 14,500 SF
Water 4 U

College Plaza
7151 El Cajon Blvd
Neighborhood Center
Current Asking Rent (Nonanchor) $11.88
Current Asking Rent (Anchor) N/A
Current Vacancy Rate 0.0%
Distance from Subject (miles) 2.49
Property Size (SF) 19,000
Year Built 1979
Anchor/Major Tenants Quilted Rose
Rosies Cupboard 8,000 SF
Stamp Addict

Mission Square Shopping Center
6171 Mission Gorge Rd
Neighborhood Center
Current Asking Rent (Non anchor) $25.96
Current Asking Rent (Anchor) N/A
Current Vacancy Rate 9.2%
Distance from Subject (miles) 2.83
Property Size (SF) 24,000
Year Built 1978
Anchor/Major Tenants Chrispractos
Insurance Office
Smart Mart Wireless
Soup Plantation
Taekwardo Academy
Subway

Trolley Stop
6171 Imperial Ave
Neighborhood Center
Current Asking Rent (Non anchor) $14.90
Current Asking Rent (Anchor) $11.17
Current Vacancy Rate 0.0%
Distance from Subject (miles) 2.85
Property Size (SF) 16,250
Year Built 1975
Anchor/Major Tenants Food Bargain Market S 14,000 SF
Unknown 1,600 SF

La Mesa Springs
1984 La Mesa Blvd
Community Center
Current Asking Rent (Non anchor) $24.00
Current Asking Rent (Anchor) $13.56
Current Vacancy Rate 1.5%
Distance from Subject (miles) 2.90
Property Size (SF) 165,000
Year Built 1977
Anchor/Major Tenants Cable Video
Coast Savings
Cucamaya Bank
Gemco
Soup Exchange
Vons 46,000 SF

Office

Generally speaking, office development occurs in concentrations and at locations that are highly central to a region. The typical example is a downtown central business district but also at suburban notes where major transportation systems come together. For the most part office development opportunities along regional corridors and in suburban centers are typically constrained. This path dependency is apparent in the Mid-City and East portions of the San Diego market where in general the overall inventory of available office space is a smaller community serving or tied to a specific institution such as medical office or administrative offices for schools and universities, as well as smaller scale professional services such as attorneys, accountants, tax preparation, property management and the like.

Table IV-6 provides comparable data on office vacancy rates in the Mid-City East market compared to San Diego County as a whole. At present the market is experiencing of 11.6% vacancy rate with median rents of $19.50. This compares to a 9.7% vacancy rate in the County as a whole and with median rates of $24.20. Rents have stabilized in the Mid-City East market and are back to prerecession levels however this has come at the expense of occupancy which is consistently higher than the countywide average. In terms of the age of the office stock available in the market, older often owner occupied office space, built before 1970, has the lowest vacancy rate. These projects tend to be smaller scale and are located at positions of the greatest visibility and accessibility in the region. Buildings built in the 1990s also experience a relatively low vacancy rate, one that is below the countywide average. However, rents in 2011 were at $15.94 considerably lower than the countywide median. Due to the high rate owner occupancy and the prevalence of build to suit office space there have not been a significant number of transactions in recent years. However the capitalized values of these rental rates are not sufficient to stimulate new speculative investment at this time.

Demand for office space in the Chollas Triangle region will closely be tied to improvements in the regional unemployment situation and will be driven by community demands, absent the identification of a key build to suit tenant. That being said, a town center development along the lines of what is being conceived of for the Chollas Triangle is an especially attractive smaller scale office that can occupied upper floors of commercial retail buildings and other interstitial space within a town center development. Another important segment for office type space in the project area are live work residential units that can accommodate professional services and limited kinds of production as home occupations and as business locations tied to the occupation of the resident. Small-scale entrepreneurial activity is likely to continue to be an important feature of the economy of the Mid-City area and as a result demand this kind of hybrid office space is much more likely to materialize in the intermediate future as economic conditions improve. Physical planning for the site should consider the inclusion of hybrid live workspace

Table IV-7

Office

Median Rents and Vacancy Rate

	East	SD Cty	East	SD Cty
2011	$19.5	$24.2	11.6%	9.7%
2010	$17.58	$23.7	11.8%	9.5%
2009	$17.2	$22.3	12.3%	9.6%
2008	$17.9	$24.1	10.2%	9.0%
2007	$19.0	$25.5	9.8%	7.4%
2006	$19.7	$26.8	9.8%	7.2%

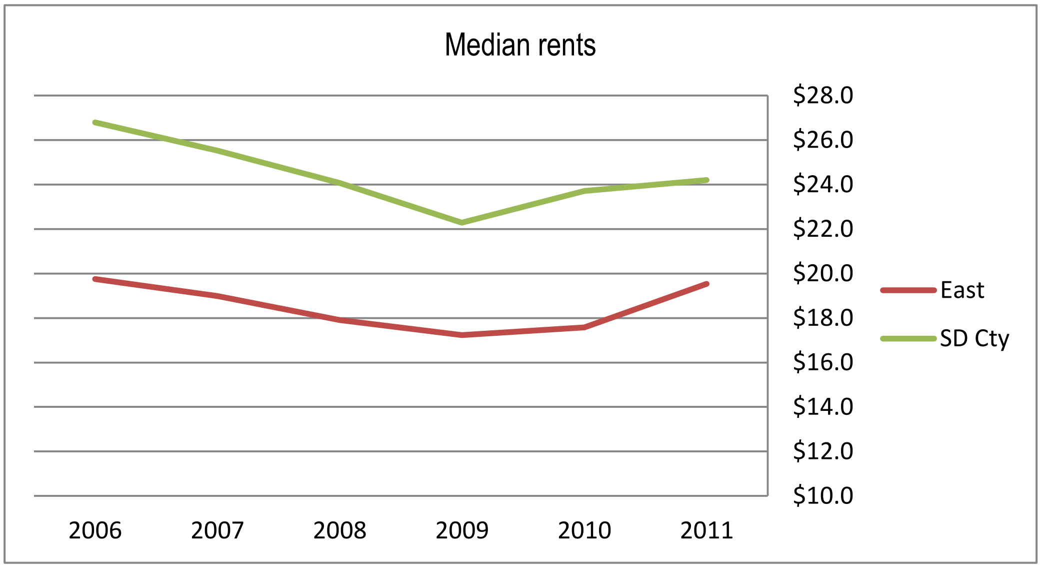
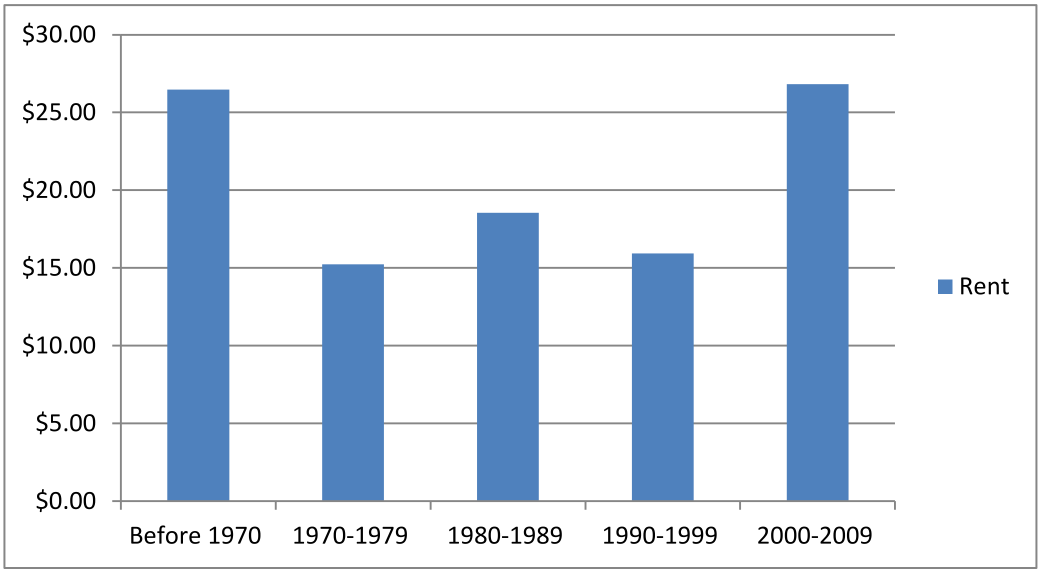


Table IV-8

Ofice Rents and Vacancy

San Diego, East Market

Year Built	Rent	Vacancy
Before 1970	$26.48	4.70%
1970-1979	$15.23	16.20%
1980-1989	$18.55	15.60%
1990-1999	$15.94	5.4%
2000-2009	$26.83	14.4%
After 2009	n/a	n/a
Total	$19.53	11.60%



and the use of secondary commercial space for employment generating uses as a method for absorbing the potential emerging demand for office space in the market.

Industrial

Recent industrial comparable sales are displayed on table IV-7. In general, sales prices have been between $120 $200 per square foot. This is a relatively robust rate for industrial buildings however most of these properties are quite small averaging under 5,000 sq. ft. Larger assets such as a 42,000 square-foot industrial building on Federal Boulevard sold for $24.38 per square foot. The wide range of comparable sales and the limited inventory of available industrial buildings suggests low to very low demand for industrial space in the area immediately surrounding the Chollas Triangle site.

For the most part the community is a mature built out area that is primarily focused on residential neighborhoods with commercial corridors. Opportunities to cite industrial space that will not generate land-use conflicts are limited due to the existing development patterns in this part of the city. For the most part economic development efforts for industrial development have been focused in the Chula Vista / Otay Mesa markets and to a lesser degree in the North County. Demand for hybrid flex industrial research production space has historically been experienced in the La Jolla / UTC markets as well as Miramar.   That being said if a build to suit user is seeking an assembled developable parcel within a mature residential area the Chollas Triangle site may offer some advantages. However, most of these uses are not compatible with a town center type development strategy and while the market may develop for these uses within the plan, their presence will need to be closely calibrated with longer-term strategic objectives and higher value-added uses within the site.

Nonprofit and institutional

One of the distinguishing features of the land use surrounding the C triangle site is a strong presence of the nonprofit institutional uses. Crawford high school, is located immediately to the north of the project site and is assessable by footpath from University Avenue. Horace Mann middle school is also nearby, as are three public elementary schools and a variety of private pre-K -12 schools. The presence of schools in the neighborhood helps bring vitality as each serves as a node of daily activity.

Nearby recreational institutional uses include the facilities at Collina del Sol park, the Collina park golf course and swim center. These uses also create activity nearby however unlike the schools this tends to occur on the weekends and holidays.

In terms of healthcare, Promise Hospital-- a 100 bed for-profit acute care facility, is located directly north of the Chollas Triangle along University Avenue. The hospital's capacity is split between acute general medical care and inpatient psychiatric services. Another major, community health and social service provider is the Teen Challenge center located at 5450 Lea Street. Teen Challenge is a residential drug and alcohol treatment facility.

The presence of educational institutional uses in the area are a good and necessary fit with community needs. These types of uses would be able to contribute to the overall development pattern of the site as tenants and assessory uses. In general extra market support (subsidies) would be required to bring nonprofit and community institutions onto the site, and over time land costs may make their presence infeasible. However this category should be accommodated within any recommended development plans, such that existing institutions can continue to function on the site and that expansion or addition of new programs not be precluded by any land use strategy adopted.

Summary and Implications

The Chollas Triangle market area, like the rest of San Diego, is currently experiencing market conditions that are not conducive to new development. This is particularly true for projects and land uses that do not have pre-leasing in place or secured credit tenants. In almost every instance the capitalized value of current income streams and comparable sales prices for existing property are below replacement cost new development.

While the immediate market conditions are soft, the location of the Chollas Triangle in the midst of a dense and dynamic community, along with the size of the site, is consistent with a town center development strategy. This implies a mix of residential and commercial land uses that will create a central focus for the Mid-City district of San Diego and allow for a leveraging of the development pattern in the area to move from a corridor based pattern to a more concentrated nodal core.

The first segment of the real estate market that is likely to be viable on the Chollas Triangle site will be multi-family residential. As capital markets began to stabilize and new household formation continues regionally, based on improving economy development opportunities for market rate multiunit rental apartments will become viable at the Chollas Triangle site. Demand for this type of development may begin to emerge over the next 18 to 24 months depending on macro-economic conditions such as credit markets, regional unemployment rates and competitive development elsewhere in the area.

Any long-term development strategy for the Chollas Triangle site ideally should reflect the sites potential within the context of the urban geography of San Diego rather than being responsive to immediate market conditions which are currently under performing historic rates. Looking beyond a 2 to 5 year time horizon is likely to anticipated development pressure returning to the broader San Diego market as the economy improves. The Chollas Triangle site would then be able to support a mix of residential development in the first phase followed by community level retail development on the site. Specific recommendations for program elements and quantities are outlined in the section that follows.

Table IV-8
Industrial Comparable Sales

City Heights Industrial - 3877 42Nd St., San Diego, CA
Property Type: Industrial
Warehouse
Building Size: 6,000 SF
Sale Date: 9/30/2006
Sale Price: $735,000.00
Price/SF $ 122.50

American Legion - 4061 Fairmont Ave, San Diego, CA
Property Type: Industrial
Warehouse
Building Size: 7,344 SF
Year Built: 1930
Sale Date: 1/31/2007
Sale Price: $2,350,000.00
Price/SF $ 319.99

4715 Polk Ave - San Diego, CA
Property Type: Industrial
Manufacturing
Building Size: 800 SF
Sale Date: 9/24/2009
Sale Price: $185,000.00
Price/SF $ 231.25

4604 University Ave - San Diego, CA
Property Type: Retail
Free Standing Bldg
Building Size: 6,438 SF
Year Built: 1956
Sale Date: 1/25/2006
Sale Price: $1,300,000.00
Price/SF $ 201.93

El Cajon Blvd. 5315 - 5315 El Cajon Blvd., San Diego, CA
Property Type: Office
Office-Warehouse
Building Size: 5,700 SF
Year Built: 1952
Sale Date: 4/30/2007
Sale Price: $1,000,000.00
Price/SF $ 175.44

4792 Dwight St - San Diego, CA
Property Type: Industrial
Manufacturing
Building Size: 760 SF
Year Built: 1940
Sale Date: 6/22/2009
Sale Price: $145,500.00
Price/SF $ 191.45

Federal Blvd. Owner | User Bldg. - 5160 Federal Blvd., San Diego, CA
Property Type: Retail
Free Standing Bldg
Building Size: 21,652 SF
Year Built: 1955
Sale Date: 7/8/2011
Sale Price: $2,000,000.00
Price/SF $ 92.37

6975 North Ave - Lemon Grove, CA
Property Type: Industrial
Manufacturing
Building Size:
Sale Date: 11/6/2002
Sale Price: $730,000.00
Price/SF $ Na

4149 Cartagena Rd - San Diego, CA
Property Type: Industrial
Warehouse
Building Size: 11,500 SF
Year Built: 1988
Sale Date: 4/11/2005
Sale Price: $1,050,000.00
Price/SF $ 91.30

4567 Federal Blvd - San Diego, CA
Property Type: Industrial
Manufacturing
Building Size: 42,253 SF
Year Built: 1969
Sale Date: 12/13/2004
Sale Price: $1,030,000.00
Price/SF $ 24.38

4567 Federal Blvd - San Diego, CA
Property Type: Industrial
Manufacturing
Building Size: 38,780 SF
Year Built: 1969
Sale Date: 7/29/2003
Sale Price: $2,800,000.00
Price/SF $ 72.20

47Th Street - 1645 47Th St, San Diego, CA
Property Type: Industrial
Manufacturing
Building Size: 2,800 SF
Year Built: 1968
Sale Date: 7/14/2009
Sale Price: $320,000.00
Price/SF $ 114.29

Industrial Development Site - 1740 47Th Street, San Diego, CA
Property Type: Land
Industrial (land)
Lot Size: 4.56 Acres
Sale Date: 11/30/2007
Sale Price: $3,300,000.00
Price/Acre: $ 723,684.22

1740 47Th St - San Diego, CA
Property Type: Industrial
Manufacturing
Building Size: 12,500 SF
Sale Date: 11/15/2007
Sale Price: $3,300,000.00
Price/SF $ 264.00

Fed Ex Bldg/Federal Express Buildign - 1650 47Th St, San Diego, CA
Property Type: Industrial
Warehouse
Building Size: 76,822 SF
Year Built: 1988
Sale Date: 10/3/2005
Sale Price: $11,600,000.00
Price/SF $ 151.00

Section V Program and Development Strategy

Introduction

This section will provide recommendations on development volumes and a strategy for transforming the Chollas Triangle site from its present condition to a functioning town center for Mid-City San Diego. It is important to recognize that we are currently in a difficult development market as was described in the sections covering both the broader San Diego and local Mid-City neighborhoods. The current lack of demand is driven by a broad variety of macro-economic conditions ranging from the ability of development to access capital from banks and other traditional funding sources as well as high rates of unemployment and declining household incomes.

Over the long run the local and national economy can be anticipated to improve. This strategy looks to the broader opportunities available at Chollas Triangle from the perspective of its potential role in the urban hierarchy and structure of San Diego. As the market stands today, even with significant off pro forma assistance, there is only marginal demand for new development on-site. That is not to say that there is no economic value to the land. The fact the Northgate González Market is moving on to the site in a space being provided by a sublease from K-mart is evidence of the viability of University Ave. as a commercial corridor even in difficult economic circumstances.

In terms of market interest, the following sectors are likely to begin to see interest in the following order:

1. Multi-family residential
2. Retail
3. Office / Industrial

This section will provide program recommendations for each of these components along with requirements for the development of amenities, such as the renovation of Chollas Creek and supportive public spaces that will be necessary to catalyze development on site.

Residential

The first segment of the Mid-City market area that is likely to experience new capital investment will be multifamily residential development. Already rental rates in the area are beginning to approach replacement cost as more householders moved from ownership to rental across the region. Likewise recent sales prices for existing projects, in particular smaller projects, are beginning to approach replacement cost based on a narrowing capitalization rate and stabilized cash flows from decreased vacancies. This indicates the possibility of new demand emerging.

The biggest impediment to development of new residential development in the area is access to capital. Traditional funding sources, in particular banks, have become increasingly reluctant to finance any kind of real estate development other than pre-lease build to suit projects. In theory, investors should be able to take advantage of historically low interest rates in order to fund development. However, the balance sheet position of many of the nation's largest banks is not conducive to lending for these types of developments. As the financial crisis abates capital should flow back into the real estate development sector.

The other principal impediment for residential development in the Mid-City area is a lack of suitable development sites and the accessibility of available sites to community amenities. The Chollas Triangle site, offers an opportunity to deliver to the market a strategically located assembled site with good transit access, access to neighboring schools and retail opportunities along University Avenue. In that respect the Chollas Triangle site is a desirable residential location. However, in order for residential development to proceed at the site improvements to Chollas Parkway and to Chollas Creek, it will need to be undertaken either concurrently with a first phase of residential development or as a leading investment that creates on site amenities to stimulate interest in development.

The Chollas Triangle site once amenitized with Park infrastructure along its south end would be an ideal site for market rate housing. A mix of affordable units and units of varying sizes and price points of entry may be necessary to assist absorption particularly in the initial years. But on the whole the Chollas Triangle is likely to be a site that can support market rate housing over the long term.

Any development plan will require a diverse mix of unit types in order to be successful. Particularly advantageous unit configurations in the community include; two-bedroom apartments live –work units, and townhome type attached products. Generally speaking, the best location for housing will have access to park improvements along the south and east margins of the site. Ideally the residential component could be developed out in more than one phase. Each with approximately 200 to 250 dwelling units in each phase depending on the physical configuration of the units in order to yield a total of 250 to 500 DUs on-site likely built in two phases.

Retail

University Avenue represents a significant retail corridor in Mid-City San Diego. Chollas Triangle's location is a proven retail site given the long-term durability of the Sears and Kmart uses that have been present. Continued retail investment is exhibited by the recent sublease by González Northgate market at the Kmart building. The Shell gas station on the corner of University and 54 is one of the highest visibility sites in Mid-City. The half-acre parcel is currently for sale with the listed price of $2 million. Whether or not that prices achieved or not remains to be seen however it reinforces the long-term viability of the Chollas Triangle site as a part of the University Avenue retail corridor.

With household incomes continuing to contract in San Diego and with depressed levels of retail sales continuing in light of the current economic downturn, new retail development is unlikely to occur until general economic conditions begin to improve. At the same time several important potential credit tenants and anchors have either disappeared from the market or are not in the position to expand. That being said the structural logic of the Chollas Triangle site as a community oriented retail location is supported by the aggregate income of the community that surrounds it, population density, synergies with neighboring retail projects and finally visibility and access along University Avenue. Retailers who are able to serve the diverse community population are also likely to be able to take advantage of the Chollas Triangle site.

The most likely successful retail program for the Chollas Triangle site would be a community oriented retail project of between 100,000 and 130,000 sq. ft. of total retail development facing the North and West sides of the site and for the portions of the plan area North of University Ave. This would represent net new space in the market. A community retail center would include typical tenants such as groceries, drugstores, personal services, food and beverage and general merchandise sales occurring at in-line stores. Presently the drug store category is under represented in the area and as a result this type of tenant may emerge as a leading contender as a credit tenant for the first retail project on the site.

Office / Industrial

The best opportunity for office or industrial use of the Chollas Triangle site would only come about if the site met the criteria of a single use build to suit tenant. Generally speaking, industrial uses on the site would be incompatible with neighboring land uses. And on the whole the site is not particularly attractive for most industrial users due to issues of site assess ability and access. Modern industrial users require easy 24-hour access for 40 foot trailers which is incompatible with residential land uses. In addition the grade changes in topography on the site are less suitable for industrial land uses than other locations within the San Diego market. In general the site would be competing with long-standing economic development efforts and incentives to induce industrial development in other parts of the city such as at Otay Mesa and the area around Miramar. Additionally industrial land uses occupying sectors in the San Diego economy are continuing to experience relatively high rates of unemployment with a result increase in vacancy rates market wide. All of these are strong contra indications that work against the development of industrial land uses on the site

Office uses have a tendency of being strongly agglomerative. What this means in practice is that it is very difficult to create new office employment centers without creating a significant critical mass. Sometimes this occurs as a result of changes to the transportation system such as opportunities brought about by transit oriented development or by the movement of a single large employer to a build to suit location that attracts additional co tenancies. For the foreseeable future the basic conditions at Chollas Triangle are not highly amenable to large-scale office development. Employment on-site is most likely to be generated from retail sales and services that can take place in commercial spaces within the project in the form as of right uses. An additional generator of on-site employment would be live work type residential units. These can play an important role in providing an identifiable niche for the residential development within the project and will help support the mixed-use and balanced nature of the overall development plan on site. Smaller scale community oriented office uses, including those that house businesses that cater to the ethnic and cultural diversity of the area may be attracted to the site.

Summary and Implications

The Chollas Triangle site represents an ideal location for a town center development strategy. The site fits well into the overall logic of the city of San Diego's economic geography and has the potential to be adjacent to a significant amenity in the form of the improved Chollas Creek. That being said in order for the project to move forward there are a number of critical factors that need to be addressed, as well as changes in the physical condition of the site and the status of the San Diego regional economy.

Either as a leading investment or concurrent with the first phase of development, it will be necessary to improve Chollas Creek and Chollas Pkwy. and turn them into a community amenity. With this accomplished the Chollas Triangle site, particularly along its southern and eastern margins, becomes particularly attractive for residential development. In contrast, the North and West side of the site currently front two of the most significant arteries in Mid-City San Diego and serve as logical sites for retail and consumer oriented commercial development. Once the landscape improvements are made to the Creek and Parkway the latent value of the Chollas Triangle's strategic location can be unlocked.

Improvements to the site and the creation of the creek and park amenity will be required in order to attract quality residential development to the Chollas Triangle site. As multifamily residential is likely to be the first segment of the market that will generate new development demand, the investments in the public realm for the creation of parking open space will need to occur in the initial years if a residential first development strategy is feasible.

Existing fiscal circumstances may preclude major public investments for the creek and related site amenities. In this case a development strategy that focuses on University Avenue may be necessary. In the intermediate term retail demand is likely to emerge as the economy improves and consumer discretionary spending begins to grow. If a credit tenant can be attracted to the site, it is possible to move forward with a retail first strategy that will require significantly lower amounts of public investments on the site. This approach could take advantage of the grade changes on the site to buffer first phase commercial development from a future residential buildout on the south and eastern portions of the site. Is important recognize that retail demand is likely to emerge more slowly than the demand for multifamily residential.

In terms of program recommendations, it is clear that the regional economy of San Diego will need to improve with decreasing rates of unemployment and increasing household incomes before new development pressure comes to bear on this site. That being said, the near and intermediate term demand is beginning to develop for multifamily residential development in the Mid-City portion of the city of San Diego. Once issues of access to capital and development finance are addressed and the economy begins to stabilize it is likely that this sector of the real estate economy will be the first to rebound.

Similarly the retail landscape has been significantly challenged by the financial crisis that began in 2008. As the industry begins to stabilize along with incomes in the market it is possible to anticipate that University Avenue will continue to develop as a commercial retail corridor. The Chollas Triangle offers a site to combine these market tendencies into a synergistic mixed-use town center development with the following attributes:

- 250 to 500 residential units capable of being both owner and renter occupied
    - For a rental project in the first phase, the following recommended mix of unit types is likely to be supported:

Studio	30%
One bedroom	20%
Two-bedroom	40%
Live work / Other specialized	10%

    - In a for sale development the unit mix would be more oriented towards two and three bedroom units. As a planning factor the average unit size would be approximately 1,200 sq. ft. net living area with individual units ranging from 900 sq. ft. one bedroom units to 1,400 sq. ft. three bedroom units.
- A community scale retail development with one or more mid box anchors totaling between 100,000 and 130,000 sq. ft. This represents net new space to the market
- Ancillary office space including live work and store front office opportunities ranging between 10,000 and 25,000 sq. ft. of total on-site commercial office use.

APPENDIX G

NOISE CALCULATIONS

Existing Without Project

	DAYTIME			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS						
Vehicles per hour	448	9	5	4	0	0
Speed in MPH	45	45	45	45	45	45
Left angle	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90
NOISE CALCULATIONS						
Reference levels	69.3	77.6	82.1	69.3	77.6	82.1
ADJUSTMENTS						
Flow	19.7	2.8	-0.2	-0.3	-17.2	-20.2
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0
Barrier	0	0	0	0	0	0
Grade	0	0	0	0	0	0
Constant	-25	-25	-25	-25	-25	-25
LEQ	63.9	55.4	56.9	43.9	35.4	36.9

DAY LEQ 65.2

	ROADWAY	Chollas Parkway
5	SEGMENT	54th Street to University Aver
	ADT	4616
	SPEED	45
	DISTANCE	50
	% A	97.0%
	% MT	2.0%
	% HT	1.0%
	LEFT	-90
	RIGHT	90
	DAY LEQ	65
	% Peak of ADT	10.00%
	Day hour	462
	Absorbtive?	no
	Use hour?	Yes
	GRADE dB	0

Existing Without Project

	DAYTIME			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS						
Vehicles per hour	2243	46	23	22	0	0
Speed in MPH	40	40	40	40	40	40
Left angle	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90
NOISE CALCULATIONS						
Reference levels	67.4	76.3	81.2	67.4	76.3	81.2
ADJUSTMENTS						
Flow	27.2	10.3	7.3	7.2	-9.7	-12.7
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0
Barrier	0	0	0	0	0	0
Grade	0	0	0	0	0	0
Constant	-25	-25	-25	-25	-25	-25
LEQ	69.5	61.6	63.4	49.5	41.6	43.4

DAY LEQ **71.0**

ROADWAY	University Avenue
5 SEGMENT	54th to 58th Streets
ADT	23125
SPEED	40
DISTANCE	50
% A	97.0%
% MT	2.0%
% HT	1.0%
LEFT	-90
RIGHT	90
DAY LEQ	71
% Peak of ADT	10.00%
Day hour	2313
Absorbtive?	no
Use hour?	Yes
GRADE dB	0

Existing Without Project

	DAYTIME			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS						
Vehicles per hour	1687	35	17	17	0	0
Speed in MPH	35	35	35	35	35	35
Left angle	-90	-90	-90	-90	-90	-90
Right angle	90	90	90	90	90	90
NOISE CALCULATIONS						
Reference levels	65.1	74.8	80.0	65.1	74.8	80.0
ADJUSTMENTS						
Flow	26.5	9.7	6.7	6.5	-10.3	-13.3
Distance	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Finite Roadway	0	0	0	0	0	0
Barrier	0	0	0	0	0	0
Grade	0	0	0	0	0	0
Constant	-25	-25	-25	-25	-25	-25
LEQ	66.6	59.4	61.6	46.6	39.4	41.6

DAY LEQ **68.4**

ROADWAY	54th Street
SEGMENT	University Avenue to Chollas
ADT	17387
SPEED	35
DISTANCE	50
% A	97.0%
% MT	2.0%
% HT	1.0%
LEFT	-90
RIGHT	90
DAY LEQ	68
% Peak of ADT	10.00%
Day hour	1739
Absorbtive?	no
Use hour?	Yes
GRADE dB	0

APPENDIX H

PALEONTOLOGICAL RESOURCE ASSESSMENT

PALEONTOLOGICAL RESOURCE ASSESSMENT
CHOLLAS TRIANGLE MASTER PLAN
CITY OF SAN DIEGO
SAN DIEGO COUNTY, CALIFORNIA

Prepared under contract to:

AECOM
1420 Kettner Boulevard, Suite 500
San Diego, CA 92101

Prepared by:

DEPARTMENT OF PALEOSERVICES
SAN DIEGO NATURAL HISTORY MUSEUM
P.O. Box 121390
San Diego, CA 92112

Thomas A. Deméré, Ph.D., Director
Sarah A. Siren, M.S., Paleontological Field Manager

26 February 2013

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CHOLLAS TRIANGLE MASTER PLAN
CITY OF SAN DIEGO
SAN DIEGO COUNTY, CALIFORNIA

INTRODUCTION

Project Location

The Chollas Triangle Master Plan Amendment project area is located in the Eastern Area of the Mid-City Communities planning area within the City of San Diego (Figure 1). The 36 acres project area is surrounded by multi-family residential and institutional uses to the north, including a hospital, middle school, and high school; multi-family residential and a commercial shopping center to the east, multi-family residential and a retail shopping center to the west, and single-family residential to the south. The project area is bounded by 54th Street to the west, University Avenue to the north, and Chollas creek to the south and east (Figure 2).

Project Description

The proposed project is designed to amend the Mid-City Communities Plan to provide new land use designations and zoning, an enhanced open space network, and a realigned circulation system that support a mass transit-oriented community. This amendment would include map and text changes to the Mid-City Communities Plan to encourage a vibrant, mixed-use neighborhood village with increased park and open space areas. The amendment would revise the Eastern Area Community Plan Map and redesignate approximately 12.5 acres of Commercial Mixed Use and approximately 3.4 acres of Industrial to Neighborhood Village which would be consistent with Table LU-4 of the General Plan. The Neighborhood Village land use designation would allow for the development of multi-family housing in a mixed-use setting and convenience shopping and services. The amendment would also revise the Future Recommended Street Network to vacate the approximately 11.4 acre Chollas Parkway and designate approximately 5.4 acres as population-based park land, with the remaining land being designated as open space. The proposed project would add a two lane collector at the location of Lea Street, extending north to intersect with University Avenue. The proposed project would also include a rezone of the current CC-5-3 and IL-3-1 zones to zones consistent with the new land use designations as recommended in the General Plan. The proposed project zones would include CC-3-5 with the adoption of the Community Plan Implementation Overlay Zone (CPIOZ) to limit the total square footage of non-residential development to no more than 130,000 square feet (ft) of commercial; and OP-2-1 consistent with the Park land use designation.

At build out the project area could contain approximately 486 dwelling units of multi-family housing, and approximately 130,000 square ft of non-residential development that could include a mixture of retail, office, and other commercial uses.

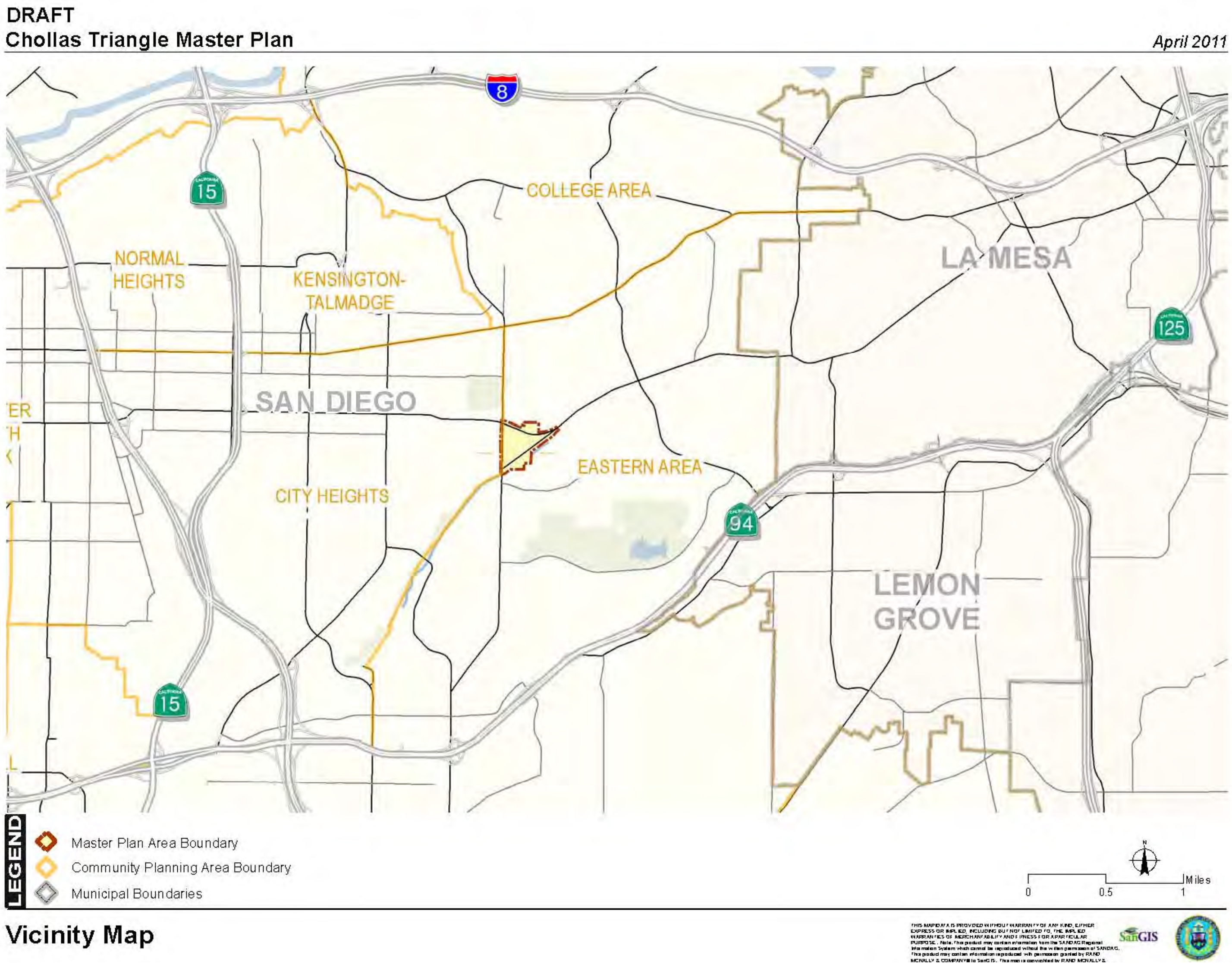

Figure 1. Index map of western San Diego County showing the general location of the Chollas Triangle Master Plan project site (courtesy of SanGIS, 2011).

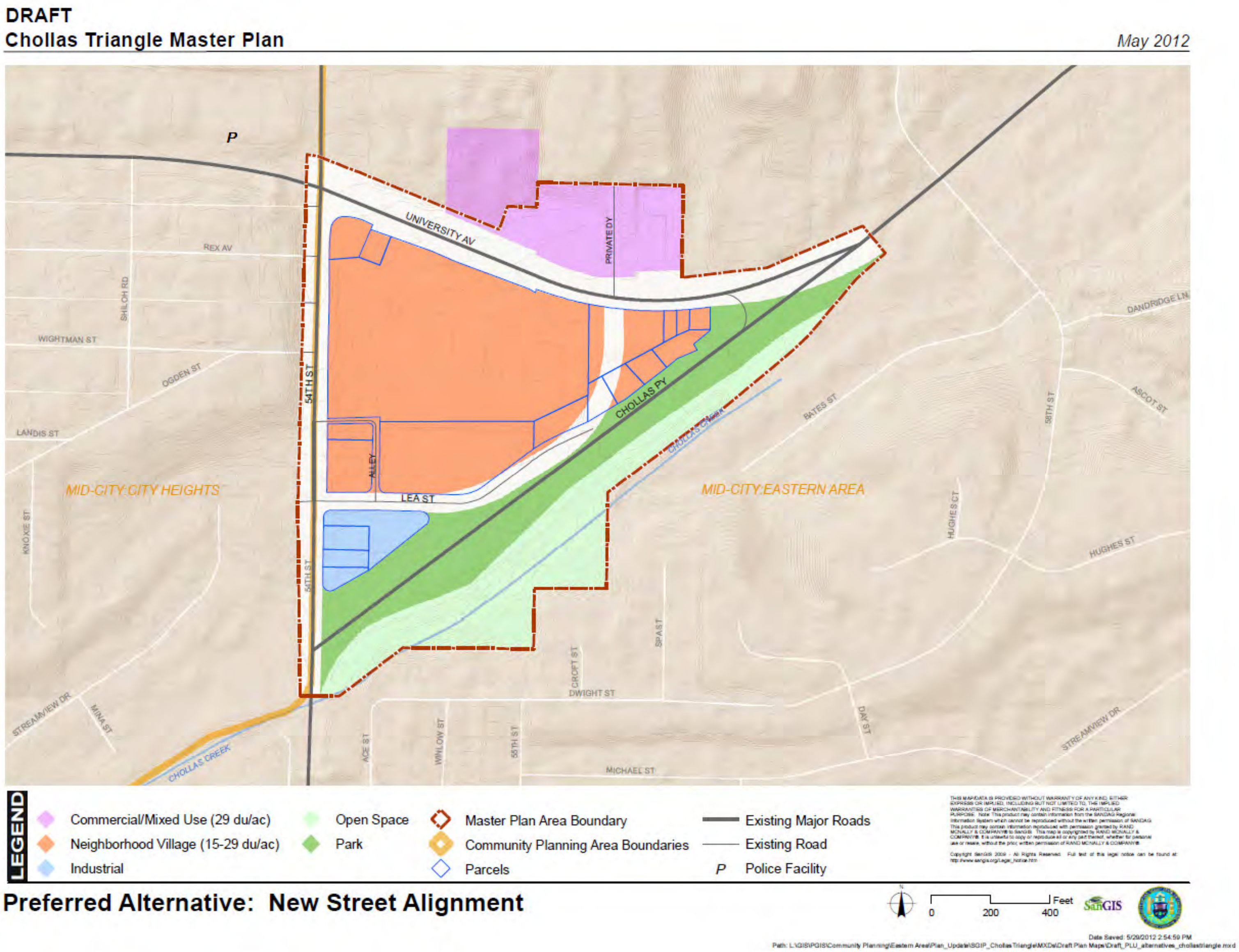

Figure 2. Location map for the Chollas Triangle Master Plan project site, including project alternatives, in the City of San Diego, California (courtesy of SanGIS, 2011).

Project Objectives

The Mid-City Communities Plan Amendment would result in revised community plan policies that would allow mass transit-oriented development and create an active neighborhood village with an integrated mixture of residential, commercial and civic uses adjacent to Chollas Creek. Each element of the community plan would be amended to incorporate revised figures and recommendations that help implement the goals and objectives of the project.

The Natural and Cultural Resources Element would be amended to include goals and recommendations that address the increased park and open space system adjacent to Chollas Creek. Recommendations would address uses allowed adjacent to, and within, the open space network.

The Urban Design Element would add and amend recommendations that guide the bulk and scale of development within the project area. Recommendations addressing building heights and setbacks along University Avenue would be revised to encourage medium-density mixed-use development.

The Land Use Element would be amended to discuss the addition of General Plan land use designations that would encourage the project area to develop as a mixed-use neighborhood village. The Land Use and Economic Development Elements would be amended to remove most of the industrial land uses from the project area and discuss the types of economic activities to be encouraged and allowed on site. The Public Facilities and Services Element revisions would address the additional park space within the community planning area as well as the impacts to utilities, specifically the San Diego Gas and Electric (SDG&E) substation located within the project area. The Transportation Element would be amended to reflect a revised street and bicycle network as well as improvements to the pedestrian network.

The Community Plan Implementation Overlay Zone (CPIOZ) ‘Type A’ would provide supplemental development regulations that are tailored to the specific site. The intent of the regulations is to ensure that future development proposals are reviewed for consistency with the use and development criteria that have been adopted for the site as part of the community plan amendment process. The CPIOZ “Type A” is ministerial (Process One) and no discretionary permit would be required if proposed development complies with the development standards or criteria.

San Diego Natural History Museum Scope of Work

This technical report provides an assessment of issues related to paleontological resources within the project site. The purpose of this report is to assist in planning and design efforts for the purposed project as related to paleontological resource issues. Specifically, this report is intended to summarize existing paleontological resource data in the project site and vicinity; assess potential impacts to paleontological resources from construction of the project; and identify mitigation measures to avoid or reduce project-related impacts wherever feasible. Additional discussion of report methodology is provided below. This report was prepared by Sarah A. Siren and Thomas A. Deméré of the Department of PaleoServices, San Diego Natural History Museum (SDNHM), San Diego, California.

Paleontological Resources

As defined here, paleontological resources (i.e., fossils) are the buried remains and/or traces of prehistoric organisms (i.e., animals, plants, and microbes). Body fossils such as bones, teeth, shells, leaves, and wood, as well as trace fossils such as tracks, trails, burrows, and footprints, are found in the geological deposits (formations) within which they were originally buried. The primary factor determining whether an object is a fossil or not, isn't how the organic remain or trace is preserved (e.g., "petrified"), but rather how old is the organic remain or trace. Although typically it is assumed that fossils must be older than ~10,000 years (i.e., the generally accepted end of the last glacial period of the Pleistocene Epoch), organic remains of early Holocene age can also be considered to represent fossils because they are part of the record of past life.

Fossils are considered important scientific and educational resources because they serve as direct and indirect evidence of prehistoric life and are used to understand the history of life on Earth, the nature of past environments and climates, the membership and structure of ancient ecosystems, and the pattern and process of organic evolution and extinction. In addition, fossils are considered to be non-renewable resources because typically the organisms they represent no longer exist. Thus, once destroyed, a particular fossil can never be replaced. And finally, for the purposes of this report, paleontological resources can be thought of as including not only the actual fossil remains and traces, but also the fossil collecting localities and the geological formations containing those localities.

METHODOLOGY

A review was conducted of relevant published and unpublished geologic reports (Kennedy and Tan, 1977; 2008; Walsh, 1996), unpublished paleontological reports (Deméré and Walsh, 1993), and museum paleontological locality data (SDNHM, Department of Paleontology; see attached Records Search in the Appendix). This approach was followed in recognition of the direct relationship between paleontological resources and the geologic formations within which they are entombed. Knowing the geology of a particular area and the fossil productivity of formations that occur in that area, it is possible to predict where fossils will, or will not, be encountered.

A pedestrian survey of the project area and immediately surrounding areas was conducted on February 13, 2013 by SDNHM personnel to field check the results of the literature and record searches and to determine the paleontological resource sensitivity of the geologic units that will be affected by the proposed improvements.

EXISTING CONDITIONS

PHYSICAL GEOLOGICAL SETTING

The Coastal Plain region of San Diego County is underlain by a layer cake sequence of marine and non-marine sedimentary rock units that record portions of the last 140 million years of earth history (Deméré and Walsh, 1993). Over this period of time, the relationship of land and sea has drastically fluctuated, such that today, there are ancient marine rocks preserved up to elevations of 900 feet above sea level and ancient river deposits as high as 1,200 feet. Faulting related to the local La Nacion and Rose Canyon fault zones (Artim and Pinckney, 1973; Kennedy, 1975) has broken up this sedimentary sequence into a number of distinct fault blocks in the southwestern part of the county. In the National City/Chula Vista area, the La Nacion Fault Zone has had a major impact on the surface distribution of sedimentary rock units (Kennedy and Tan, 1977). West of the fault zone, there are extensive exposures of Pleistocene-age deposits mapped primarily as the Bay Point Formation. Whereas, east of the fault zone, there are exposures of the Eocene-age Mission Valley Formation and the Oligocene-age Otay Formation. Within the fault zone itself, exposures predominantly consist of sandstones of the Pliocene-age San Diego Formation.

The geology of the project area, as described in the site-specific geotechnical report by Ninyo & Moore (2011) and depicted on the published geologic maps of Kennedy and Tan (1977, 2008), is dominated by artificial fill and Quaternary alluvium to varying depths. These relatively youthful deposits overlie older geologic deposits mapped as the Eocene-age Mission Valley Formation. The Mission Valley Formation, in turn, is locally overlain by the Eocene-age Pomerado Conglomerate, which itself is overlain by marine sandstones of the Pliocene-age San Diego Formation. The western boundary of the project site is coincident with 54th Street, which actually is aligned along the main trace of the La Nacion Fault in this area of San Diego (Kennedy and Tan, 1977). The majority of movement along this fault has been vertical, such that strata found at higher topographic levels to the east have been down-dropped to the west where they now occur at lower topographic levels.

RESULTS OF THE PALEONTOLOGICAL RECORDS SEARCH

A search of the paleontological records housed at the SDNHM Department of Paleontology revealed a single documented fossil collecting site located within the boundaries of the Chollas Triangle Master Plan project site. This collecting site was discovered in an existing cut slope located north of University Avenue. Strata exposed in this cut slope are assigned to the Mission Valley Formation and consist of a basal unit of light gray, cross-bedded sandstones, overlain by a 4.5 foot thick, fossil-bearing bed composed of light gray sandstone that grades upwards into a green and brown sandy mudstone. This sandy mudstone stratum is overlain by 30 feet of light gray, medium-grained, generally massive sandstone with occasional green and rust-colored siltstone interbeds. The fossils recovered from this locality were described by Walsh (1996) and formerly named the Cloud 9 Fauna after the name of a business formerly located at the discovery site. A more complete discussion of these fossils is provided below.

RESULTS OF THE PEDESTRIAN SURVEY

The pedestrian survey of the project site confirmed the geologic mapping of Kennedy and Tan (2008) and the findings of Ninyo & Moore (2011) as relates to the occurrence of paleontologically sensitive geologic rock units. Good exposures of the Eocene-age Mission Valley Formation were seen in the northern portion of the project site, while younger Quaternary alluvial deposits were observed in the south-central portion of the project site. These observations are discussed more fully below (Figure 3).

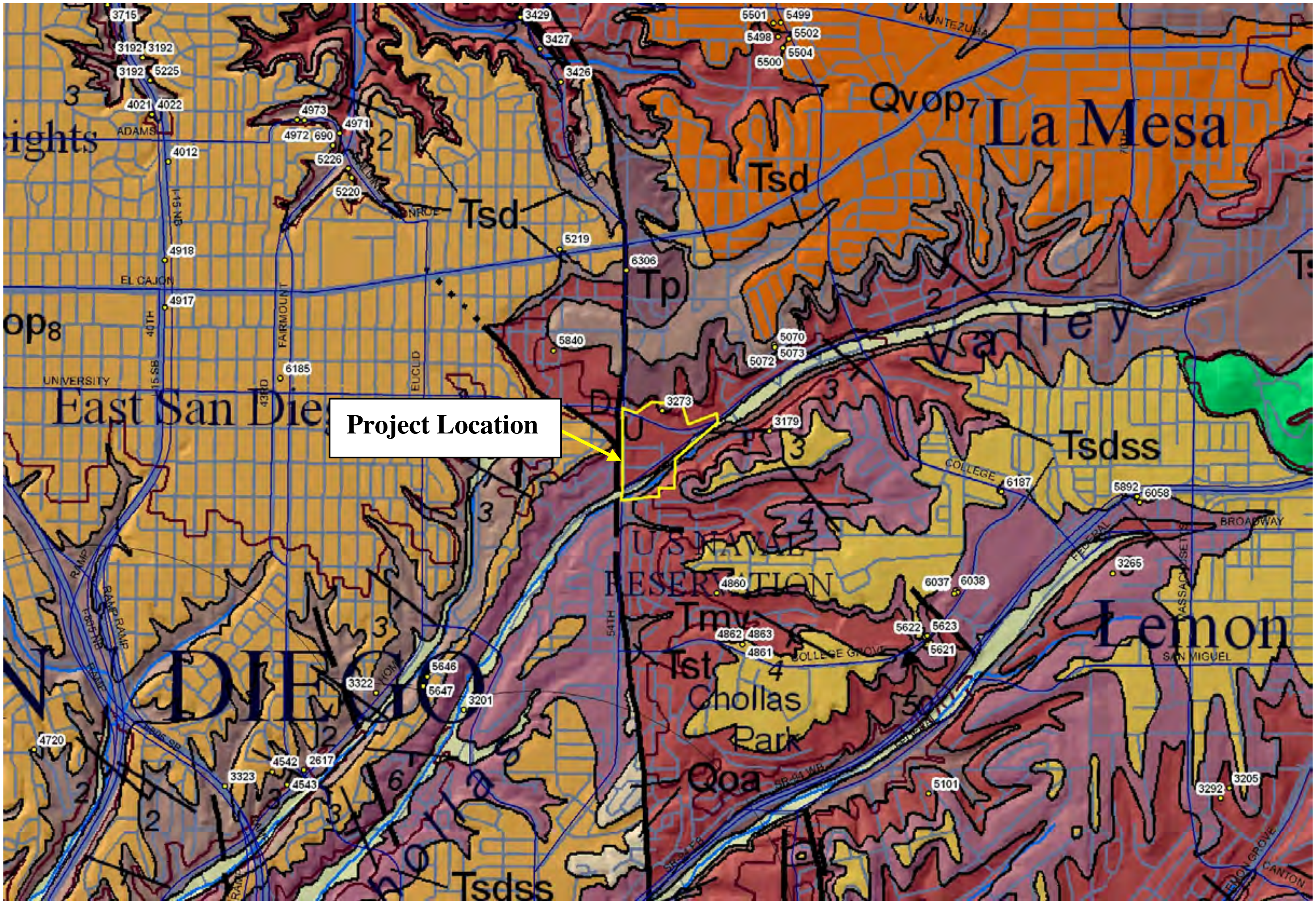

Figure 3. Geology of the project site and vicinity as mapped by Kennedy and Tan (2008), City of San Diego, San Diego County, California. Colors represent the areal distribution of mapped geologic rock units: Quaternary older alluvium (Qoa), Quaternary very old paralic deposits (Qvop), San Diego Formation (Tsd, Tsdss), Pomerado Conglomerate (Tp), Mission Valley Formation (Tmv), and Stadium Conglomerate (Tst). The North-South solid black line crossing the map shows the main trace of the La Nacion Fault Zone. The white tags with four-digit numbers represent previously recorded fossil collecting localities.

PALEONTOLOGICAL RESOURCE ASSESSMENT

The following section provides a general overview of the types of geologic deposits located within the project area and their paleontological resource sensitivity.

Artificial Fill Materials

Introduction: The site-specific geotechnical report (Ninyo & Moore, 2011) reported that modern artificial fill materials cover large areas of the project site. These fill materials presumably were derived from earlier construction activities and were placed in such a way as to provide topographically high areas for current and future development.

Paleontology: No fossils of paleontological interest are located in artificial fill materials. Any contained organic remains have lost their original stratigraphic/geologic context due to the disturbed nature of the artificial fill materials.

Site Specific Assessment: Artificial fill materials are assigned a zero paleontological resource sensitivity due to the loss of the stratigraphic/geologic context of any contained organic remains (e.g., fossils).

Quaternary Alluvium (Qya)

Introduction: Holocene- and late Pleistocene-age alluvial deposits "have been mapped as underlying the Chollas Creek drainage along the southern edge of the site, adjacent to Chollas Parkway" (Ninyo & Moore, 2011). Site-specific geotechnical investigations indicate that these alluvial deposits consist of "poorly sorted, poorly consolidated, permeable alluvial deposits of sand, silt, or clay. Scattered layers of gravel and cobbles are also likely to be present within the alluvium" (Ninyo & Moore, 2011).

Paleontology: Fossils are generally unknown from the younger alluvial deposits in the Coastal Plain of San Diego County. The Holocene age of these deposits indicates they are too young to contain true fossil remains or traces. Consequently, they do not represent significant paleontological resources.

Site Specific Assessment: Quaternary alluvial deposits occur within the modern drainages associated with Chollas Creek along the southern boundary of the project site. Based on its post-Pleistocene age, younger alluvium is assigned a low paleontological resource sensitivity.

Mission Valley Formation (Tmv)

Introduction: Eocene-age sedimentary rocks of the Mission Valley Formation underlie the majority of the project site (Kennedy and Tan, 2008; Ninyo & Moore, 2011). Good exposures of this rock unit occur in the northern portion of the project site north of University Avenue, while vegetation covered exposures occur in the southern portion of the site south of Chollas Parkway. In other areas of the project site the Mission Valley Formation is covered by Quaternary alluvium and artifical fill materials.

The Mission Valley Formation in its type area in nearby Mission Valley consists of light gray, fine-grained marine sandstones (Kennedy and Moore, 1971). In the eastern and southern portions of its area of outcrop, the formation largely consists of light gray, medium-grained, fluvial sandstones and green and brown non-marine mudstones. The formation reaches its maximum known thickness of approximately 200 feet in Mission Valley and is approximately 45 feet thick in the northeastern part of Tierrasanta, approximately 60 feet thick at Scripps Ranch, and from there it steadily thins to the east. The Mission Valley Formation is overlain by the Pomerado Conglomerate north of La Mesa and by the Sweetwater Formation south of SR-94. It is noteworthy that although Kennedy and Tan (2008) mapped the Pomerado Conglomerate in the northernmost portion of the project site, the project-specific geotechnical report (Ninyo & Moore, 2011) did not recognize these strata. To be consistent the present report follows this usage.

Paleontology: Fossil mammals locally occur in strata of the Mission Valley Formation as exposed in the eastern part of the City of San Diego (e.g., the College area, San Carlos, Fletcher Hills, and East San Diego) (Lillegraven and Wilson, 1975; Golz and Lillegraven, 1977; Walsh, 1987, 1996). One particularly rich fossil collecting locality (SDNHM Locality 3273) occurs within the project site and has yielded well-preserved remains of Eocene-age land mammals, including opossums (e.g., *Peratherium* sp. cf. *P. innominatum*, and *Peradectes californicus*), insectivores (e.g., *Apatemys* sp., *Batodonoides powayensis*, *Centetodon* sp., *Proterixoides davisi*, and *Sespedectes singularis*), rodents (e.g., *Simimys* sp., *Pareumys* sp., *Eohaplomys* sp., cf. *Leptotomus* sp., *Microparamys woodi*, and *Sciuravus powayensis*), primates (e.g., *Ourayia* sp., *Dyseolemur* sp. cf. *D. pacificus,* and *Uintasorex* sp.), and artiodactyls (e.g., *Protoreodon* sp. and *Protylopus* sp.). Other fossils collected from this locality include remains of bony and cartilaginous fish, tryonichid (soft-shell) turtle, tortoise, crocodile, snake (including boa material), lizard, and other squamate reptiles.

Historically, the marine strata of the Mission Valley Formation have produced generally well-preserved remains of marine microfossils (e.g., foraminifers), macroinvertebrates (e.g., clams, snails, crustaceans, and sea urchins), and vertebrates (e.g., sharks, rays, and bony fish) (Givens and Kennedy, 1979; Roeder, 1991). Non-marine strata of the Mission Valley Formation have produced well-preserved examples of petrified wood and fairly large and diverse assemblages of fossil land mammals including opossums, insectivores, bats, primates, rodents, artiodactyls, and perissodactyls (Walsh, 1996). The co-occurrence in the Mission Valley Formation of land mammal assemblages with assemblages of marine microfossils, mollusks, and vertebrates is extremely important as it allows for the direct correlation of terrestrial and marine faunal time scales. The Mission Valley Formation represents one of the few instances in North America where such direct correlations are possible (Walsh, 1996).

Site Specific Assessment: During the pedestrian survey, good exposures of the Mission Valley Formation were observed in the existing cut slope behind the building located at 5538 University Avenue, in the northern portion of the project site (Figures 4 and 5). This cut slope exposes approximately 41 feet of light gray, poorly sorted, fine to coarse grained sandstone capped by at least 6.5 feet of iron-oxide stained conglomerate (Figure 6).

Because there is an existing paleontological collecting locality within the project boundaries, and following the paleontological guidelines developed by the City of San Diego, the Mission Valley Formation is assigned a high paleontological resource sensitivity rating. Given the mapped geology and the existing paleontological locality, there is potential for continued fossil remains to be encountered during grading of the project site. Both the marine and nonmarine strata of the Mission Valley Formation are assigned a high paleontological resource sensitivity because of their potential to contribute information important to our understanding and interpretation of the paleontological record of the City of San Diego.

Figure 4. Outcrop of Mission Valley Formation located in an existing cut slope on the north side of University Avenue, east of the intersection with 54th Street, behind an occupational services business at 5538 University Avenue.

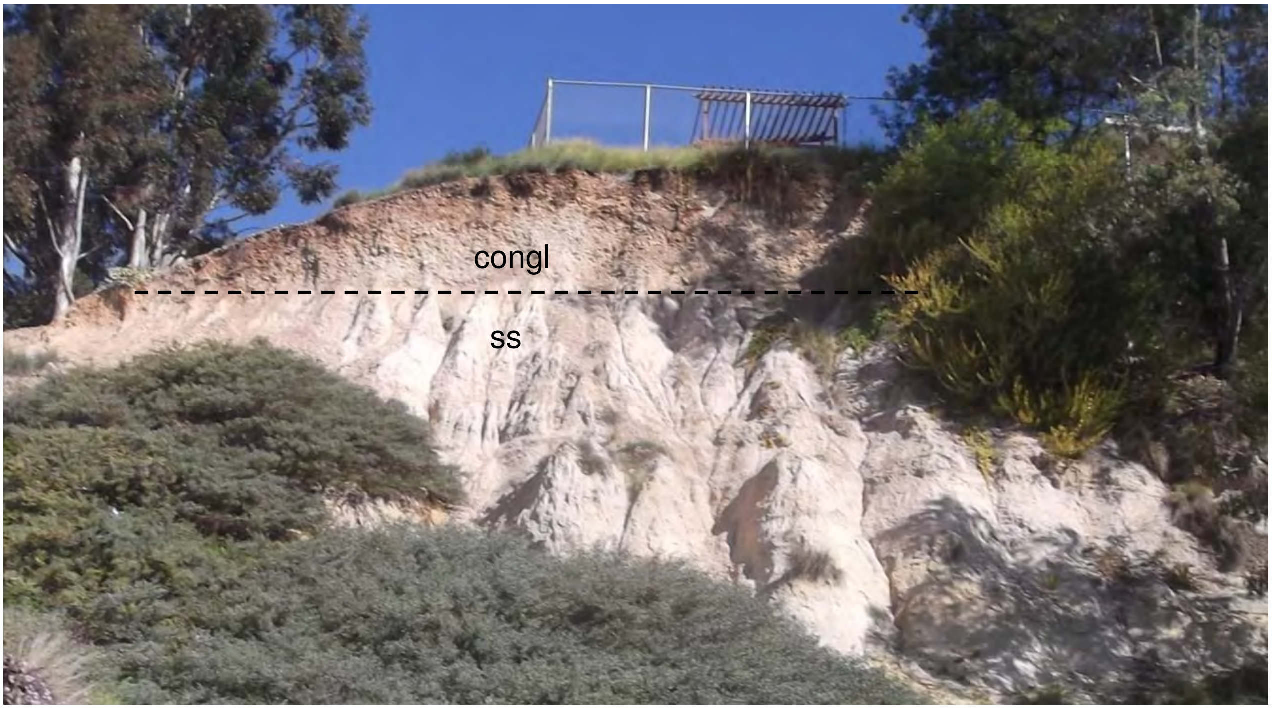

Figure 5. Upper portion of the Eocene stratigraphic section exposed at 5538 University Avenue. The section consists of light gray sandstone strata (ss) overlain by a reddish conglomeratic layer (congl).

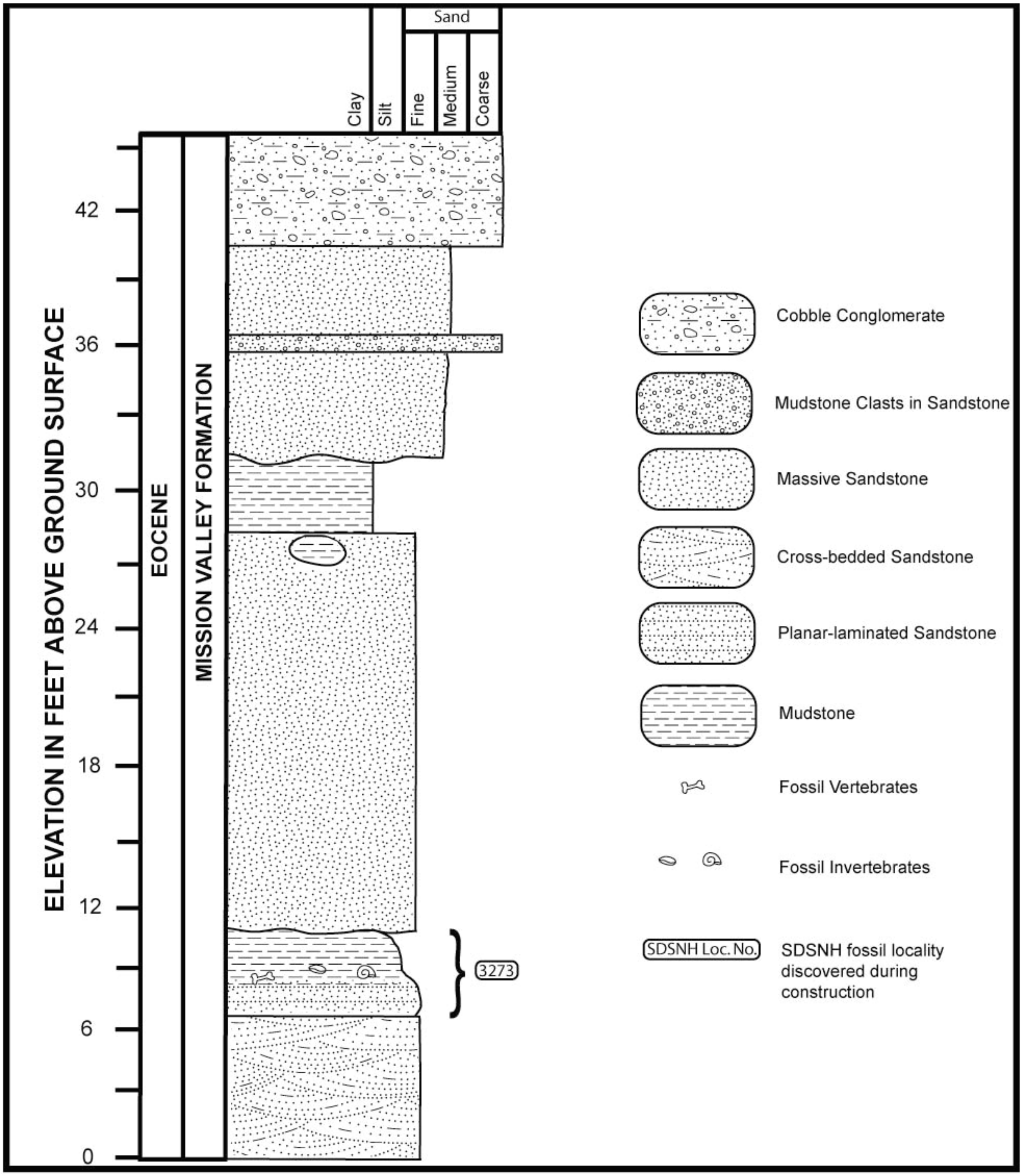

Figure 6. Modified from Walsh (1987). Composite stratigraphy at SDSNH Locality 3273, detailing strata observed within the outcrop located on the north side of the road at 5538 University Avenue.

IMPACT ANALYSIS

INTRODUCTION

Direct impacts to paleontological resources occur when earthwork activities, such as mass grading operations, cut into the geological deposits (formations) within which fossils are buried. These direct impacts are in the form of physical destruction of fossil remains. Since fossils are the remains of prehistoric animal and plant life they are considered to be nonrenewable. Such impacts can be significant and, under CEQA guidelines, require mitigation.

Impacts to paleontological resources are typically rated from high to zero depending upon the resource sensitivity of impacted formations.

High significance

Impacts to high sensitivity formations (Mission Valley Formation).

Moderate significance

Impacts to moderate sensitivity formations (none within the project site).

Low significance

Impacts to low sensitivity formations (Quaternary Alluvium).

Zero significance

Impacts to formations with no fossil potential (artificial fill).

SITE SPECIFIC IMPACTS

Preliminary plans for the Chollas Triangle Master Plan project site designate areas for development and open space. Any excavations into the potentially fossil-bearing strata of the Mission Valley Formation should be mitigated. These potential negative impacts to paleontological resources can be reduced to below the level of significance through implementation of a paleontological mitigation plan as outlined below.

MITIGATION MEASURES

1. A qualified paleontologist should attend the pre-construction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues. (A qualified paleontologist is defined as an individual with a MS or Ph.D. in paleontology or geology that is familiar with paleontological procedures and techniques, who is knowledgeable in the geology and paleontology of San Diego County, and who has worked as a paleontological mitigation project supervisor in the county for at least one year.)
2. A paleontological monitor should be on-site on a full-time basis during the original cutting of previously undisturbed deposits of high paleontological resource potential (Mission Valley Formation) to inspect exposures for contained fossils. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor should work under the direction of a qualified paleontologist.)

3. When fossils are discovered, the paleontologist (or paleontological monitor) should recover them. In most cases this fossil salvage can be completed in a short period of time. However, some fossil specimens (such as a complete large mammal skeleton) may require an extended salvage period. In these instances the paleontologist (or paleontological monitor) should be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovering of small fossil remains, such as isolated mammal teeth, it may be necessary to set up a screen-washing operation on the site.
4. Fossil remains collected during monitoring and salvage should be cleaned, repaired, sorted, and cataloged as part of the mitigation program.
5. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, should be deposited (as a donation) in a scientific institution with permanent paleontological collections such as the San Diego Natural History Museum. Donation of the fossils should be accompanied by financial support for initial specimen storage.
6. A final summary report should be completed that outlines the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

REFERENCES

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APPENDIX: SDSNH Locality Data

DATE 02/05/13
TIME 01:57:20

SAN DIEGO NATURAL HISTORY MUSEUM
DEPARTMENT OF PALEONTOLOGY
LOCALITY CARD

LOCALITY #- 3273

LOCALITY # 3273
LOCALITY NAME Cloud 9 Bar
FIELD NUMBER

LOCATION
COUNTRY U.S.A.
STATE CA
COUNTY San Diego
CITY San Diego

SECT	TWNSP	DIREC	RANGE	DIR
27	16	S	2	W

LOCATION IN SECTION

ELEVATION 330 FT

LATITUDE 32°44'56"N VARIANCE
LONGITUDE 117° 4'34"W

UTM 11 492870 3623248 VARIANCE

MAP NAME National City, CA
MAP SCALE 1:24000 DATUM NAD1927
MAP SOURCE USGS 1967/1975

STRATIGRAPHIC POSITION
GROUP Poway Group
FORMATION Mission Valley Formation
MEMBER
INFORMAL NAME

ERA Cenozoic
SYSTEM Paleogene
SER/EPOCH middle Eocene
AGE/STAGE
NALMA late Uintan
ZONE NAME

LITHOLOGY sdst
DEPOSITIONAL ENVIRONMENT
CITATION
Kennedy, M.P. & G.L. Moore, 1971, AAPG Bull., 55:709-722.
DONATED BY
0

FIELD NOTES
COLLECTOR
Stephen L. Walsh and Mark A. Roeder 13 Jan 1986
COMPILED BY
S.L. Walsh 15 Jul 1986

PHOTOS ACCESS NO.

ENTERED BY
H.P. Don Vito 18 May 1995

LOCALITY DESCRIPTION

Vertebrate fossils including crocodile, boa, and various mammals from a bed about 3-4 meters above lot level exposed in a large south-facing aritficial cut in white sandstones. Locality is approximately 40 meters due north of the Cloud Nine Bar at 5506 University Avenue, and approximately 265 meters due east of the intersection of University and 54th Street. The fossiliferous bed is about 1 meter thick; it's base is green muddy sandstone that is graduational with the underlying white medium-grained sandstone. This part of the bed grades upward to greenish sandy mudstone, and finally brownish, very slightly sandy, conchoidally fracturing mudstone. This bed is erosionally overlain by more white sandstone. The bed extends laterally from its pinchout about 25 meters east of the main quarry site to at least 40 meters north, into the hill. Most of this fossiliferous bed is now covered by artificial fill, but the easternmost few meters can still be seen. Roughly 8300 lbs. of bulk matrix was taken from this bed by Walsh and Roeder. Most fossils were concentrated in the lower 2/3 of the bed. The collections of bulk matrix can be assigned to two field numbers. "SLW-1/13/86" is the field nubmer of the 2705 kg of matrix collected by Walsh and Mark Roeder on 1/13/86 and 1/14/86, from the "main quarry." This sample included all lithological of the graded fossiliferous bed. "SLW-1/18/86" is the field number assigned to the 1205 kg of the matrix taken purely from the lower 2/3 of the fossiliferous bed, located about 10 meters laterally to the east o the "main quarry," on 1/18, 1/19 and 1/25, 1986.

"SLW-1/13/86" contains batches 1-27, each batch being 100 kg except for Batch 27 which was 105 kg. SLW-1/18/86 contains Batches 28-39. Batch 30 was 105 kg. Total mass of matrix washed was 3910 kg.

Formation: Mission Valley Formation of Kennedy and Moore (1971). Section: Sec. 27 (projected), T16S, R2W

Lat. and Long.: 32 degrees 44' 55.1" +/- .5" N lat.; 117 degrees 04' 33.6" +/- .5" W Long.

Elevation: approx. 330'

Collected: Stephen L. Walsh and Mark A. Roeder, Jan 13-14, 1986 and Jan 18, 19, 25, 1986.

Citation con't: Walsh, S.L., 1995, "Middle Eocene Mammal Faunas of San Diego County, California" in The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press.

DONATED: Stephen L. Walsh, 3 Feb 1989.

LOCALITY 3273

SAN DIEGO NATURAL HISTORY MUSEUM
DEPARTMENT OF PALEONTOLOGY
LOCALITY 3273 CLOUD 9

LOCALITY NUMBERS 3273	SPECIES
3	Mollusca
12	Gastropoda
1	Pelecypoda
2	Chordata
1	Chondrichthyes
247	Mammalia
1	*Apatemys* sp.
1	*Protoreodon* sp.
1	cf. *Protoreodon* sp.
1	*Protylopus* sp.
1	Carnivora
13	*Uintasorex* sp.
1	cf. *Uintasorex* sp.
10	Insectivora
19	*Proterixoides* *davisi* Stock, 1935
6	cf. *Proterixoides* sp.
374	*Sespedectes* *singularis* Stock, 1935
2	*Batodonoides* *powayensis* Novacek, 1976
13	cf. *Batodonoides* sp.
4	*Centetodon* sp.
1	cf. *Centetodon* sp.
45	*Peradectes* *californicus* (Stock, 1936)
37	cf. *Peradectes* sp.
5	*Peratherium* sp. cf. P. *innominatum* Simpson, 1928
23	Didelphidae/Geolabididae
4	*Dyseolemur* sp. cf. D. *pacificus* Stock, 1934
2	*Ourayia* sp. cf. O. *uintensis* (Osborn, 1895)
6	Rodentia
874	*Simimys* sp.
4	cf. *Simimys* sp.
16	*Pareumys* sp.
2	*Eohaplomys* sp.
3	cf. *Leptotomus* sp.
41	*Microparamys* *woodi* Kelly and Whistler, 1994
8	*Sciuravus* *powayensis* Wilson, 1940
60	Osteichthyes
1	Osteichthyes?
1	Testudinidae
1	Trionychidae
3	Testudinidae
54	Crocodylia
10	Crocodylia?
30	Squamata
140	Serpentes
7	Boidae

APPENDIX I

WATER SUPPLY ASSESSMENT

2014000383

THE CITY OF SAN DIEGO

MEMORANDUM

DATE: May 28, 2014

TO: Kerry Santoro, Assistant Deputy Director, Development Services Department

FROM: Seevani Bista, Senior Water Resources Specialist, Public Utilities Department

SUBJECT: Water Supply Assessment Report (WSA) for the Chollas Triangle Community Plan Amendment and Rezone Project

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In response to your request, please find attached WSA for the Chollas Triangle Community Plan Amendment and Rezone Project approved by Deputy Director of the Long-Range Planning and Water Resources Division, Public Utilities.

The Public Utilities Department (Department) prepared this WSA to assess whether sufficient water supplies are or will be available to meet the projected water demands of the project. The findings verify that there is sufficient water supply to serve existing demands, projected demands of the project, and future water demands within the Department's service area in normal and dry year forecasts during a 20-year projection.

Should there be any comments on the WSA at the conclusion of the public review process for the Chollas Triangle EIR, please forward your comments for our review. Please provide us a copy of the EIR after the City Council approval.

If you have any questions, please call me at (619) 533-4222.

Seevani Bista

SB/tm

Attachment: Water Supply Assessment Report

cc: Ray Palmucci, Deputy City Attorney, Office of the City Attorney
Marsi A. Steirer, Deputy Director, Public Utilities Department
George Adrian, P.E., Principal Water Resources Specialist, Public Utilities Department
Anna McPherson, Senior Planner, Development Services Department
Michael Prinz, Associate Planner, Planning, Neighborhoods & Economic Development Department
Anas Kaziha, Junior Engineer-Civil, Public Utilities Department
RMS 6.8.4

City of San Diego
PUBLIC UTILITIES
Water & Wastewater

WATER SUPPLY ASSESSMENT REPORT

Chollas Triangle Community Plan Amendment and Rezone Project

Prepared by:

City of San Diego Public Utilities Department

Reviewed by:

Marsi A Steirer May 28, 2014

Marsi A. Steirer, Deputy Director **Date**
Long-Range Planning & Water Resources Division

Prepared: May 2014

City of San Diego Public Utilities Department
Water Supply Assessment Report

Chollas Triangle Community Plan Amendment and Rezone Project

Table of Contents

Section 1 - Purpose

On January 1, 2002, Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) took effect. The intent of SB 610 and SB 221 was to improve the link between information on water supply availability and certain land-use decisions made by cities and counties. Under SB 610 (codified in the Water Code beginning at Section 10910), a water supply assessment (WSA) must be furnished to cities and counties for inclusion in any environmental documentation of projects (defined in the Water Code) that propose to construct 500 or more residential units, or that will use an amount of water equivalent to what would be used by 500 residential units, and are subject to the California Environmental Quality Act (CEQA). Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply or water supply verification (WSV).

Not every project that is subject to the requirements of SB 610 is also subject to the mandatory water verification of SB 221 (e.g., if subdivision map approval is not required). Conversely, not every project that is subject to the requirements of SB 221 must also obtain a SB 610 water supply assessment.

A foundational document for compliance for both SB 610 and SB 221 is the Urban Water Management Plan (UWMP) of the relevant water agency. Both of these statutes repeatedly identify the UWMP as a planning document that can be used by a water supplier to meet the standards set forth in both statutes. Thorough and complete UWMPs will allow water suppliers to use UWMPs as a foundation to fulfill the specific requirements of the two statutes. Cities, counties, water districts, property owners and developers utilize this document when planning for and proposing new projects. It is crucial that cities, counties and water suppliers work closely when developing and updating these planning documents. The City of San Diego’s 2010 UWMP, which is used as the basis for this Report (WSA), was adopted by the San Diego City Council in June 2011.

The City of San Diego (City) Development Services Department (DSD) requested that Public Utilities Department (Department) prepare this WSA as part of the environmental review for the Chollas Triangle Community Plan Amendment and Rezone Project (Project). A more detailed description of the Project is provided in Section 2 of this WSA. This WSA evaluates water supplies that are or will be available during normal, single-dry year, and multiple-dry water years during a 20-year projection to meet the projected demands of the Project, in addition to existing and planned future water demands of the Department. This WSA provides an assessment of the availability of sufficient water supplies for the Project only, and does not constitute approval of the Project.

This WSA also includes identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply for the Project and quantities of water received in prior years pursuant to those entitlements, rights, contracts and agreements.

This Report has been prepared in compliance with the requirements under SB 610 by the Department in consultation with DSD, the San Diego County Water Authority (Water Authority) and the Metropolitan Water District of Southern California (MWD).

Section 2 - Project Description

The project is an amendment to the General Plan and Mid-City Communities Plan – eastern area to redesignate approximately 12.5 acres of commercial mixed use, and approximately 3.4 acres of industrial to neighborhood village in an approximately 36 acre area between University Avenue to the north, Chollas Creek and Chollas Parkway to the south and east, and 54th Street to the west. The neighborhood village land use designation would allow for the development of multi-family housing in a mixed-use setting along with convenience shopping and services. The amendment would also revise the Future Recommended Street Network to vacate the approximately 11.4 acre Chollas Parkway and designate approximately 5.4 acres as population-based park land, with the remaining land being designated as open space. The proposed project would also include a rezone of the current commercial community (CC)-5-3 and industrial-light (IL)-3-1 zones to zones consistent with the new land use designations as recommended in the General Plan.

The project site is the existing Chollas Triangle Community that presently consists of a San Diego Gas & Electric (SDGE) substation, three (3) single-family homes south of Lea Street, a gas station, 21 multi-family housing units, a Teen Challenging Center with a group quarters facility that consists of 50 beds, a 60,000 square-foot K-mart, a 40,000 square-foot grocery store, and a commercial use facility. In addition, the project boundary also includes several existing buildings; Alvarado Parkway Institute (behavior health system), a veterinary hospital, a massage facility, recycling center and six (6) multi-family units that were not included in the original community plan. This redevelopment project is proposed to enhance the quality of the existing Chollas Triangle Community by adding and revising the following mixed-uses at build-out:

- 486 multi-family dwelling units
- 130,000 square feet of non-residential developments (mixture of retail, office and other commercial uses)
- 5.4 acres as population-based park land that serves the population of the community

The project site and project zoning map is shown in Figure 2-1 and Figure 2-2.

FIGURE 2-1
VICINITY MAP OF THE PROJECT

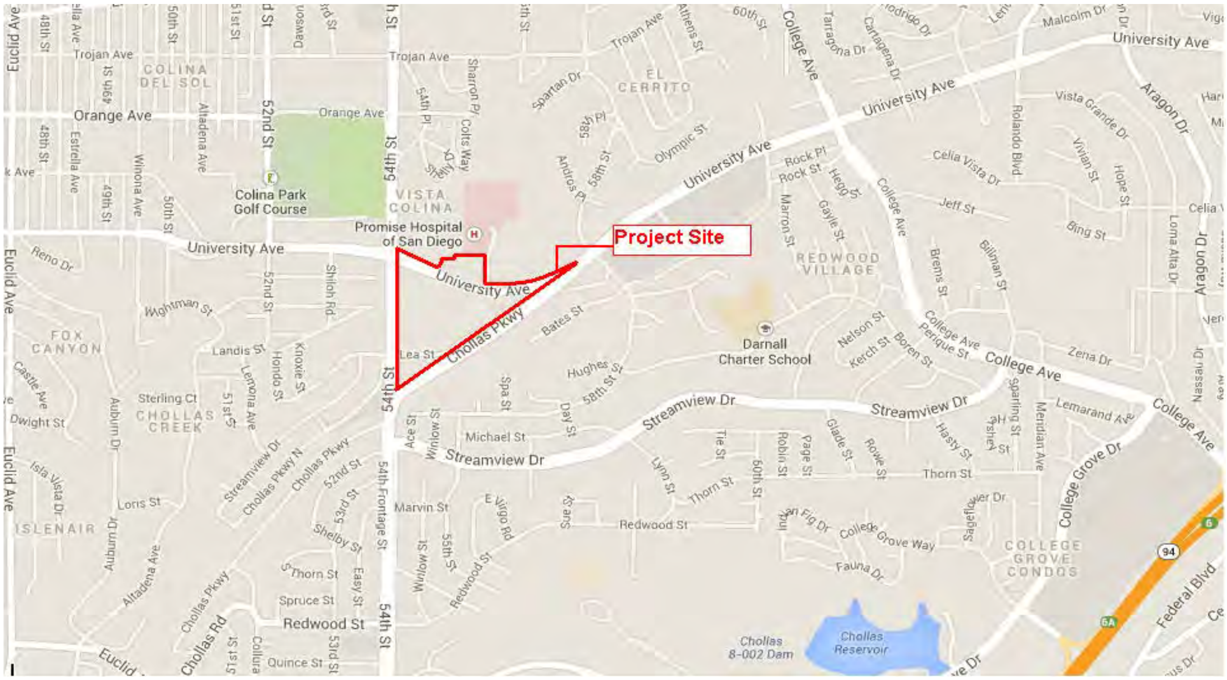
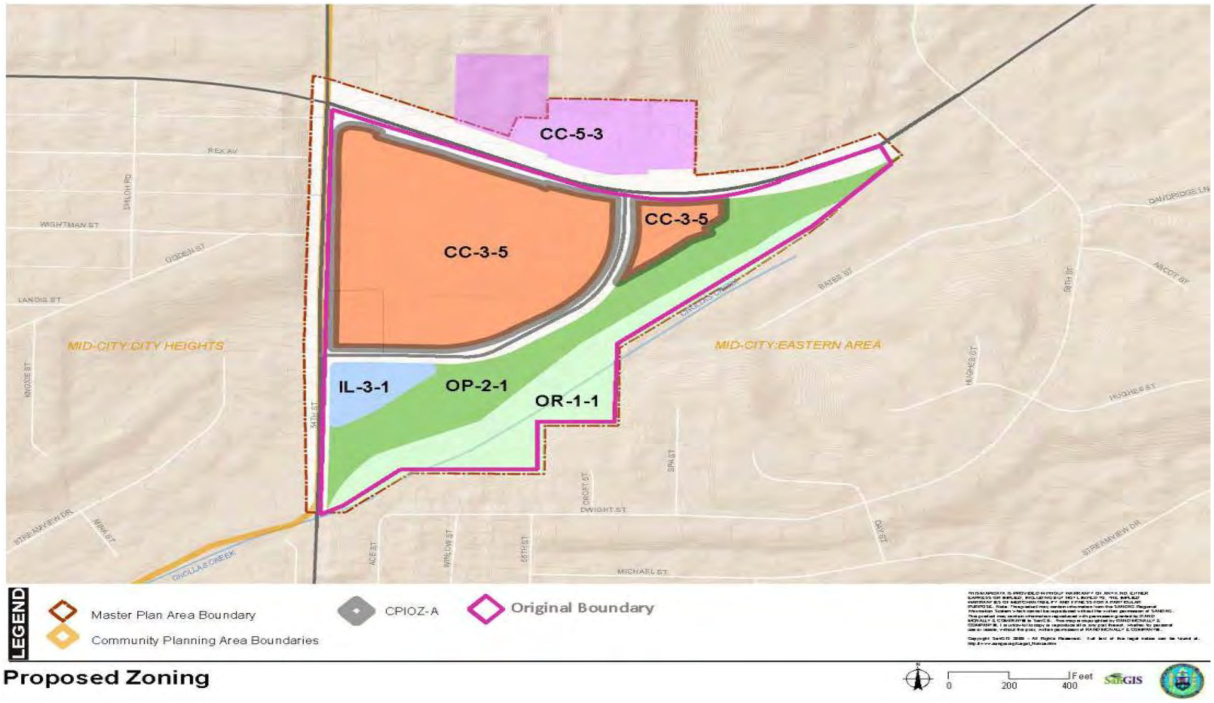


FIGURE 2-2
ZONING MAP OF THE PROJECT



The project proposes the following developments:

Residential

The proposed residential development plan consists of 486 multi-family units within the community, and an additional three (3) single-family homes at build-out.

Commercial

The proposed project will potentially produce 130,000 square foot of existing and new non-residential commercial area at build-out. The additional commercial use could include a mixture of retail, office spaces, and other commercial uses.

Landscape and Recreation

The amendment would also revise the Future Recommended Street Network to vacate the approximately 11.4 acre Chollas Parkway designating approximately 5.4 acres as population-based park land, with the remaining land being designated as open space. The landscaped areas will be kept indigenous to the San Diego River region. Low water use plants will be used in the landscaping around the project site.

A comparison of the proposed and existing development within the proposed project boundary is tabulated below in Table 2-1.

TABLE 2-1

PROPOSED AND EXISTING DEVELOPMENT

Chollas Triangle Area of Change - Land Use Information				
	Existing		Proposed	
Area (in acres)	Designation	Zone	Designation	Zone
12.5	Commercial Mixed-Use	CC-5-3	Neighborhood Village	CC-3-5
3.4	Industrial	IL-3-1	Neighborhood Village	CC-3-5
5.4	Industrial	IL-3-1	Park	OP-2-1
5.6	Industrial		Open Space	OR-1-1

Chollas Triangle Dwelling Unit Information		
	Existing	Proposed
Single-Family	3	3
Multi-Family	21	486
Teenage Challenge Center	26,000 square feet	-
Commercial	152,000 square feet	130,000 square feet

Section 3 - Findings

Water Assessment

Project: This Report identifies that the water demand projections for the Project, are included in the regional water resource planning documents of MWD, Water Authority, and a portion contained in the City's 2010 UWMP. Current and future water supplies, as well as actions necessary to develop the future water supplies, have been identified. This Report demonstrates that there will be sufficient water supplies available during normal, single-dry year, and multiple-dry water years during a 20-year projection to meet the unanticipated projected demands of the Project. This is done by utilizing the demand increment associated with the accelerated forecasted growth in the Water Authority's 2010 UWMP as described below, and in the City's 2010 UWMP.

The Water Authority's 2010 UWMP provides for a comprehensive planning analysis at a regional level, and includes water use associated with accelerated forecasted residential development as part of its municipal and industrial sector demand projections. These housing units were identified by the San Diego Association of Government (SANDAG) land use plan in the course of its regional housing needs assessment, but are not yet included in existing general land use plans of local jurisdictions. The demand associated with accelerated forecasted residential development is intended to account for SANDAG's land-use development currently projected to occur between 2035 and 2050, but has the likely potential to occur on an accelerated schedule. SANDAG estimates that this accelerated forecasted residential development could occur within the planning horizon (2010 to 2035) of the 2010 UWMP. These units are not yet included in local jurisdictions' general plans, so their projected demands are incorporated at a regional level. When necessary, this additional demand increment, termed Accelerated Forecasted Growth, can be used by member agencies to meet the demands of development projects not identified in the general land use plans.

As demonstrated in Table 3-1 of this Report, prepared by the Department in compliance with the requirements of SB 610 using the City's and Water Authority's 2010 UWMP based upon SANDAG Series 12 Forecast land use, there is sufficient water planned to supply the Project's estimated annual average usage. The projected water demands of the Project are 111,816 gallons per day or 125.23 acre feet per year (AFY). In the City's 2010 UWMP, the planned water demands of this project site are 98,728 gallons per day or 110.58 AFY. The remaining portion of the estimated 13,088 gallons per day or 14.7 AFY is accounted for through the Accelerated Forecasted Growth demand increment of the Water Authority's 2010 UWMP. As documented in the Water Authority's 2010 UWMP, the Water Authority is planning to meet future and existing demands which include the demand increment associated with the accelerated forecasted growth. The Water Authority is assisting its member agencies in tracking the certified Environmental Impact Reports (EIRs) provided by the agencies that include water supply assessments that utilize the accelerated forecasted growth demand increment, to demonstrate adequate supplies for the development. In addition, the next update of the demand forecast for the Water Authority's 2015 UWMP will be based on SANDAG's most recently updated forecast, which will include the Project.

Existing and Future Developments Planned to occur by 2035: The City's 2010 UWMP demonstrates there will be sufficient water supplies available to meet demands for existing and planned future developments that are projected to occur by 2035. Based on a normal water supply year, the estimated water supply projected in five-year increments for a 20-year projection will meet the City's projected water demand of 240,472 acre-feet[A] (AF) in 2015 to 298,860 AF in 2035 (**Table 6-5**) for these developments. Similarly, based on a single-dry year forecast (**Table 6-7**), the estimated water supply will meet the projected water demand of 318,586 AF (2035). Based on a multiple-dry year, third year supply (**Table 6-8**), the estimated water supply will meet the projected demands of 281,466 AF (2015); 303,004 AF (2020); 322,166 AF (2025); 334,720 AF (2030); and 346,823 AF (2035).

Therefore, based on the findings from the City's 2010 UWMP and the Water Authority's 2010 UWMP, this project will result in no unanticipated demands.

TABLE 3-1
WATER DEMAND ANALYSIS

Planned Water Demands for the Project Site included in the 2010 UWMP				
Category	**Quantity**		**Estimated Potable Water Use in**	
			Gallons per Day (GPD)	**Acre-Feet per Year (AFY)**
2035				
Employees[1]	*478*		*28,680*	*32.12*
Multi-family Units[2]	*398*		*70,048*	*78.45*
		Total	*98,728*	*110.58*
Projected Water Demands for Chollas Triangle				
	Square-Feet	**employee/Units**	**GPD**	**AFY**
Commercial Development[1,4]	130,000	260	15,600	17.47
Multi-family Units[2]	486		85,536	95.80
Landscaping[5]	235,224		10,680	11.96
		Total	111,816	125.23
Net Water Demands			**Acre-Feet per Year (AFY)**	
Projected			125.2	
City of San Diego 2010 UWMP - Planned			110.6	
Planned from Water Authority's Accelerated Forecasted Growth[6]			14.7	
Unanticipated Demand			0	

Table 3-1 Notes:

1. The utilization of 60 gallons per person per day is the City's acceptable standard for employment water use (Includes nominal landscaping water demand).
2. 80 gallons per person per day is the City's acceptable standard for multi-family water consumption (includes landscaping water demands). The person per household (residential) is 2.2 based on City wide average.
3. Includes existing developments that were not included in the original community plan. Data for the existing developments is estimated based on commercial and residential footprint.
4. Number of retail employees estimated at 500 square-feet per employee (City data).
5. Landscaping water demands are based on City's on-line landscaping watering calculator (http://apps.sandiego.gov/landcalc/start.do).

[A] An acre-foot of water equals 325,851 gallons, which is enough water for two average families of four for one year.

Conclusion

In summary, these findings substantiate that there is sufficient water supply planned to serve this Project's future water demands within the Department service area in normal, single-dry year, and multiple-dry water year forecasts.

Therefore, this Report concludes that the projected level of water use for this Project is within the regional water resource planning documents of the City, the Water Authority and MWD. Current and future water supplies, as well as the actions necessary to develop these supplies, have been identified in the water resources planning documents of the Department, the Water Authority, and MWD to serve the projected demands of the Project, in addition to existing and planned future water demands of the Department.

Section 4 - City of San Diego Public Utilities Department

The City of San Diego (City) purchased its initial water system in 1901 from the privately owned San Diego Water & Telephone Company. Since then, continual expansion of the water system has been required to meet the demands of the growing population of the City. To meet the demand, the Public Utility Department (Department) purchased a number of reservoirs between 1913 and 1935 to supplement local water supplies. Despite low annual precipitation for the area (approximately 10 inches per year), these reservoirs supplied the City's growing demands until 1940.

The need to import water emerged with the increased demand generated by the presence of the United States Navy prior to and during World War II, and the ensuing population growth. As a result, the Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from MWD. The Department and other local retail water distributors began receiving imported water from the Colorado River in 1947.

Today, the Department treats and delivers more than 200,000 AFY of water to more than 1.3 million residents. The water system extends over 404 square miles, including 342 square miles in the City. The Department potable water system serves the City and certain surrounding areas, including both retail and wholesale customers. The Project is located within the Department service area.

In addition to delivering potable water, the City has a recycled water program. Its objectives are to optimize the use of local water supplies, lessen reliance on imported water and free up capacity in the potable system. Recycled water provides the City a dependable, year-round, locally produced and controlled water resource.

4.1 Overview of Potable System Facilities

The water system consists of nine raw water storage facilities with over 408,000 AF of storage capacity, three water treatment plants, 28 treated water storage facilities, and more than 3,212 miles of transmission and distribution lines.

The Department maintains and operates nine local surface raw water storage facilities, which are connected directly or indirectly to the City's water treatment operations. The Lower Otay, Barrett, and Morena Reservoirs (135,349 AF total capacity) service the Otay Water Treatment Plant in south San Diego; the El Capitan, San Vicente, Sutherland, and Lake Murray Reservoirs (236,311 AF total capacity) service the Alvarado Water Treatment Plant in central San Diego; and the Miramar Reservoir (6,682 AF total capacity) services the Miramar Water Treatment Plant in north San Diego. Lake Hodges Reservoir has a total capacity of 30,251 AF and is connected to Olivenhain Reservoir, which is owned by Water Authority. Olivenhain Reservoir is connected to the Water Authority's second aqueduct. Through this connection, Hodges water can be delivered to all City treatment plants. The City has the ability to access 50 percent of the local water available in Hodges Reservoir via the Water Authority's delivery system.

The Department maintains and operates three water treatment plants with a combined total rated capacity of 378.4 million gallons per day (MGD). The Miramar Water Treatment Plant (Miramar WTP), originally constructed in 1962, has a rated capacity of 144 MGD with the ability to increase to 215 MGD after the replacement of the two old clearwells in 2016. The Miramar WTP generally serves the City's geographical area north of the San Diego River (north San Diego). The Alvarado Water Treatment Plant (Alvarado WTP), operational since 1951, had an initial capacity rating of 120 MGD. Several hydraulic improvements and upgrades were completed in 2011 which increased the capacity of the plant to 200 MGD. The California Department of Public Health (CDPH) has approved this rating for the Alvarado WTP. The Alvarado WTP generally serves the geographical area from National City to the San Diego River (central San Diego). The Otay Water Treatment Plant (Otay WTP) was constructed in 1940, and has a current rated capacity of 34.4 MGD, which meets current and short-term forecasted demands. The Otay WTP has hydraulic capacity to increase to 40 MGD in the future. In order to do so, approval from CDPH is required, based upon a future high filtration rate study. The Otay WTP generally serves the geographical area bordering Mexico (south San Diego) and parts of the southeastern portion of central San Diego. All upgrade work was completed in 2012 including the construction of a third flocculation and sedimentation basin, filter piping and media improvements.

The Department maintains and operates 28 treated water storage facilities including steel tanks, standpipes, concrete tanks and rectangular concrete reservoirs, with capacities varying from less than one to 35 million gallons.

The water system consists of more than 3,212 miles of pipelines, including transmission lines up to 84 inches in diameter and distribution lines as small as four inches in diameter. Transmission lines are pipelines 16 inches and larger in diameter that convey raw water to the water treatment plants and convey treated water from the water treatment plants to the treated water storage facilities. Distribution lines are pipelines 16 inches and smaller in diameters that directly service the retail users connected to a meter. In addition, the Department maintains and operates 49 water pump stations that deliver treated water from the water treatment plants to approximately 279,557 metered service connections in 128 different pressure zones. The Department also maintains several emergency connections to and from neighboring water agencies, including the Santa Fe Irrigation District (Miramar WTP), the City of Poway (Miramar WTP), Olivenhain Municipal Water District (Miramar WTP), the Cal-American Water Company (Alvarado and Otay WTP's), Sweetwater Authority (Otay WTP), and the Otay Water District (Otay WTP).

4.2 Overview of Recycled System Facilities

The City's recycled water system consists primarily of two water reclamation plants with a combined total wastewater treatment capacity of 45 million gallons per day (MGD), three recycled water storage facilities with over a million gallons (12 MG) of storage capacity, and more than 93 miles of transmission and distribution lines.

Located in the Miramar area, the North City Water Reclamation (NCWRP) treats an average of 16.5 MGD of wastewater, although the plant has an ultimate treatment capability of 30 MGD. In CY 2013, 7.0 MGD of the wastewater flows were treated to a tertiary level and 7.1 MGD was beneficially reused. The Department maintains and operates the Northern Service Area distribution system which consists of 91 miles of recycled water pipeline, two reservoirs, two pump stations, with service to 574 meters.

Located at the end of Dairymart Road, near the International Border with Mexico, the South Bay Water Reclamation Plant (SBWRP) treats an average of eight (8) MGD of wastewater, although the Plant has a treatment capability of 15 MGD. In CY 2013, an average of 3.9 MGD of the tertiary treated wastewater flows were beneficially reused. The Public Utilities Department maintains and operates the Southern Service Area distribution system which consists of three (3) miles recycled water pipeline, one storage tank, one pump station and seven (7) meters.

Section 5 - Existing and Projected Supplies

The Public Utilities Department (Department) relies on imported water as its major water supply source, and is a Water Authority member agency. The Water Authority is a member agency of MWD. The statutory relationships between the Water Authority and its member agencies, and MWD and its member agencies, respectively, establish the scope of the Department's entitlements to water from these two agencies. Due to the Department's reliance on these two agencies, this Report relies and includes information on the existing and projected supplies, supply programs, and related projects of the Water Authority and MWD.

The City of San Diego (City) relies on the long-term water resources planning documents of the Water Authority and MWD to support the work on this Report. These documents are available at the following websites and contacts:

San Diego County Water Authority

http://www.sdcwa.org/2010-urban-water-management-plan

Dana Friehauf, Principal Water Resources Specialist (858) 522-6749

Metropolitan Water District of Southern California

http://www.mwdh2o.com/mwdh2o/pages/yourwater/ywater01.html#RUWMP

MWD staff, (213) 217-6000

The Water Authority and MWD are actively pursuing programs and projects to diversify their water supply resources. A description of these efforts as well as the challenges facing the Water Authority and MWD can be found in the San Diego County Water Authority Official Statement, dated February 13, 2013, relating to Water Revenue Refunding Bonds 2013A, and MWD's Official Statement, dated March 13, 2014, relating to Water Revenue Refunding Bonds, 2014 Series A. These Official Statements are available at the following websites[1]:

http://www.sdcwa.org/sites/default/files/files/finance-investor/2013Bond.pdf

http://mwdh2o.com/mwdh2o/pages/finance/PDFs/2014-Ser.A-B-FOS.pdf

A brief overview of MWD and the Water Authority, including the Department relationship to these agencies, is included below.

A description of local surface and local recycled water supplies available to the Department can be found in Section 5.4 of this Report.

[A] This information is current at the time this document was prepared.

5.1 Metropolitan Water District of Southern California

MWD was created in 1928, under authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended) (the "MWD Act"). MWD's primary purpose is to provide a supplemental supply of wholesale water for domestic and municipal uses to its constituent agencies. The MWD service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. There are 26 member agencies of MWD, consisting of 14 cities, 11 municipal water districts and the Water Authority. A Board of Directors, currently numbering 37 members, governs MWD. Each constituent agency has at least one representative on the MWD Board. Representation and voting rights are based upon the assessed valuation of property within each constituent agency. The Water Authority has four members on the MWD Board and about 18 percent of the weighted vote. The total population of the MWD service area is currently estimated at approximately 19 million.

MWD's existing water supplies have been historically sufficient to meet demands within its service area during years of normal precipitation. Although MWD plans and manages reserve supplies to account for normal occurrences of drought conditions, regulatory restrictions, including but not limited to restrictions under the Federal and California Endangered Species Acts, have placed limitations on MWD's ability to provide water to its member agencies. In the future, population growth, regulatory restrictions, increased competition for low-cost water supplies, and other factors such as climate change could impact MWD's ability to supply its member agencies even in normal years.

<u>MWD Water Supply</u>

MWD's two major sources of water are from the Colorado River and the State Water Project (SWP).

<u>Colorado River Water:</u> The Colorado River was MWD's original source of water after its establishment in 1928. The Colorado River Aqueduct, which is owned and operated by MWD, is 242 miles long, starting at Lake Havasu and terminating at Lake Mathews in Riverside County. Under applicable laws, agreements and treaties governing the use of water from the Colorado River, California is entitled to 4.4 million acre-feet of Colorado River water annually, plus one-half of any surpluses that may be available for use collectively in Arizona, California and Nevada as declared on an annual basis by the United States Secretary of the Interior. Under the priority system that governs the distribution of Colorado River water made available to California, MWD holds the fourth priority right of 550,000 acre-feet per year and a fifth priority right of 662,000 acre-feet per year. MWD's fourth priority right is within California's basic annual apportionment of 4.4 million acre-feet; however, the fifth priority right is outside of this entitlement and therefore is not considered a firm supply of water. MWD also retains a "call" on 100,000 acre-feet per year on water transferred to the Coachella Valley Water District and the Desert Water Agency, if needed, so long as they pay for the financial obligations associated with the water during the call period.

Several fish species and other wildlife species either directly or indirectly have the potential to affect Colorado River operations, thus changing the amount of water deliveries to the Colorado River Aqueduct. A number of species that are on either "endangered" or "threatened" lists under the federal and/or California endangered species acts ("ESAs") are present in the area of the Lower Colorado River. MWD and other stakeholder agencies have developed a multi-species conservation program that allows MWD to obtain federal and state permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species.

State Water Project: The SWP is owned by the State of California and operated by the State Department of Water Resources (DWR). The SWP transports Feather River water stored in and released from Oroville Dam and unregulated flows diverted directly from the San Francisco Bay/Sacramento-San Joaquin Delta Estuary ("Bay-Delta") south via the California Aqueduct to four delivery points near the northern and eastern boundaries of MWD. The total length of the California Aqueduct is 444 miles. MWD is one of 29 agencies that have long-term contracts for water service from DWR, and is the largest agency in terms of the number of people it serves, the share of SWP water to which it is entitled, and the total amount of annual payments made to DWR. MWD's contract with DWR provides for the ultimate delivery of 1,911,400 acre-feet per year (46 percent of the total SWP entitlement). The SWP was originally intended to meet demands of 4.2 million acre-feet per year. Initial SWP facilities were completed in the early 1970s, and it was envisioned that additional facilities would be constructed as contractor demands increased. Several factors, including public opposition, increased costs, and increased non-SWP demands for limited water supplies, combined to delay the construction of additional facilities.

The quantity of SWP water available for delivery each year is controlled by hydrology, environmental and operational considerations. In addition to its importance to urban and agricultural water users, the Bay-Delta is of critical ecological importance. The Bay-Delta is the largest estuary on the west coast of the United States and provides habitat for more than 750 plant and animal species. One-hundred-fifty years of human activity have contributed to the destruction of habitat, the decline of several estuarine and anadromous fish species, and the deterioration of water quality. These activities include increasing water demands from urban and agricultural uses, the dredging and filling of tidal marshes, the construction of levees, urban runoff, agricultural drainage, runoff from abandoned mines, and the introduction of non-native species, thus affecting the supply and reliability of this source.

DWR has altered the operations of the SWP to accommodate species of fish listed under the ESAs. These changes in project operations have adversely affected SWP deliveries. The impact on total SWP operations attributable to the Delta smelt and salmon species biological opinions combined is estimated to be one million acre-feet in an average year, reducing SWP deliveries from approximately 3.3 million acre-feet to approximately 2.3 million acre-feet for the year under average hydrology, and are estimated to range from 0.3 million acre-feet during critically dry years to 1.3 million acre-feet in above normal water years. SWP deliveries to contractors for calendar years 2008 through 2012 were reduced by a total of approximately 2.3 million acre-feet as a result of pumping restrictions. Pumping restrictions impacting the SWP allocation for 2013 have reduced exports by approximately 596,000 acre-feet through calendar year 2013.[B]

5.2 San Diego County Water Authority

The Water Authority's service area lies within the foothill and coastal areas of the westerly third of San Diego County, encompassing 952,208 acres (1,488 square miles). When the Water Authority was established in 1944, its service area consisted of 94,707 acres. Growth has primarily resulted from the addition and annexation of service areas by member agencies. The City, with 210,726 acres, has the largest service area within the Water Authority's total service area. Of the total population of San Diego County, 97 percent live within the Water Authority's service area. The City represents approximately 43 percent of the total population of the Water Authority's service area.

The Water Authority's service area is a semi-arid region where the natural occurrence of water from rainfall and groundwater provides a firm water supply for only a small portion of the water demands of the current population. Since 1990, the Water Authority has provided an average of 85 percent of the water supply within its service area. As a wholesaling entity, the Water Authority has no retail customers, and only serves its member agencies.

The Water Authority's mission is to provide its service area a safe and reliable water supply. Historically, the principal source of supply for the Water Authority's service area has been water purchased by the Water Authority from MWD for sale to the Water Authority's member agencies. However, drought conditions and population growth in the Water Authority's service area have highlighted the need for diversification of the Water Authority's water supplies. Therefore, consistent with its mission statement, the Water Authority has actively pursued a strategy of supply diversification that includes the acquisition and importation of additional water supplies, the development of additional local water supply projects and augmentation of its water supply via local and regional water storage capacity. Water supplies utilized within the Water Authority service area originate from two sources: (1) water imported by the Water Authority and (2) local supplies (such as local runoff, groundwater, recycled water, and prospectively seawater desalination). Since 1990, local supplies have grown to constitute 15 percent of the Water Authority's water supply, and the Water Authority has implemented programs and supported new technologies in order to assist its member agencies in increasing this percentage. Although MWD remains the Water Authority's largest source of imported water, recent years have also seen the diversification of the Water Authority's sources of imported water through core and spot water transfers with other agencies.

In late November 2012, the Water Authority's Board of Directors approved a 30-year Water Purchase Agreement with Poseidon Resources, a private investor-owned company, to purchase water from the proposed Carlsbad Desalination Plant, which is a fully-permitted ocean desalination plant and conveyance pipeline. The plant will produce 50 million gallons a day starting in 2016. By 2020, it will generate enough water to meet seven (7) percent of the region's

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[B] http://mwdh2o.com/mwdh2o/pages/finance/PDFs/2014-Ser.A-B-FOS.pdf current demands[C]. January 8, 2014 represented the first anniversary of construction putting the project a little more than 25 percent complete.

The Quantification Settlement Agreement (QSA) for the Colorado River was completed in October 2003. This historic agreement was enacted to help settle disputes regarding the persistent over-drafting of the state's 4.4 million acre-foot basic annual apportionment of Colorado River water. The agreement includes a long-term transfer of conserved water from the Imperial Irrigation District to the Water Authority. The QSA also commits the state to a restoration path for the environmentally sensitive Salton Sea and provides full mitigation for these water supply programs. Specific programs under the QSA that directly benefit the Water Authority include the San Diego County Water Authority-Imperial Irrigation District water transfer agreement, which currently transfers 100,000 acre-feet of high priority Colorado River water to the Water Authority and will provide up to 200,000 acre-feet of water a year through water conservation measures in Imperial Valley in 2021. The QSA also allows for the transfer of water conserved from the concrete lining of portions of the previously earthen All-American and Coachella Canals from the Imperial Irrigation District. The canal lining projects reduce the loss of water that occurs through seepage. MWD assigned to the Water Authority its right to develop approximately 77,700 acre-feet of conserved Colorado River water annually.

The QSA intended to assure the San Diego region a minimum of 75 years of stable Colorado River water supplies. On November 5, 2003, the Imperial Irrigation District (IID) filed a validation action in Imperial County Superior Court, seeking a judicial determination that 13 agreements associated with the IID/SDCWA water transfer and the QSA are valid, legal and binding. Other lawsuits also were filed contemporaneously challenging the execution, approval and implementation of the QSA on various grounds. All of the QSA cases were coordinated in the Sacramento Superior Court. A final judgment invalidating 11 of the 13 agreements in Phase 1 of the trial was entered on February 11, 2010, and subsequently appealed. On December 7, 2011 the Court of Appeal issued its opinion reversing the judgment and remanding to the trial court for further proceedings. The appellate Court decision resolved many issues in the case, including the validity and constitutionality of the QSA. Trial on compliance with the California Environmental Quality Act was held in November 2012. On June 4, 2013, the court validated the 2003 QSA and related 12 agreements regarding transfers and exchanges of Colorado River water between southern California water agencies. The IID, Coachella Valley Water District, MWD, and SDCWA all sought validation of the agreements from the court under California Water Code section 22762 and California Code of Civil Procedure section 860 et seq., quantifying the amount of Colorado River water each agency may divert and subsequently transfer. The court found the agreements to be valid and adopted in compliance with the requirements of the Brown Act and the California Environmental Quality Act (CEQA). The ruling represents the latest chapter in the longstanding dispute regarding the diversion and use of California's apportionment of the Colorado River under state and federal law.

[C] http://www.sdcwa.org/issue-desal

http://carlsbaddesal.com/

The Water Authority has encouraged the development of additional local water supply projects such as water recycling and groundwater projects through the award of Local Water Supply Development ("LWSD") incentives of up to $200 per acre-foot for recycled water and groundwater produced and beneficially reused within the Water Authority's service area. The purpose of the Water Authority's LWSD program is to promote the development of cost-effective water recycling and groundwater projects that prevent or reduce a demand for imported water and improve regional water supply reliability. The LWSD Program reimburses member agencies for all, or a portion of the difference between the actual per acre-foot cost of producing recycled water, and the revenue generated by the LWSD participant through the sale of that acre-foot of recycled water (not to exceed $200 per acre-foot). In February 2008, the program was expanded to include funding for local brackish and seawater desalination projects.

5.3 2009 Comprehensive Water Package

On November 4, 2009, the California State Legislature passed a comprehensive package of water legislation (the "2009 State Water Legislation") that included five bills (four of which were subsequently signed by Governor Schwarzenegger) addressing California's statewide water situation, with particular emphasis on the Bay-Delta. The 2009 State Water Legislation included, among other things, a 20 percent water conservation mandate for most localities in the State by 2020, new regulations regarding voluntary monitoring of groundwater levels by localities, and an $11.1 billion State general obligation bond measure. The water bond measure was originally certified to be on the State's 2010 ballot. The ballot has already been delayed twice, in 2010 and in 2012. However, the date of the ballot measure has since been pushed to November 2014. The 2009 State Water Legislation also created two new governmental agencies – the Delta Stewardship Council and the Sacramento-San Joaquin Delta Conservancy. The Delta Stewardship Council is charged with developing and implementing a Delta Plan, which would include the Bay Delta Conservation Plan, upon meeting certain conditions. The Sacramento-San Joaquin Delta Conservancy will implement ecosystem restoration activities in the Bay-Delta. In addition, the 2009 State Water Legislation included legislation addressing unauthorized Bay-Delta water diversions. At this time, it is not known what effect the 2009 State Water Legislation will have on future water supplies.

As of March 2014, several bills have been introduced aiming to reduce the amount of the original water bond measure, to amounts ranging between six and ten billion dollars. It is expected that one final bill will ultimately be selected and certified for the late 2014 ballot.

5.4 Public Utilities Department

The Department currently purchases approximately 85 to 90 percent of its water from the Water Authority, which supplies the water (raw and treated) through two aqueducts consisting of five pipelines. While the Department imports a majority of its water, it uses three local supply sources to meet or offset potable demands: local surface water, conservation, and recycled water.

The availability of sufficient imported and regional water supplies to serve existing and planned uses within the Department service area is demonstrated in the prior discussion on the water supply reliability of MWD and the Water Authority. The City has been receiving water from the Water Authority since 1947, and during the last 20 years purchased between 100,000 and 228,000

AFY. For Calendar Year 2013 water purchases totaled approximately 185,466 AF. Depending upon demands, growth and the success of local water supply initiatives, this could remain somewhat constant or increase up to a projected maximum of 298,860 AFY in 2035 during normal years. For the purpose of this analysis the maximum is used.

5.4.1 Demonstrating the Availability of Sufficient Supplies

Imported Supplies

Section 5, subdivision 11 of the County Water Authority Act states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." Depending on local weather and supply conditions, the Water Authority provides between 75 to 95 percent of the total supplies used by its 24-member agencies. As mentioned in Section 4, the Public Utilities Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from the MWD.

Local Surface Water Supplies

The Department maintains and operates nine local surface raw water storage reservoirs which are connected directly or indirectly to water treatment operations. In the San Diego region approximately 13 percent of local precipitation produces surface run-off to streams that supply Department reservoirs. Approximately half of this run-off is used for the municipal water supply, while the remainder evaporates during reservoir storage. In very wet years, the run-off remainder may spill over the reservoir dams and return to the Pacific Ocean. Average rainfall produces less than half of the average run-off in San Diego. The local climate requires about average rainfall to saturate the soils sufficiently for significant surface run-off to occur. Therefore, most of the run-off to reservoirs is produced in years with much greater than average rainfall. Some flooding may occur even during average or below average rainfall years if the annual rainfall is concentrated in a few intense storms.

The use of local water is affected by availability and water resource management policies. The Department's policy is to use local water first to reduce imported water purchases and costs. The Department also operates emergency and seasonal storage programs in conjunction with its policy.

The purpose of emergency storage is to increase the reliability of the imported water aqueduct system. This is accomplished by maintaining an accessible amount of stored water that could provide an uninterrupted supply of water to the City's water treatment facilities should an interruption to the supply of imported water occur. The management of reservoirs is guided by Council Policy 400-04, which outlines the City's Emergency Water Storage Program. The policy mandates that the Department store sufficient water in active, available storage to meet six-tenths of the normal annual (7.2 months) City water demand requirements (conservation is not included). Active, available storage is that portion of the water that is above the lowest usable outlet of each reservoir.

The monthly emergency storage requirement changes from month-to-month, and is based on the upcoming seven months water demand. This results in a seasonally fluctuating emergency storage requirement, generally peaking in May and reaching its minimum in October. This seasonally fluctuating requirement makes a portion of the required emergency storage capacity available for impounding or seasonal storage.

The purpose of seasonal storage is to increase imported water supply. This is done by storing surplus imported water in the wet winter season for use during the dry summer season. This may also be accomplished by increased use of imported water in lieu of local water in the winter when local water may be saved in reservoirs or groundwater basins for summer use. In addition to increased water yield, this type of seasonal operation also reduces summer peaking on the imported water delivery system.

Conservation

The Department's Water Conservation Program is effective in promoting permanent water savings. Established by the City Council in 1985, the Water Conservation Program accounts for more than 35,650 acre-feet of potable water savings per year. This savings has been achieved by creating a water conservation ethic, adopting programs, policies and ordinances designed to promote water conservation practices, and implementing comprehensive public information and education campaigns.

The City offers a broad range of conservation methods to help meet the needs of our residential and commercial water customers. These include, but are not limited to, the following:

- Rebate programs for high efficiency toilets, washing machines and commercial water saving devices
- Rebates for replacing turf with sustainable landscapes and micro-irrigation systems
- Residential interior/exterior and commercial landscape survey programs
- Public education and outreach

Research conducted by the City, the Water Authority, and the Water Research Foundation has shown that more than half of residential water-use is outdoors. Therefore, the City has added outdoor conservation programs to focus on water efficient landscaping and irrigation management, which provide the best opportunity to achieve significant water savings.

Tools and services available for customers include:

- Commercial and Residential Water-Use Survey Programs — account for all water-use, determine leaks, and check irrigation systems for proper function and uniform coverage. Residential surveys average 15 percent water savings, while commercial surveys, depending on type of facility, can achieve 15 percent to 25 percent water savings. The current focus is on multi-family surveys.

- Nationally recognized Landscape Watering Calculator — an on-line tool that creates watering schedules based on landscaping features, soil type, and weather data. The Calculator is very popular [http://apps.sandiego.gov/landcalc/start.do] and those who have used it are impressed with its ease of use. MWD has adopted this tool and it is available throughout Southern California.

- Water Resources Landscape Database — another tool used to create water budgets and manage irrigation using aerial photographs, GIS maps, weather data, etc. This service has generated significant water savings in City parks, freeway landscapes, schools, and homeowner associations.

- New programs in place include incentives to install water efficient irrigation equipment and evapo-transpiration controllers (smart irrigation clocks that use weather data to set watering schedules); as well as incentives to replace turf with sustainable landscapes.

- The Water Conservation Section teamed up with the Transportation & Storm Water Department to include rain barrels as an item that can receive a rebate through the "Outdoor Water Conservation Rebate Program." Rain barrels are used to collect rainwater from hard surfaces such as household rooftops. When citizens install a rain barrel at their home, they are helping to maintain a healthy urban watershed by reducing the demand on the potable water system, while also reducing the amount of wet weather runoff that is collected and sent into the public storm water system.

- 'San Diego Municipal Code (SDMC) 67.06 Water Submeters' was adopted in April 2010, to encourage water conservation in multi-family residential and mixed-use buildings by requiring the use of water submeters for each individual residential unit. Billing individual residential units based on the actual amount of water consumed in the unit creates a financial incentive for residents of multi-family residential units to conserve water.

Planning efforts to increase water conservation is an ongoing process. The aforementioned water conservation programs undergo periodic reevaluation to ensure the realization of forecasted savings. Additionally, changes in water conservation technologies may require reassessment of long-range plans. The Department continues to work with proven water conservation programs, while including irrigation management programs to maximize water savings; regularly examines new technologies and annually checks progress towards conservation goals; and, continues to work collaboratively with MWD and the Water Authority to formulate new conservation initiatives. The City's water conservation report, prepared annually, is available at http://www.sandiego.gov/water/pdf/waterreuse/2013/fy13annualwater130101.pdf. The report provides an ongoing assessment and status update, redirecting or enhancing efforts as needed. The programs outlined in the document undergo periodic reevaluation to ensure the realization of forecasted savings.

Drought Management

On January 17, 2014, California Governor Jerry Brown declared a drought in California. On February 11, 2014, the Metropolitan Water District of Southern California's Board of Directors declared a Water Supply Alert throughout its 5,200-square-mile service area as part of a set of comprehensive actions to address the state's unprecedented dry conditions. Additionally, on February 13, 2014, the San Diego County Water Authority's Board of Directors unanimously called upon the region's residents, businesses and institutions to increase water conservation efforts in response to severe drought conditions across California. The Board also approved notifying the Water Authority's 24-member agencies, including the City of San Diego, which the region is at Level 1 Drought Watch of the Model Drought Response Ordinance.

The City has an extensive list of permanent water use restrictions that are outlined in San Diego Municipal Code Section §67.3803. These restrictions were updated several times during the last California drought. They are in effect every day in San Diego and include the following limitations:

a) no runoff/excessive irrigation;
b) repair leaks upon discovery or within seventy-two hours of notification;
c) no watering of paved areas;
d) no overfilling swimming pools and spas;
e) no non- recirculating decorative water fountains;
f) car washing only in a commercial car wash or using a hose with shutoff nozzle or a bucket;
g) new buildings must recycle cooling system water and car wash water;
h) restaurants will only serve and refill water upon request;
i) hotel guests must have the option of not laundering towels and linens daily;
j) no watering after 10 am and before 4 pm (winter)/before 6 pm (summer);

San Diego's permanent water use restrictions are typically similar to the restrictions many local water agencies implement when they invoke their Level 1 water restrictions.

The City's "Drought Response Level 1 – Drought Watch Condition" is typically invoked when the City Council finds a reasonable probability, that there will be a supply shortage and that a consumer demand reduction of up to ten percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. The Level 1 Drought Watch Condition adds additional voluntary water conservation measures that are added to the City's existing permanent water restrictions outlined in SDMC §67.3803. These voluntary measures include:

1) landscape irrigation limited to assigned three days per week
2) when watering without an irrigation system a shut-off nozzle or garden hose sprinkler system on a timer is required
3) washing vehicles limited to the same schedule as irrigation (except for: boats which may be washed after use; vehicles with health/safety issues; at a commercial carwash that recycles water)
4) use recycled or non-potable water for construction purposes
5) fire hydrants for firefighting only
6) construction operations can use water only as required by regulatory agencies
7) irrigation is not permitted during rain event

The San Diego City Council invoked a "Drought Response Level 1 – Drought Watch Condition" on May 20, 2014, that will go into effect on July 1, 2014.

Recycled Water Supplies

In CY 2013, the beneficial reuse of the recycled water was 12,205 AF: 7,877 AF from the NCWRP and 4,328 AF from the SBWRP. Although landscape irrigation continues to be the leading use of the recycled water, the customer base has become more varied over the years with an increase in the number of industrial and dual plumbed meter connections.

Proactive marketing activities targeting existing irrigation customers, to encourage them to convert their cooling systems to recycled water, coupled with outreach efforts to connect new customers have been successful, as recycled water meter connections have increased over 41 percent since 2007. As of December 2013, the City provides recycled water service to 576 retail meters and 4-5 wholesale meter connections, including the City of Poway, Olivenhain Municipal Water District (3 connections) and Otay Water District. The 2013 top ten retail customers included the City of San Diego Park & Recreation Department, Miramar Marine Corps Air Station Miramar, Black Mountain Ranch and Santa Luz HOA, Caltrans, El Camino Memorial Park, U.S. International Boundary & Water Commission, The Irvine Company, Qualcomm, Village Nurseries (Miramar Nursery) and the City of San Diego's Miramar Landfill.

In CY 2013, financial incentives from the sale of recycled water resulted in nearly $2.85 million in savings towards imported water purchases. The financial incentives are a result of local water resources development agreements with Metropolitan Water District and the San Diego County Water Authority.

The Department, in cooperation with the Park & Recreation Department, has aggressively pursued the retrofitting of City parkland, street landscaping and open space to use recycled water for irrigation; sites fronting recycled water distribution pipelines were targeted. In 2007 only 23 recycled water meters were serving City sites; that number has since grown to 84 meter connections. The Departments are currently working on retrofitting four additional parks/open spaces. The irrigation retrofits are funded in part by Federal and State grants.

Public Utilities Department's Capital Improvement Program

The Department reevaluates water projects contained in the Capital Improvements Program (CIP) and the timing thereof periodically. Changes to the CIP are made to reflect changing priorities within the water system and occur as a result of project scope changes, date revisions, project sequencing, and operational considerations. The Department expended approximately $840 million from July 1, 2003 through June 30, 2013 on CIP projects. Improvements included projects to upgrade and expand water treatment plants, rehabilitate raw and treated water storage facilities, construct major transmission pipelines, replace and/or upgrade existing pump stations, replace cast iron water mains citywide, expand the recycled water system, and other new supply initiatives. In November 2013, the City Council adopted water rate increases of 7.25 percent beginning on January 1, 2014 and 7.5 percent beginning on January 1, 2015. These rate increases provided needed revenue to continue funding the upgrade and expansion of the water system through the CIP in order to ensure a reliable water supply for all City residents and meet CDPH mandates. For fiscal years ending June 30, 2009 through June 30, 2012, the Department expended approximately $408 million on such improvements.

In 2009, the Department initiated a facilities master plan to identify long-term facility needs. With the completion of the water master plan in 2011, over 80 projects were identified through the master planning effort for CIP implementation of fiscal years 2012-2032. Project scopes were developed from facility condition assessments and system evaluations. The prioritization of CIP projects are based on the adopted City Council Policy 800-14 (CP 800-14) as well as inputs from Independent Rates Oversight Committee members and operational staff. The list of prioritized projects will be the basis for 2012-2032 CIP program.

Summary of Supplies

Historic imported water deliveries from the Water Authority to the Public Utilities Department and local surface water, conservation savings and recycled water deliveries are shown in **Table 5-1.**

Table 5-1
Historic Imported, Local and Recycled Water Demands*
Public Utilities Department (Source: 2010 UWMP)

Fiscal Year	Imported Water (acre-feet)	Local Surface Water (acre-feet)	Conservation[1] (acre-feet)	Recycled Water (acre-feet)	Total[2] (acre-feet)
1990	233,158	22,500	-	-	255,658
1995	162,404	59,024	8,914	-	230,342
2000	207,874	39,098	17,410	3,250	267,632
2005	204,144	26,584	29,410	4,294	264,432
2010	188,337	13,117	34,317	12,173	247,944

Table 5-1 Notes:

[1] Conserved water results in savings and is not a direct supply.
[2] Total includes water supplied and conserved.
*Includes retail and wholesale demands

5.4.2 Plans for Acquiring Additional Supplies

Future Supplies

In 2002, the City of San Diego City Council adopted the Long-Range Water Resources Plan (Long-Range Plan) 2002-2030. This plan provides a decision-making framework for evaluating water supply options. The Long-Range Plan identifies water conservation, water recycling, groundwater desalination, groundwater storage, ocean desalination, marine transport, water transfers, and imported supply from the Water Authority and MWD as potential near-term and long-term supplies. The Long-Range Plan concluded that no single supply source would be sufficient to meet the City's future water demands, but a portfolio of supply options would reduce the dependence upon imported water over time.

The Department completed the City Council approved 2012 Long-Range Water Resources Plan (2012 LRWRP) on December 10, 2013. The 2012 LRWRP is a high level strategy document that evaluates water supply and demand-side objectives against multiple planning objectives. The 2012 LRWRP was an open participatory – stakeholder driven process that evaluated over 20 water supply options such as water conservation, recycled water, groundwater storage, brackish groundwater desalination, rainwater harvesting, graywater and potable reuse. The plan takes a long-range viewpoint through the year 2035 in addressing risk and the uncertainty of future water supply conditions. It is a plan that sets the tone or direction of where the City places its efforts in developing local water supplies.

Conservation and water recycling programs have been implemented and are under investigation for ways to be expanded or increased. The Department is also investigating the development of groundwater and potable reuse.

Conservation

Like many agencies in California, the City is committed to reducing its per capita water consumption by at least 20 percent by the year 2020. Aside from the existing programs listed in Section 5.4.1 of this report, the City is also evaluating the following programs to help reduce overall water consumption:

- Water budget based billing for irrigation only customers - An effort is currently underway to evaluate billing irrigation customers based on their ability to meet property specific water use budgets, and implement a tier rate structure that encourages usage within water budgets.

- Conservation-oriented rate structures - The new rate structure, which took effect in January 2014, adds a new tier that recognizes water conservation efforts, and increases the rates for higher tiers to discourage high volume usage.

- Automated Meter Interface - The City is starting to install smart water meters in monthly billed accounts. These meters allow remote access to consumption patterns via a web portal, and give water customers data that they can monitor and use to manage better their water consumption.

Recycled Water

Recycled Water Study:

The Recycled Water Study was presented to and unanimously accepted by the City Council on July 17, 2012, following a three-year effort that included extensive stakeholder involvement. The Study can be located at the following link:

http://www.sandiego.gov/water/pdf/waterreuse/2012/recycledfinaldraft120510.pdf.

During the 2008 to 2010 Point Loma Wastewater Treatment Plant (Point Loma) permit modification process, San Diego Coastkeeper and the San Diego Chapter of the Surfrider Foundation entered into a Cooperative agreement with the City to conduct the Recycled Water Study (Study). In accordance with the agreement, the San Diego Coastkeeper and the San Diego Chapter of the Surfrider Foundation did not oppose the United States Environmental Protection Agency's (USEPA) decision to grant the permit modification. The City Council authorized the execution of the Cooperative Agreement on February 18, 2009. The modified Permit allows Point Loma to continue operating as a chemically enhanced primary treatment facility (CEPT) for five years until July 31, 2015 when the permit must be renewed rather than upgrading the treatment system to meet secondary standards as required in the federal Clean Water Act. The Study concluded meeting all terms of the Agreement with Coastkeeper and Surfrider.

The Recycled Water Study identified five (5) Reuse Alternatives. Non-Potable Reuse, Indirect Potable Reuse, and wastewater off-load to the Point Loma are the common components of each of the five alternatives. All reuse alternatives presented in the study achieve the study goals, provide a bold vision for the future water reuse in the Metro Service Area, and provides potential savings to ratepayers. For additional details on the Reuse Alternatives, please see the Recycled Water Study Report Dated July 2012 in the above link.

Potable Reuse:

Potable Reuse is an approach the City is considering for maximizing the use of recycled water. Recycled water that is used for non-drinking uses like irrigation and industrial processes, would undergo advanced water purification (AWP) to render it safe for reuse as a drinking water supply. The AWP process uses multiple treatment barriers to remove contaminants from the water and prevent them from re-entering the water supply. It begins with membrane filtration, followed by reverse osmosis, and ends with advanced oxidation. The result is purified water that meets all drinking water standards and is similar in quality to distilled water.

There are two major types: Indirect Potable Reuse (IPR) and Direct Potable Reuse (DPR). With IPR, the purified water is sent to an environmental buffer; for the City's IPR concept, San Vicente Reservoir would be the environmental buffer. The water in San Vicente is treated at a drinking water treatment plant before it is distributed for drinking purposes. Direct potable reuse differs in that there is no environmental buffer. The California Department of Public health is mandated to determine the feasibility of establishing DPR regulations. Industry experts expect that DPR regulatory criteria to include the use of additional treatment or engineered storage barriers to compensate for the absence of an environmental buffer. The City monitoring the development of DPR regulations and how they might influence the viability of potable reuse implementation.

Water Purification Demonstration Project:

In order to assess the feasibility of indirect potable reuse with reservoir augmentation (IPR/RA), the City initiated a Water Purification Demonstration Project (Demonstration Project). The Demonstration Project evaluated the feasibility of using advanced water purification (AWP) technology to produce water that can be sent to San Vicente Reservoir, subsequently treated, and later be distributed as potable water.

As part of the Demonstration Project, the City tested and operated a one-million gallon per day demonstration-scale AWP Facility from June 2011 to August 2012. The purified water was routinely tested to determine the effectiveness of the treatment equipment and operating data was gathered to develop a cost estimate for full-scale facilities. A study of San Vicente Reservoir was also conducted to establish residence time and short circuiting conditions of the purified water in the reservoir. An extensive public outreach and education program was implemented to educate the public about the potential benefits and implications of an IPR/RA project. The City also coordinated with the State's regulatory agencies to help define the requirements for an IPR/RA project. The Final Project reports have been completed and are available at the following link: www.purewatersd.org/projectreports . The Demonstration Project reports were presented to full City Council on April 23, 2013. The City Council adopted the Demonstration Project Reports and directed staff to determine a preferred implementation plan and schedule that considers potable reuse options for maximizing local water supply and reduced flows to the Point Loma Wastewater Treatment Plant. This follow on effort, now known as the Pure Water San Diego Program, is described in more detail below.

Pure Water San Diego Program:

The Department's Pure Water San Diego Program (Program) is a 20-year program ending in year 2035. The program will create a safe and reliable local water supply through potable reuse, while reducing the Point Loma Wastewater Treatment Plant's ocean discharges and accomplishing secondary equivalency.

Department staff have initiated technical studies to refine system-wide reuse concepts development in the Recycled Water Study (July 2012), are developing a cost-sharing framework, serving on an advisory group to an Expert Panel on Direct Potable Reuse (DPR) and Recycled Water, and are continuing tours of the Advanced Water Purification Facility, speakers bureau presentations and community events participation.

In addition to the above, Department staff is engaged in the preparation of the National Pollution Discharge Elimination Permit (modified permit) for Point Loma which expires July 31, 2015. The draft modified permit application will be brought forward for City Council consideration in fall 2014. Staff is also developing a regulatory and legislative strategy related to Point Loma that will require City Council input and involvement.

The Department is working on implementing the various facets of the Pure Water San Diego Program. Implementation strategy tasks include facility siting studies, engaging key regulatory agencies to develop a modified NPDES permit renewal application which secures long-term compliance with discharge standards at Point Loma through potable reuse and secondary equivalency, and establishing a financing plan and cost-sharing principles with other public agencies that use the City's wastewater system.

This comprehensive effort will provide a secure and reliable long-term local water supply for San Diego while resolving the decade's long issues associated with Point Loma.

Groundwater

There are several groundwater basins in the San Diego region that the City has rights, concerns jurisdiction or otherwise an interest in developing for municipal supply or other beneficial use. These basins are:

- San Pasqual Basin
- Mission Valley Basin
- El Monte/Santee Basin
- Tijuana Basin
- San Diego Formation

The groundwater quality from these basins is predominantly brackish. Improved technologies provide consideration of affordable water sources, such as brackish groundwater, that were not available a few decades ago. This source is a viable alternative and is part of the City's planning efforts. Local water supply projects, particularly groundwater exploration, benefit City rate payers, offer drought protection, and are locally controlled. The City is presently pursuing groundwater feasibility projects in Mission Valley Basin, El Monte/Santee Basin, and the San Diego Formation.

The City is the Monitoring Entity for the San Pasqual Basin as identified under the California Statewide Groundwater Elevation Monitoring (CASGEM) program. Working cooperatively with the California Department of Water Resources (DWR), the City established a network of monitoring wells to regularly and systematically track seasonal and long-term trends in groundwater elevations for this alluvial groundwater basin. Included in this monitoring network are three multi-level monitoring wells in San Pasqual installed by the United States Geological Survey under a cooperative hydrogeological agreement with the City. Participation in the statewide CASGEM program allows basin groundwater data to be maintained and readily available through DWR's public data base.

A Salinity and Nutrient Management Plan (SNMP) is being developed for the San Pasqual Basin to identify excessive salt and nutrient loading for protection of groundwater quality for agriculture, potable water supply and other beneficial groundwater uses. In compliance with the adopted State Water Resources Control Board's (State Board) Recycled Water Policy 2009 to complete SNMPs by May 30, 2014, the City is facilitating a stakeholder driven basin-wide approach to complete this effort. The SNMP incorporates framework components from the SNMP guidelines *(Salinity/Nutrient Management Planning in the San Diego Region (9), Welch 2010)* adopted by the State Board.

The San Diego City Council adopted the San Pasqual Groundwater Management Plan (GMP) in 2007. Several management actions outlined in the GMP are currently being implemented and will continue in the future. For the next several years, basin activities such as surface water and groundwater monitoring programs, water quality testing, basin water budget, and basin capacity studies will be the focus for understanding, protecting and evaluating the long-term sustainable use of the San Pasqual Basin as a water supply source.

The City has been investigating Mission Valley Aquifer. Mission Valley is a narrow, east-west trending valley carved out by the San Diego River as it drains westward from Mission Gorge to the Pacific Ocean. The most conductive portion of the aquifer lies within the extent of an historical well field where the City has retained ownership of the property and where a substantial portion is overlain by Qualcomm Stadium and its parking lot. Part of the history is the establishment of the City's pueblo water right, a prior and paramount right to all of the water of the San Diego River (surface and underground). A fuel tank farm was built in Mission Valley at the mouth of Murphy Canyon in 1963 know as Mission Valley Terminal (MVT). Underground fuel contamination was suspected to being in 1986. From 1986 to 1991 approximately 200,000 gallons of gasoline leaked from the tank farm known as the Mission Valley Terminal located upstream of Qualcomm Stadium. Although remediation of the Mission Valley Aquifer has been ongoing for a period of time, the City is waiting for remediation to be complete before resuming its plans for development of the aquifer for municipal supply.

The City desires to use the San Diego Formation for groundwater municipal supply and seeks to manage the safe yield of the aquifer system in a prudent and efficient manner. The City has been engaged in investigating to gain a better understanding of the San Diego Formation Basin for many years. The City will be able to better characterize the water quality and quantity in the groundwater basin through monitoring wells installed in 2007, 2008, 2011 and 2012. In addition, the City has been working with the United States Geological Survey to develop an integrated and comprehensive understanding of the geology and hydrology of the San Diego Formation, and to use this understanding to evaluate a sustainable, long-term environmental sound use of the formation for municipal supply.

The City has been producing groundwater from the Santee – El Monte basin from two municipal supply wells. One well is located just downstream of the San Vicente Reservoir and the other is located just downstream of the El Capitan Reservoir. The City is evaluating the expansion of its groundwater production facilities at each location to maximize yield. The City's existing San Vicente Production well was constructed in 2004 and pumps a maximum of 600 gallons per minute. The well conveys groundwater directly to the City's existing raw water line from the reservoir and ultimately to the City's Alvarado Treatment Plant. The well located just downstream of the El Capitan reservoir. This well is installed in a granitic rock formation and extracts water from a fractured rock system at an average yield of 50 gallons per minute. This well also conveys groundwater to a raw water pipeline coming from the dam to supply the Alvarado Treatment Plant.

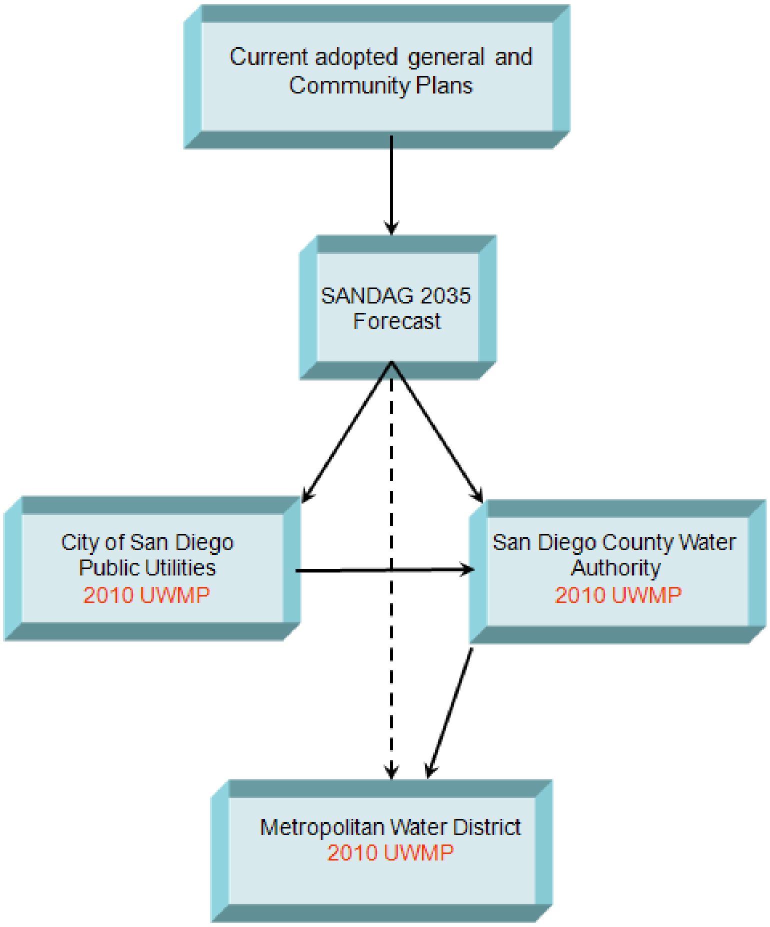
Section 6 - Projected Demands

Approximately every three years the Public Utilities Department (Department) calculates projected water demands within its service area for planning purposes. A computer model is used (IWR-MAIN) to break down water-use by major water-use sectors: Commercial, Industrial, Residential and Public uses. Using past water-use data from the Department and demographic data provided by SANDAG land use, the model is able to correlate the data to determine sector water demands. Using this correlated data, future demographic data is used to project water demands. The model also accounts for water conservation, weather and water rate changes.

In addition to the Department, the Water Authority and MWD use regional growth forecasts to calculate projected water demands within their respective service areas. This provides for consistency between the retail and wholesale agencies projected water demands, thereby ensuring that adequate supplies are being planned for the Department's existing and future water users. The SANDAG forecasts are based on adopted community plan land use, but not citywide zoning. SANDAG forecasts the number of residents, dwelling units, and employees in an area, but not square footage, hotel rooms, or visitors (non-residents or non-employees). For urban areas the smallest forecast geography is typically at the block level, but for suburban and less developed areas the forecast geography can be larger. SANDAG typically updates the regional growth forecast every three to four years. The Public Utilities Department water demand projections, based on the SANDAG Series 12 Forecast land use, are incorporated in the City's 2010 UWMP. These projections are then forwarded to the Water Authority for use in the preparation of their UWMP, which is further incorporated into MWD's UWMP to calculate the ultimate water demands of the region (see **Figure 6-1**).

The Department updates its UWMP every five years. The 2010 UWMP, originally scheduled for completion in December 2010, was completed and adopted in June 2011. The time extension granted for the completion of the 2010 UWMP was due to the new SBX7-7 reporting requirement that needed to be incorporated into the 2010 UWMP. SBX7-7, which is part of the 2009 Water Legislation, requires urban water agencies to reduce statewide per capita water consumption 20 percent by 2020.

FIGURE 6-1
WATER DEMAND PROJECTIONS



The demands from the 2010 UWMP are used throughout this Report. The historical and projected water demands for a normal year are shown in **Table 6-1**.

As part of the requirements for complying with SB 610, **Table 6-7** and **Table 6-8** show the single-dry year and consecutive multiple-dry year demands. All tables in this section are based on data from the 2010 UWMP.

TABLE 6-1
PAST, CURRENT, AND PROJECTED WATER DELIVERIES
(AFY)

Water Use Sector	2005				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single-family	217,983	77,864	0	0	77,864
Multi-family	28,443	39,220	0	0	39,220
Commercial	14,468	33,099	0	0	33,099
Industrial	253	4,276	0	0	4,276
Institutional/Governmental	2,341	16,842	0	0	16,842
Landscape Irrigation	7,245	27,877	0	0	27,877
Total	270,733	199,178	0	0	199,178

Source: City of San Diego Public Utilities Report U02-P10715.

Water Use Sector	2010				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single-family	220,862	62,367	0	0	62,367
Multi-family	28,361	36,324	0	0	36,324
Commercial	14,542	27,244	0	0	27,244
Industrial	186	2,325	0	0	2,325
Institutional/Governmental	2,321	13,774	0	0	13,774
Landscape Irrigation	7,327	20,257	0	0	20,257
Total	273,599	162,291	0	0	162,291

Source: City of San Diego Public Utilities Report U02-P100715.

Table 6-1, Continued

Water Use Sector	2015				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single-family	231,346	75,922	0	0	75,922
Multi-family	32,082	47,266	0	0	47,266
Commercial	14,376	31,617	0	0	31,617
Industrial	186	2,071	0	0	2,071
Institutional/Governmental	2,302	13,359	0	0	13,359
Landscape Irrigation	7,583	25,452	0	0	25,452
Total	287,587	195,688	0	0	195,688

Water Use Sector	2020				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single-family	236,639	79,992	0	0	79,992
Multi-family	37,330	56,700	0	0	56,700
Commercial	14,783	33,541	0	0	33,541
Industrial	186	2157	0	0	2157
Institutional/Governmental	2,302	13,772	0	0	13,772
Landscape Irrigation	7,869	27,247	0	0	27,247
Total	298,582	213,409	0	0	213,409

Water Use Sector	2025		2030		2035	
	Metered		Metered		Metered	
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)
Single-family	241,491	83,370	244,138	85,633	245,682	86,471
Multi-family	42,662	66,070	47,910	75,328	52,420	82,781
Commercial	14,681	34,012	14,100	33,116	13,853	32,740
Industrial	176	2,077	166	1,995	166	1,967
Institutional/Governmental	2,247	13,639	2,172	13,399	2,154	13,329
Landscape irrigation	8,192	28,893	8,162	29,301	8,543	30,698
Total	308,505	228,061	315,534	238,772	321,337	247,986

Table 6-2 summarizes the current and planned water sources the City is relying on to meet future demands.

TABLE 6-2
PLANNED WATER SUPPLY SOURCES
(AFY)

Water Supply Sources	Wholesaler Supplied Volume (yes/no)	2015	2020	2025	2030	2035
San Diego County Water Authority	**Yes**	**201,719**	**221,458**	**237,622**	**249,728**	**260,107**
Supplier produced surface water [(a)]		**29,000**	**29,000**	**29,000**	**29,000**	**29,000**
Supplier produced groundwater		**500**	**500**	**500**	**500**	**500**
Transfers In		**0**	**0**	**0**	**0**	**0**
Exchanges In		**0**	**0**	**0**	**0**	**0**
Recycled Water [(b)]		**9,253**	**9,253**	**9,253**	**9,253**	**9,253**
Desalinated Water		**0**	**0**	**0**	**0**	**0**
Other		**0**	**0**	**0**	**0**	**0**
Total		**240,472**	**260,211**	**276,375**	**288,481**	**298,860**

Notes:

[(a)] Local surface water estimates provided by City, 2011.

[(b)] Recycled water excludes recycled water sold to other agencies and is from table entitled, "NCWRP and SBWRP Summary of Baseline Demands", provided by the City on April 22, 2011.

6.1 Water Sales to other Agencies

<u>Potable Water</u>

The City, through past agreements, sells treated water to the California American Water Company (Cal-Am) which provides water service to the cities of Coronado and Imperial Beach, and Naval Air Station North Island. The population of Naval Station North Island is located within the City of Coronado, whereas the other military bases that the City serves are within the City. The City also sells untreated water to Santa Fe Irrigation District and San Dieguito Water District. **Table 6-3** presents the water sales to other agencies.

Per the agreement between the City and Cal-Am, only local surface water is sold to Cal-Am to provide water to supply Cal-Am customers. A portion of City residents in the South Bay area are also served by Cal-Am and can be served by imported water as well. Per the agreement between the City and the City of Del Mar, the City takes deliveries of water, which the City of Del Mar purchases from the Water Authority, through the Second Aqueduct Connection at Miramar. This water is then treated at the City's Miramar WTP and transported to the City of Del Mar through several interconnections.

The City has agreements to provide surplus treated water to Otay Water District and untreated exchange water to Ramona Municipal Water District. These water deliveries occur infrequently and for short periods of time, and are therefore not shown in **Table 6-3**.

TABLE 6-3
SALES TO OTHER AGENCIES-POTABLE
(AFY)

Water Distributed	2005	2010	2015	2020	2025	2030	2035
California American Water Company	13,311	11,462	13,153	13,395	13,452	13,757	13,988
Santa Fe Irrigation District and San Dieguito Water District [(a)]	2,012	7,227	7,596	7,983	8,391	8,819	9,268
City of Del Mar [(b)]	1,324	1,058	1,112	1,168	1,228	1,290	1,356
Naval Air Station North Island	1,204	1,568	1,568	1,568	1,568	1,568	1,568
Total	14,515	13,030	14,721	14,963	15,020	15,325	15,556

Notes:

[(a)] *Through a joint agreement, the City supplies raw water from local surface water supplies to Santa Fe Irrigation District/San Dieguito Water District, and treated water to the other agencies. This water supply is not included in total since the supply is not included in the local surface water supply.*

[(b)] *City of Del Mar not included in total as the City is treating water for Del Mar that is provided by Water Authority.*

Recycled and Non-Revenue Water

The City has three separate agreements to sell recycled water. Olivenhain Municipal Water District and the City of Poway are provided recycled water from the City's North City Water Reclamation Plant while Otay Water District receives recycled water from the City's South Bay Water Reclamation Plant.

Non-Revenue Water (NRW) is water that is unaccounted for or unbilled water consumption. Unaccounted for water can be attributed to unauthorized consumption, meter inaccuracies, data errors, leakage on mains, leakage and overflow at storage and leakage at service connections. Using metered demand and total City delivered values, NRW was computed as 8.2 percent in 2012. Water use for firefighting, line flushing and other authorized, but unbilled use is classified in the computation of NRW as unbilled consumption.

City staff deemed it reasonable to assume this percent system loss could be maintained in future years given the City's aggressive program of leak detection and repair. The City is going forward with an automated meter reading system that could improve billing accuracy, better quantify real versus apparent losses and identify customer leaks. Thus, NRW is held constant in the projections at 9.0 percent for forecast years. **Table 6-4** represents the City's additional water uses (recycled water) and NRW.

TABLE 6-4
ADDITIONAL WATER USES AND LOSSES
(AFY)

Water Use	2005	2010	2015	2020	2025	2030	2035
Recycled water	4,294	7,656	9,253	9,253	9,253	9,253	9,253
Non-revenue water	10,404	21,909	20,810	22,586	24,041	25,131	26,065
Total	14,698	29,565	30,063	31,839	33,294	34,384	35,318

Notes:

1. *Source for recycled water: 2005 from Table 2-8 of the City's 2005 Urban Water Management Plan. 2010 from NCWRP and SBWRP beneficial reuse summary tables with wholesale deliveries excluded provided by the City on March 2, 2011. 2015 and later from table entitled, "NCWRP and SBWRP Summary of Baseline Demands", provided by the City on April 22, 2011.*
2. *Recycled water is City use only and excludes recycled water sold to other agencies.*
3. *Source for non-revenue water: For 2005, Table 2-8 of the City's 2005 Urban Water Management Plan with 4.3% assumption. For 2010 to 2035, City of San Diego Public Utilities, Update of Long-Term Water Demand Forecast, Table 6-5, Water Demand Forecast with Normal Weather, June 2010.*

Table 6-5 is a summary of and displays City's past water use from 2005 and 2010 with projected water use shown for 2015 thru 2035.

TABLE 6-5
TOTAL WATER-USE
(AFY)

Water Distributed	Total Water Use (AFY)						
	2005	2010	2015	2020	2025	2030	2035
Total Water Deliveries (Table 6-1)	199,178	162,291	195,688	213,409	228,061	238,772	247,986
Sales to Other Water Agencies (Table 6-3)	14,515	13,030	14,721	14,963	15,020	15,325	15,556
Additional Water Uses and Losses (Table 6-4)	14,698	29,565	30,063	31,839	33,294	34,384	35,318
Total	228,391	204,886	240,472	260,211	276,375	288,481	298,860

The analysis in **Table 6-6** below compares the projected normal water supply and customer demands from 2010 to 2035, in five-year increments.

TABLE 6-6
PROJECTED NORMAL SUPPLY AND DEMAND COMPARISON
(AFY)

	2015	2020	2025	2030	2035
Supply totals	240,472	260,211	276,375	288,481	298,860
Demand totals	240,472	260,211	276,375	288,481	298,860
Difference (supply minus demand)	0	0	0	0	0

6.2 Projected Single-dry Year Water Supply and Demand

Table 6-7 provides a comparison of a single-dry year water supply with projected total water use over the next 25 years, in five-year increments. The City's demands in single-dry years are projected to be higher similar in proportion to the increase in regional water demands projected in the Water Authority's 2010 UWMP. An increase in use for landscape irrigation accounts for most of the increase in demands. It is assumed that recycled water demands would not increase in single-dry years. The wholesale water supplies from the Water Authority are assumed to increase to meet the difference between the City's increased water demands and reduced local water supplies.

TABLE 6-7
PROJECTED SINGLE-DRY YEAR SUPPLY AND DEMAND COMPARISON
(AFY)

	2015	2020	2025	2030	2035
Supply totals	255,040	276,526	293,895	307,230	318,586
Demand totals	255,040	276,526	293,895	307,230	318,586
Difference (supply minus demand)	0	0	0	0	0

6.3 Projected Multiple-dry Year Water Supply and Demand

Table 6-8 compares the total water supply available in multiple-dry water years with projected total water use over the next 25 years. The City's demands in multiple-dry years are projected to be higher similar in proportion to the increase in regional water demands projected in Water Authority's 2010 UWMP. It is assumed that recycled water demands would not increase in multiple-dry years. The wholesale water supplies from Water Authority are assumed to increase to meet the difference between the City's increased water demands and reduced local water supplies. Multiple-dry year scenarios represent hot, dry weather periods which may generate urban water demands that are greater than normal.

No extraordinary conservation measures are reflected in the demand projections. The recycled water supplies are assumed to experience no reduction in a dry year.

TABLE 6-8
PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE DRY YEAR PERIOD ENDING IN 2035

(AFY)

		Supply and Demand Comparison – Multiple-dry Year Events				
		2015	2020	2025	2030	2035
Multiple-dry year First year supply	Supply totals	257,587	278,451	296,319	309,230	320,382
	Demand totals	257,587	278,451	296,319	309,230	320,382
	Difference	0	0	0	0	0
Multiple-dry year Second year supply	Supply totals	267,323	288,723	306,726	320,467	332,038
	Demand totals	267,323	288,723	306,726	320,467	332,038
	Difference	0	0	0	0	0
Multiple-dry year Third year supply	Supply totals	281,466	303,004	322,166	334,720	346,823
	Demand totals	281,466	303,004	322,166	334,720	346,823
	Difference	0	0	0	0	0

Section 7 - Conclusion - Availability of Sufficient Supplies

The Project is consistent with water demand assumptions in the regional water resource planning documents of the City, the Water Authority and MWD. The Public Utilities Department receives the majority of its water supply from MWD through the Water Authority. In addition, MWD and the Water Authority have developed water supply plans to improve reliability and reduce dependence upon existing imported supplies. MWD's Regional Urban Water Management Plan and Integrated Resources Plan, the Water Authority's 2010 UWMP and annual water supply report include projects that meet long-term supply needs through securing water from the State Water Project, Colorado River, local water supply development and recycled water.

The forecasted normal year water demands compared with projected supplies for the Public Utilities Department are shown in **Table 7-1**. This demonstrates that with existing supplies and implementation of the projects discussed in the three agencies' planning documents there will be adequate water supplies to serve all anticipated growth (existing and future planned uses) and development.

TABLE 7-1
PROJECTED SUPPLY AND DEMAND COMPARISON – NORMAL YEAR
(AFY)

	2015	2020	2025	2030	2035
Supply totals	240,472	260,211	276,375	288,481	298,860
Demand totals	240,472	260,211	276,375	288,481	298,860
Difference (supply minus demand)	0	0	0	0	0

Table 7-2 provides a comparison of a single-dry year water supply with projected total water use over the next 25 years, in five-year increments.

TABLE 7-2
PROJECTED SINGLE-DRY YEAR SUPPLY AND DEMAND COMPARISON
(AFY)

	2015	2020	2025	2030	2035
Supply totals	255,040	276,526	293,895	307,230	318,586
Demand totals	255,040	276,526	293,895	307,230	318,586
Difference (supply minus demand)	0	0	0	0	0

The multiple-dry year scenarios, within a 20-year projection, are shown in **Table 7-3**. This demonstrates that supplies will be adequate to meet all anticipated growth (existing and future planned uses) and development in multiple-dry year periods.

TABLE 7-3
PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE DRY YEAR PERIOD ENDING IN 2035

(AFY)

		Supply and Demand Comparison – Multiple-dry Year Events				
		2015	2020	2025	2030	2035
Multiple-dry year First year supply	Supply totals	257,587	278,451	296,319	309,230	320,382
	Demand totals	257,587	278,451	296,319	309,230	320,382
	Difference	0	0	0	0	0
Multiple-dry year Second year supply	Supply totals	267,323	288,723	306,726	320,467	332,038
	Demand totals	267,323	288,723	306,726	320,467	332,038
	Difference	0	0	0	0	0
Multiple-dry year Third year supply	Supply totals	281,466	303,004	322,166	334,720	346,823
	Demand totals	281,466	303,004	322,166	334,720	346,823
	Difference	0	0	0	0	0

This Report demonstrates that there are sufficient water supplies over a 20-year planning horizon to meet the projected demands of the Project as well as the existing and other planned development projects within the Public Utilities Department service area in normal, dry year, and multiple-dry year forecasts. This Project is proposing water demands which are included in the regional water resource planning documents of the City, the Water Authority, and MWD.

Source Documents

California Department of Water Resources (DWR), Progress on Incorporating Climate Change into Management of California’s Water Resources, July 2006 Report
California Climate Change Center, 2006 Biennial Report: Our Changing Climate: Assessing the Risks to California, 2006
California Department of Water Resources Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, March 2011
DSD Memorandum - Request for assessment and project description, February 2013
MWD 2010 Regional Urban Water Management Plan
MWD Report on Metropolitan’s Water Supplies, A Blueprint for Water Reliability, March 2003
MWD Integrated Resources Plan Update, Oct 2010
Public Utilities Department 2010 Urban Water Management Plan
Public Utilities Department Annual 2012 Water Conservation Report
Public Utilities Department Recycled Water Study July 2012
Public Utilities Department Recycled Water Master Plan August 2011
Public Utilities Department Water Purification Demonstration Project Report
Water Authority 2010 Urban Water Management Plan
Water Authority Regional Water Facilities Master Plan, 2003
Water Department Long-Range Water Resources Plan (2002-2030), December 2002
Water Department The City of San Diego Subordinated Water Revenue Bonds, Series 2002, October 2002

Water Authority's approval email following a request from City of San Diego Public Utilities Department staff for the use of the Accelerated Forecasted Growth (AFG) component of the Water Authority's 2010 Urban Water Management Plan to meet the unanticipated water demands associated with this project.

From: Weinberg, Ken [mailto:KWeinberg@sdcwa.org]
Sent: Monday, May 19, 2014 3:50 PM
To: Steirer, Marsi
Cc: Friehauf, Dana; Bombardier, Tim; Adrian, George
Subject: FW: WSA-Chollas Community Plan Ammendment
Importance: High

Dear Marsi,

Thank you for your email regarding the Chollas Triangle Community Plan Amendment and Rezone project. The following is the Water Authority's response to your request to use the Accelerated Forecasted Growth (AFG) component of the Water Authority's 2010 Urban Water Management Plan to meet the unanticipated water demands associated with the proposed project.

The purpose of the AFG component of the demand forecast is to estimate, on a regional basis, additional demand associated with proposed projects not yet included in local jurisdictions' general plans and to plan for sufficient regional supplies to reliably meet the water demand of those projects. The Chollas Triangle Community Plan Amendment and Rezone project identified in your e-mail, meets the criteria for the AFG component of the Water Authority's 2010 UWMP and we are planning to have water supplies to reliably meet the demand associated with the project. Our accounting of the AFG demand component will be adjusted to reflect the additional demand associated with the proposed project.

Please let me know if you have any questions or want to discuss further.

Ken

Ken Weinberg
Director of Water Resources

From: Steirer, Marsi [mailto:MSteirer@sandiego.gov]
Sent: Monday, April 14, 2014 10:02 AM
To: Weinberg, Ken
Cc: Friehauf, Dana; Bombardier, Tim; Adrian, George; Bista, Seevani; Kaziha, Anas; Steirer, Marsi
Subject: WSA-Chollas Community Plan Ammendment

Dear Ken,

The City of San Diego is preparing a water supply assessment for the Chollas Triangle Community Plan Amendment and Rezone project, in accordance with the requirements of SB 610. The project is an amendment to the General Plan and Mid-City Communities Plan – Eastern Area to redesignate approximately 12.5 acres of Commercial Mixed Use and approximately 3.4 acres of Industrial to Neighborhood Village in an approximately 36 acre area between University Avenue to the north, Chollas Creek and Chollas Parkway to the south and east, and 54th street to the west. The Neighborhood Village land use designation would allow for the development of multi-family housing in a mixed-use setting and convenience shopping at build-out as listed below:

- 486 multi-family dwelling units,
- 130,000 square feet of non-residential developments,
- 5.4 acres as population-based park land

As some of the proposed development for this project was not accounted for in the SANDAG Series 12 forecast, the water demand associated with the unaccounted growth was also not included in the City's 2010 Urban Water Management Plan. The unaccounted water demand associated with this project is **14.7 acre-feet per year** as seen in the table below:

Portion of Chollas Triangle Project Not Accounted for in the SANDAG's Series 12 Forecast

	Water Demands (Acre Feet per Year)		
Project	**Planned**	**Projected**	**Delta**
Chollas Triangle Development Project	110.58 AFY	125.23 AFY	- 14.7
Total			**- 14.7**

The City is requesting the use of the Accelerated Forecasted Growth (AFG) component of the Water Authority's 2010 Urban Water Management Plan to meet the unanticipated water demands associated with this project, similar to the other projects requested.

Attached are a vicinity map for the project and a spreadsheet showing the total AFG that the City has requested to date.

Your assistance with this request will be greatly appreciated.

Thank you,

Marsi

APPENDIX J

CHOLLAS VALLEY TRUNK SEWER MODELING STUDY

2014000383

THE CITY OF SAN DIEGO

MEMORANDUM

DATE: May 28, 2014

TO: Kerry Santoro, Assistant Deputy Director, Development Services Department

FROM: Seevani Bista, Senior Water Resources Specialist, Public Utilities Department

SUBJECT: Water Supply Assessment Report (WSA) for the Chollas Triangle Community Plan Amendment and Rezone Project

---

In response to your request, please find attached WSA for the Chollas Triangle Community Plan Amendment and Rezone Project approved by Deputy Director of the Long-Range Planning and Water Resources Division, Public Utilities.

The Public Utilities Department (Department) prepared this WSA to assess whether sufficient water supplies are or will be available to meet the projected water demands of the project. The findings verify that there is sufficient water supply to serve existing demands, projected demands of the project, and future water demands within the Department's service area in normal and dry year forecasts during a 20-year projection.

Should there be any comments on the WSA at the conclusion of the public review process for the Chollas Triangle EIR, please forward your comments for our review. Please provide us a copy of the EIR after the City Council approval.

If you have any questions, please call me at (619) 533-4222.

Seevani Bista

SB/tm

Attachment: Water Supply Assessment Report

cc: Ray Palmucci, Deputy City Attorney, Office of the City Attorney
Marsi A. Steirer, Deputy Director, Public Utilities Department
George Adrian, P.E., Principal Water Resources Specialist, Public Utilities Department
Anna McPherson, Senior Planner, Development Services Department
Michael Prinz, Associate Planner, Planning, Neighborhoods & Economic Development Department
Anas Kaziha, Junior Engineer-Civil, Public Utilities Department
RMS 6.8.4

City of San Diego
PUBLIC UTILITIES
Water & Wastewater

WATER SUPPLY ASSESSMENT REPORT

Chollas Triangle Community Plan Amendment and Rezone Project

Prepared by:

City of San Diego Public Utilities Department

Reviewed by:

Marsi A Steirer May 28, 2014

Marsi A. Steirer, Deputy Director **Date**
Long-Range Planning & Water Resources Division

Prepared: May 2014

City of San Diego Public Utilities Department
Water Supply Assessment Report

Chollas Triangle Community Plan Amendment and Rezone Project

Table of Contents

Section 1 - Purpose

On January 1, 2002, Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) took effect. The intent of SB 610 and SB 221 was to improve the link between information on water supply availability and certain land-use decisions made by cities and counties. Under SB 610 (codified in the Water Code beginning at Section 10910), a water supply assessment (WSA) must be furnished to cities and counties for inclusion in any environmental documentation of projects (defined in the Water Code) that propose to construct 500 or more residential units, or that will use an amount of water equivalent to what would be used by 500 residential units, and are subject to the California Environmental Quality Act (CEQA). Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply or water supply verification (WSV).

Not every project that is subject to the requirements of SB 610 is also subject to the mandatory water verification of SB 221 (e.g., if subdivision map approval is not required). Conversely, not every project that is subject to the requirements of SB 221 must also obtain a SB 610 water supply assessment.

A foundational document for compliance for both SB 610 and SB 221 is the Urban Water Management Plan (UWMP) of the relevant water agency. Both of these statutes repeatedly identify the UWMP as a planning document that can be used by a water supplier to meet the standards set forth in both statutes. Thorough and complete UWMPs will allow water suppliers to use UWMPs as a foundation to fulfill the specific requirements of the two statutes. Cities, counties, water districts, property owners and developers utilize this document when planning for and proposing new projects. It is crucial that cities, counties and water suppliers work closely when developing and updating these planning documents. The City of San Diego’s 2010 UWMP, which is used as the basis for this Report (WSA), was adopted by the San Diego City Council in June 2011.

The City of San Diego (City) Development Services Department (DSD) requested that Public Utilities Department (Department) prepare this WSA as part of the environmental review for the Chollas Triangle Community Plan Amendment and Rezone Project (Project). A more detailed description of the Project is provided in Section 2 of this WSA. This WSA evaluates water supplies that are or will be available during normal, single-dry year, and multiple-dry water years during a 20-year projection to meet the projected demands of the Project, in addition to existing and planned future water demands of the Department. This WSA provides an assessment of the availability of sufficient water supplies for the Project only, and does not constitute approval of the Project.

This WSA also includes identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply for the Project and quantities of water received in prior years pursuant to those entitlements, rights, contracts and agreements.

This Report has been prepared in compliance with the requirements under SB 610 by the Department in consultation with DSD, the San Diego County Water Authority (Water Authority) and the Metropolitan Water District of Southern California (MWD).

Section 2 - Project Description

The project is an amendment to the General Plan and Mid-City Communities Plan – eastern area to redesignate approximately 12.5 acres of commercial mixed use, and approximately 3.4 acres of industrial to neighborhood village in an approximately 36 acre area between University Avenue to the north, Chollas Creek and Chollas Parkway to the south and east, and 54th Street to the west. The neighborhood village land use designation would allow for the development of multi-family housing in a mixed-use setting along with convenience shopping and services. The amendment would also revise the Future Recommended Street Network to vacate the approximately 11.4 acre Chollas Parkway and designate approximately 5.4 acres as population-based park land, with the remaining land being designated as open space. The proposed project would also include a rezone of the current commercial community (CC)-5-3 and industrial-light (IL)-3-1 zones to zones consistent with the new land use designations as recommended in the General Plan.

The project site is the existing Chollas Triangle Community that presently consists of a San Diego Gas & Electric (SDGE) substation, three (3) single-family homes south of Lea Street, a gas station, 21 multi-family housing units, a Teen Challenging Center with a group quarters facility that consists of 50 beds, a 60,000 square-foot K-mart, a 40,000 square-foot grocery store, and a commercial use facility. In addition, the project boundary also includes several existing buildings; Alvarado Parkway Institute (behavior health system), a veterinary hospital, a massage facility, recycling center and six (6) multi-family units that were not included in the original community plan. This redevelopment project is proposed to enhance the quality of the existing Chollas Triangle Community by adding and revising the following mixed-uses at build-out:

- 486 multi-family dwelling units
- 130,000 square feet of non-residential developments (mixture of retail, office and other commercial uses)
- 5.4 acres as population-based park land that serves the population of the community

The project site and project zoning map is shown in Figure 2-1 and Figure 2-2.

FIGURE 2-1
VICINITY MAP OF THE PROJECT

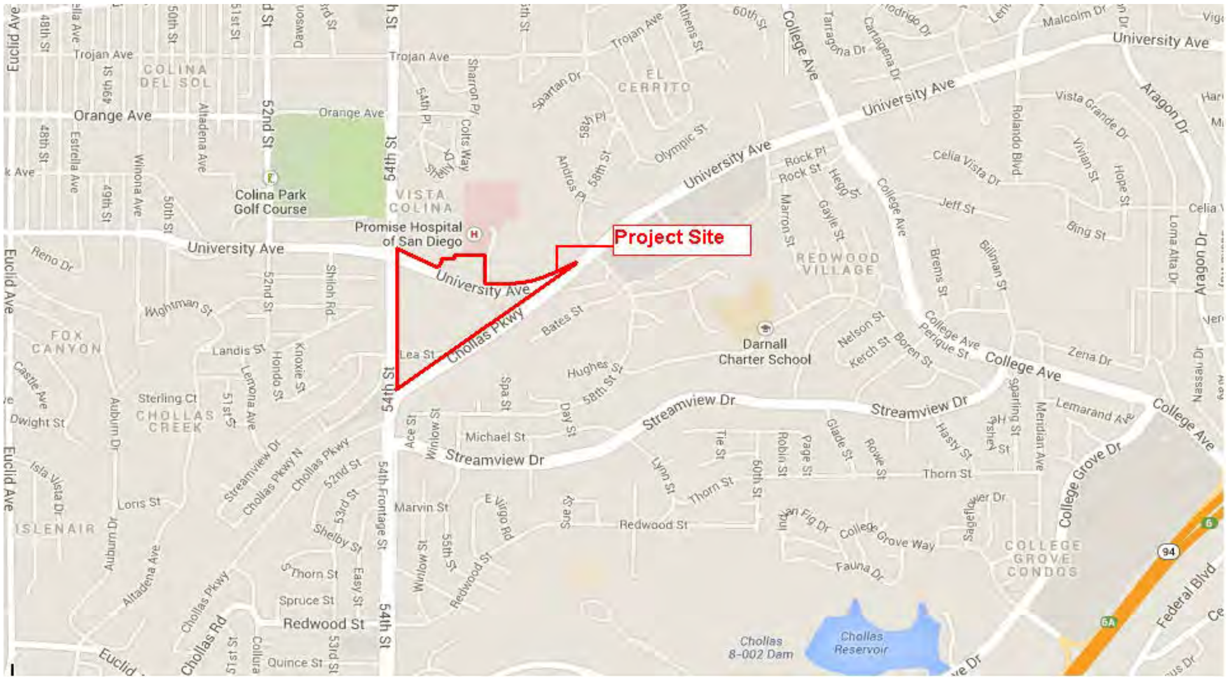
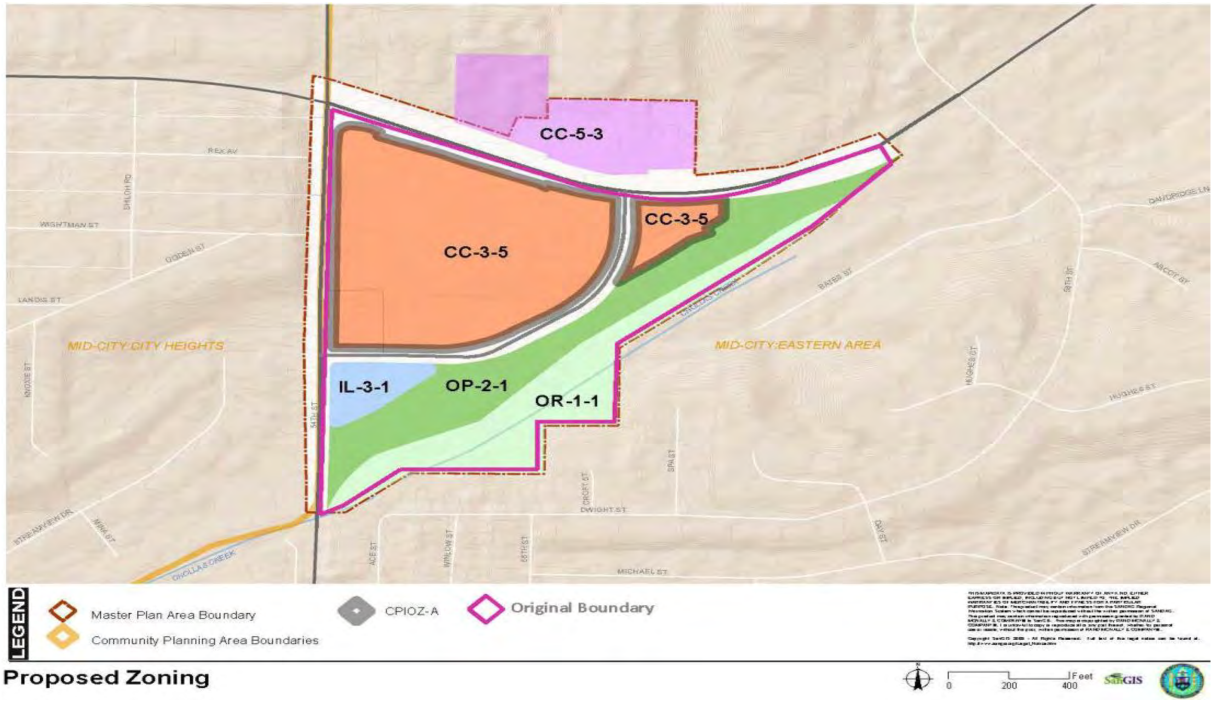


FIGURE 2-2
ZONING MAP OF THE PROJECT



The project proposes the following developments:

Residential

The proposed residential development plan consists of 486 multi-family units within the community, and an additional three (3) single-family homes at build-out.

Commercial

The proposed project will potentially produce 130,000 square foot of existing and new non-residential commercial area at build-out. The additional commercial use could include a mixture of retail, office spaces, and other commercial uses.

Landscape and Recreation

The amendment would also revise the Future Recommended Street Network to vacate the approximately 11.4 acre Chollas Parkway designating approximately 5.4 acres as population-based park land, with the remaining land being designated as open space. The landscaped areas will be kept indigenous to the San Diego River region. Low water use plants will be used in the landscaping around the project site.

A comparison of the proposed and existing development within the proposed project boundary is tabulated below in Table 2-1.

TABLE 2-1

PROPOSED AND EXISTING DEVELOPMENT

Chollas Triangle Area of Change - Land Use Information				
	Existing		Proposed	
Area (in acres)	Designation	Zone	Designation	Zone
12.5	Commercial Mixed-Use	CC-5-3	Neighborhood Village	CC-3-5
3.4	Industrial	IL-3-1	Neighborhood Village	CC-3-5
5.4	Industrial	IL-3-1	Park	OP-2-1
5.6	Industrial		Open Space	OR-1-1

Chollas Triangle Dwelling Unit Information		
	Existing	Proposed
Single-Family	3	3
Multi-Family	21	486
Teenage Challenge Center	26,000 square feet	-
Commercial	152,000 square feet	130,000 square feet

Section 3 - Findings

Water Assessment

Project: This Report identifies that the water demand projections for the Project, are included in the regional water resource planning documents of MWD, Water Authority, and a portion contained in the City's 2010 UWMP. Current and future water supplies, as well as actions necessary to develop the future water supplies, have been identified. This Report demonstrates that there will be sufficient water supplies available during normal, single-dry year, and multiple-dry water years during a 20-year projection to meet the unanticipated projected demands of the Project. This is done by utilizing the demand increment associated with the accelerated forecasted growth in the Water Authority's 2010 UWMP as described below, and in the City's 2010 UWMP.

The Water Authority's 2010 UWMP provides for a comprehensive planning analysis at a regional level, and includes water use associated with accelerated forecasted residential development as part of its municipal and industrial sector demand projections. These housing units were identified by the San Diego Association of Government (SANDAG) land use plan in the course of its regional housing needs assessment, but are not yet included in existing general land use plans of local jurisdictions. The demand associated with accelerated forecasted residential development is intended to account for SANDAG's land-use development currently projected to occur between 2035 and 2050, but has the likely potential to occur on an accelerated schedule. SANDAG estimates that this accelerated forecasted residential development could occur within the planning horizon (2010 to 2035) of the 2010 UWMP. These units are not yet included in local jurisdictions' general plans, so their projected demands are incorporated at a regional level. When necessary, this additional demand increment, termed Accelerated Forecasted Growth, can be used by member agencies to meet the demands of development projects not identified in the general land use plans.

As demonstrated in Table 3-1 of this Report, prepared by the Department in compliance with the requirements of SB 610 using the City's and Water Authority's 2010 UWMP based upon SANDAG Series 12 Forecast land use, there is sufficient water planned to supply the Project's estimated annual average usage. The projected water demands of the Project are 111,816 gallons per day or 125.23 acre feet per year (AFY). In the City's 2010 UWMP, the planned water demands of this project site are 98,728 gallons per day or 110.58 AFY. The remaining portion of the estimated 13,088 gallons per day or 14.7 AFY is accounted for through the Accelerated Forecasted Growth demand increment of the Water Authority's 2010 UWMP. As documented in the Water Authority's 2010 UWMP, the Water Authority is planning to meet future and existing demands which include the demand increment associated with the accelerated forecasted growth. The Water Authority is assisting its member agencies in tracking the certified Environmental Impact Reports (EIRs) provided by the agencies that include water supply assessments that utilize the accelerated forecasted growth demand increment, to demonstrate adequate supplies for the development. In addition, the next update of the demand forecast for the Water Authority's 2015 UWMP will be based on SANDAG's most recently updated forecast, which will include the Project.

Existing and Future Developments Planned to occur by 2035: The City's 2010 UWMP demonstrates there will be sufficient water supplies available to meet demands for existing and planned future developments that are projected to occur by 2035. Based on a normal water supply year, the estimated water supply projected in five-year increments for a 20-year projection will meet the City's projected water demand of 240,472 acre-feet[A] (AF) in 2015 to 298,860 AF in 2035 (**Table 6-5**) for these developments. Similarly, based on a single-dry year forecast (**Table 6-7**), the estimated water supply will meet the projected water demand of 318,586 AF (2035). Based on a multiple-dry year, third year supply (**Table 6-8**), the estimated water supply will meet the projected demands of 281,466 AF (2015); 303,004 AF (2020); 322,166 AF (2025); 334,720 AF (2030); and 346,823 AF (2035).

Therefore, based on the findings from the City's 2010 UWMP and the Water Authority's 2010 UWMP, this project will result in no unanticipated demands.

TABLE 3-1
WATER DEMAND ANALYSIS

<table>
<tr><th colspan="5">Planned Water Demands for the Project Site included in the 2010 UWMP</th></tr>
<tr><th rowspan="2">Category</th><th colspan="2" rowspan="2">Quantity</th><th colspan="2">Estimated Potable Water Use in</th></tr>
<tr><th>Gallons per Day (GPD)</th><th>Acre-Feet per Year (AFY)</th></tr>
<tr><td>2035</td><td colspan="2"></td><td></td><td></td></tr>
<tr><td>Employees[1]</td><td colspan="2">478</td><td>28,680</td><td>32.12</td></tr>
<tr><td>Multi-family Units[2]</td><td colspan="2">398</td><td>70,048</td><td>78.45</td></tr>
<tr><td colspan="3">Total</td><td>98,728</td><td>110.58</td></tr>
<tr><th colspan="5">Projected Water Demands for Chollas Triangle</th></tr>
<tr><td></td><td>Square-Feet</td><td>employee/Units</td><td>GPD</td><td>AFY</td></tr>
<tr><td>Commercial Development[1,4]</td><td>130,000</td><td>260</td><td>15,600</td><td>17.47</td></tr>
<tr><td>Multi-family Units[2]</td><td colspan="2">486</td><td>85,536</td><td>95.80</td></tr>
<tr><td>Landscaping[5]</td><td>235,224</td><td></td><td>10,680</td><td>11.96</td></tr>
<tr><td colspan="3">Total</td><td>111,816</td><td>125.23</td></tr>
<tr><th colspan="3">Net Water Demands</th><th colspan="2">Acre-Feet per Year (AFY)</th></tr>
<tr><td colspan="3">Projected</td><td colspan="2">125.2</td></tr>
<tr><td colspan="3">City of San Diego 2010 UWMP - Planned</td><td colspan="2">110.6</td></tr>
<tr><td colspan="3">Planned from Water Authority's Accelerated Forecasted Growth[6]</td><td colspan="2">14.7</td></tr>
<tr><td colspan="3">Unanticipated Demand</td><td colspan="2">0</td></tr>
</table>

Table 3-1 Notes:

1. The utilization of 60 gallons per person per day is the City's acceptable standard for employment water use (Includes nominal landscaping water demand).
2. 80 gallons per person per day is the City's acceptable standard for multi-family water consumption (includes landscaping water demands). The person per household (residential) is 2.2 based on City wide average.
3. Includes existing developments that were not included in the original community plan. Data for the existing developments is estimated based on commercial and residential footprint.
4. Number of retail employees estimated at 500 square-feet per employee (City data).
5. Landscaping water demands are based on City's on-line landscaping watering calculator (http://apps.sandiego.gov/landcalc/start.do).

[A] An acre-foot of water equals 325,851 gallons, which is enough water for two average families of four for one year.

Conclusion

In summary, these findings substantiate that there is sufficient water supply planned to serve this Project's future water demands within the Department service area in normal, single-dry year, and multiple-dry water year forecasts.

Therefore, this Report concludes that the projected level of water use for this Project is within the regional water resource planning documents of the City, the Water Authority and MWD. Current and future water supplies, as well as the actions necessary to develop these supplies, have been identified in the water resources planning documents of the Department, the Water Authority, and MWD to serve the projected demands of the Project, in addition to existing and planned future water demands of the Department.

Section 4 - City of San Diego Public Utilities Department

The City of San Diego (City) purchased its initial water system in 1901 from the privately owned San Diego Water & Telephone Company. Since then, continual expansion of the water system has been required to meet the demands of the growing population of the City. To meet the demand, the Public Utility Department (Department) purchased a number of reservoirs between 1913 and 1935 to supplement local water supplies. Despite low annual precipitation for the area (approximately 10 inches per year), these reservoirs supplied the City's growing demands until 1940.

The need to import water emerged with the increased demand generated by the presence of the United States Navy prior to and during World War II, and the ensuing population growth. As a result, the Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from MWD. The Department and other local retail water distributors began receiving imported water from the Colorado River in 1947.

Today, the Department treats and delivers more than 200,000 AFY of water to more than 1.3 million residents. The water system extends over 404 square miles, including 342 square miles in the City. The Department potable water system serves the City and certain surrounding areas, including both retail and wholesale customers. The Project is located within the Department service area.

In addition to delivering potable water, the City has a recycled water program. Its objectives are to optimize the use of local water supplies, lessen reliance on imported water and free up capacity in the potable system. Recycled water provides the City a dependable, year-round, locally produced and controlled water resource.

4.1 Overview of Potable System Facilities

The water system consists of nine raw water storage facilities with over 408,000 AF of storage capacity, three water treatment plants, 28 treated water storage facilities, and more than 3,212 miles of transmission and distribution lines.

The Department maintains and operates nine local surface raw water storage facilities, which are connected directly or indirectly to the City's water treatment operations. The Lower Otay, Barrett, and Morena Reservoirs (135,349 AF total capacity) service the Otay Water Treatment Plant in south San Diego; the El Capitan, San Vicente, Sutherland, and Lake Murray Reservoirs (236,311 AF total capacity) service the Alvarado Water Treatment Plant in central San Diego; and the Miramar Reservoir (6,682 AF total capacity) services the Miramar Water Treatment Plant in north San Diego. Lake Hodges Reservoir has a total capacity of 30,251 AF and is connected to Olivenhain Reservoir, which is owned by Water Authority. Olivenhain Reservoir is connected to the Water Authority's second aqueduct. Through this connection, Hodges water can be delivered to all City treatment plants. The City has the ability to access 50 percent of the local water available in Hodges Reservoir via the Water Authority's delivery system.

The Department maintains and operates three water treatment plants with a combined total rated capacity of 378.4 million gallons per day (MGD). The Miramar Water Treatment Plant (Miramar WTP), originally constructed in 1962, has a rated capacity of 144 MGD with the ability to increase to 215 MGD after the replacement of the two old clearwells in 2016. The Miramar WTP generally serves the City's geographical area north of the San Diego River (north San Diego). The Alvarado Water Treatment Plant (Alvarado WTP), operational since 1951, had an initial capacity rating of 120 MGD. Several hydraulic improvements and upgrades were completed in 2011 which increased the capacity of the plant to 200 MGD. The California Department of Public Health (CDPH) has approved this rating for the Alvarado WTP. The Alvarado WTP generally serves the geographical area from National City to the San Diego River (central San Diego). The Otay Water Treatment Plant (Otay WTP) was constructed in 1940, and has a current rated capacity of 34.4 MGD, which meets current and short-term forecasted demands. The Otay WTP has hydraulic capacity to increase to 40 MGD in the future. In order to do so, approval from CDPH is required, based upon a future high filtration rate study. The Otay WTP generally serves the geographical area bordering Mexico (south San Diego) and parts of the southeastern portion of central San Diego. All upgrade work was completed in 2012 including the construction of a third flocculation and sedimentation basin, filter piping and media improvements.

The Department maintains and operates 28 treated water storage facilities including steel tanks, standpipes, concrete tanks and rectangular concrete reservoirs, with capacities varying from less than one to 35 million gallons.

The water system consists of more than 3,212 miles of pipelines, including transmission lines up to 84 inches in diameter and distribution lines as small as four inches in diameter. Transmission lines are pipelines 16 inches and larger in diameter that convey raw water to the water treatment plants and convey treated water from the water treatment plants to the treated water storage facilities. Distribution lines are pipelines 16 inches and smaller in diameters that directly service the retail users connected to a meter. In addition, the Department maintains and operates 49 water pump stations that deliver treated water from the water treatment plants to approximately 279,557 metered service connections in 128 different pressure zones. The Department also maintains several emergency connections to and from neighboring water agencies, including the Santa Fe Irrigation District (Miramar WTP), the City of Poway (Miramar WTP), Olivenhain Municipal Water District (Miramar WTP), the Cal-American Water Company (Alvarado and Otay WTP's), Sweetwater Authority (Otay WTP), and the Otay Water District (Otay WTP).

4.2 Overview of Recycled System Facilities

The City's recycled water system consists primarily of two water reclamation plants with a combined total wastewater treatment capacity of 45 million gallons per day (MGD), three recycled water storage facilities with over a million gallons (12 MG) of storage capacity, and more than 93 miles of transmission and distribution lines.

Located in the Miramar area, the North City Water Reclamation (NCWRP) treats an average of 16.5 MGD of wastewater, although the plant has an ultimate treatment capability of 30 MGD. In CY 2013, 7.0 MGD of the wastewater flows were treated to a tertiary level and 7.1 MGD was beneficially reused. The Department maintains and operates the Northern Service Area distribution system which consists of 91 miles of recycled water pipeline, two reservoirs, two pump stations, with service to 574 meters.

Located at the end of Dairymart Road, near the International Border with Mexico, the South Bay Water Reclamation Plant (SBWRP) treats an average of eight (8) MGD of wastewater, although the Plant has a treatment capability of 15 MGD. In CY 2013, an average of 3.9 MGD of the tertiary treated wastewater flows were beneficially reused. The Public Utilities Department maintains and operates the Southern Service Area distribution system which consists of three (3) miles recycled water pipeline, one storage tank, one pump station and seven (7) meters.

Section 5 - Existing and Projected Supplies

The Public Utilities Department (Department) relies on imported water as its major water supply source, and is a Water Authority member agency. The Water Authority is a member agency of MWD. The statutory relationships between the Water Authority and its member agencies, and MWD and its member agencies, respectively, establish the scope of the Department's entitlements to water from these two agencies. Due to the Department's reliance on these two agencies, this Report relies and includes information on the existing and projected supplies, supply programs, and related projects of the Water Authority and MWD.

The City of San Diego (City) relies on the long-term water resources planning documents of the Water Authority and MWD to support the work on this Report. These documents are available at the following websites and contacts:

San Diego County Water Authority

http://www.sdcwa.org/2010-urban-water-management-plan

Dana Friehauf, Principal Water Resources Specialist (858) 522-6749

Metropolitan Water District of Southern California

http://www.mwdh2o.com/mwdh2o/pages/yourwater/ywater01.html#RUWMP

MWD staff, (213) 217-6000

The Water Authority and MWD are actively pursuing programs and projects to diversify their water supply resources. A description of these efforts as well as the challenges facing the Water Authority and MWD can be found in the San Diego County Water Authority Official Statement, dated February 13, 2013, relating to Water Revenue Refunding Bonds 2013A, and MWD's Official Statement, dated March 13, 2014, relating to Water Revenue Refunding Bonds, 2014 Series A. These Official Statements are available at the following websites[1]:

http://www.sdcwa.org/sites/default/files/files/finance-investor/2013Bond.pdf

http://mwdh2o.com/mwdh2o/pages/finance/PDFs/2014-Ser.A-B-FOS.pdf

A brief overview of MWD and the Water Authority, including the Department relationship to these agencies, is included below.

A description of local surface and local recycled water supplies available to the Department can be found in Section 5.4 of this Report.

[A] This information is current at the time this document was prepared.

5.1 Metropolitan Water District of Southern California

MWD was created in 1928, under authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended) (the "MWD Act"). MWD's primary purpose is to provide a supplemental supply of wholesale water for domestic and municipal uses to its constituent agencies. The MWD service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. There are 26 member agencies of MWD, consisting of 14 cities, 11 municipal water districts and the Water Authority. A Board of Directors, currently numbering 37 members, governs MWD. Each constituent agency has at least one representative on the MWD Board. Representation and voting rights are based upon the assessed valuation of property within each constituent agency. The Water Authority has four members on the MWD Board and about 18 percent of the weighted vote. The total population of the MWD service area is currently estimated at approximately 19 million.

MWD's existing water supplies have been historically sufficient to meet demands within its service area during years of normal precipitation. Although MWD plans and manages reserve supplies to account for normal occurrences of drought conditions, regulatory restrictions, including but not limited to restrictions under the Federal and California Endangered Species Acts, have placed limitations on MWD's ability to provide water to its member agencies. In the future, population growth, regulatory restrictions, increased competition for low-cost water supplies, and other factors such as climate change could impact MWD's ability to supply its member agencies even in normal years.

MWD Water Supply

MWD's two major sources of water are from the Colorado River and the State Water Project (SWP).

Colorado River Water: The Colorado River was MWD's original source of water after its establishment in 1928. The Colorado River Aqueduct, which is owned and operated by MWD, is 242 miles long, starting at Lake Havasu and terminating at Lake Mathews in Riverside County. Under applicable laws, agreements and treaties governing the use of water from the Colorado River, California is entitled to 4.4 million acre-feet of Colorado River water annually, plus one-half of any surpluses that may be available for use collectively in Arizona, California and Nevada as declared on an annual basis by the United States Secretary of the Interior. Under the priority system that governs the distribution of Colorado River water made available to California, MWD holds the fourth priority right of 550,000 acre-feet per year and a fifth priority right of 662,000 acre-feet per year. MWD's fourth priority right is within California's basic annual apportionment of 4.4 million acre-feet; however, the fifth priority right is outside of this entitlement and therefore is not considered a firm supply of water. MWD also retains a "call" on 100,000 acre-feet per year on water transferred to the Coachella Valley Water District and the Desert Water Agency, if needed, so long as they pay for the financial obligations associated with the water during the call period.

Several fish species and other wildlife species either directly or indirectly have the potential to affect Colorado River operations, thus changing the amount of water deliveries to the Colorado River Aqueduct. A number of species that are on either “endangered” or “threatened” lists under the federal and/or California endangered species acts (“ESAs”) are present in the area of the Lower Colorado River. MWD and other stakeholder agencies have developed a multi-species conservation program that allows MWD to obtain federal and state permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species.

State Water Project: The SWP is owned by the State of California and operated by the State Department of Water Resources (DWR). The SWP transports Feather River water stored in and released from Oroville Dam and unregulated flows diverted directly from the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (“Bay-Delta”) south via the California Aqueduct to four delivery points near the northern and eastern boundaries of MWD. The total length of the California Aqueduct is 444 miles. MWD is one of 29 agencies that have long-term contracts for water service from DWR, and is the largest agency in terms of the number of people it serves, the share of SWP water to which it is entitled, and the total amount of annual payments made to DWR. MWD’s contract with DWR provides for the ultimate delivery of 1,911,400 acre-feet per year (46 percent of the total SWP entitlement). The SWP was originally intended to meet demands of 4.2 million acre-feet per year. Initial SWP facilities were completed in the early 1970s, and it was envisioned that additional facilities would be constructed as contractor demands increased. Several factors, including public opposition, increased costs, and increased non-SWP demands for limited water supplies, combined to delay the construction of additional facilities.

The quantity of SWP water available for delivery each year is controlled by hydrology, environmental and operational considerations. In addition to its importance to urban and agricultural water users, the Bay-Delta is of critical ecological importance. The Bay-Delta is the largest estuary on the west coast of the United States and provides habitat for more than 750 plant and animal species. One-hundred-fifty years of human activity have contributed to the destruction of habitat, the decline of several estuarine and anadromous fish species, and the deterioration of water quality. These activities include increasing water demands from urban and agricultural uses, the dredging and filling of tidal marshes, the construction of levees, urban runoff, agricultural drainage, runoff from abandoned mines, and the introduction of non-native species, thus affecting the supply and reliability of this source.

DWR has altered the operations of the SWP to accommodate species of fish listed under the ESAs. These changes in project operations have adversely affected SWP deliveries. The impact on total SWP operations attributable to the Delta smelt and salmon species biological opinions combined is estimated to be one million acre-feet in an average year, reducing SWP deliveries from approximately 3.3 million acre-feet to approximately 2.3 million acre-feet for the year under average hydrology, and are estimated to range from 0.3 million acre-feet during critically dry years to 1.3 million acre-feet in above normal water years. SWP deliveries to contractors for calendar years 2008 through 2012 were reduced by a total of approximately 2.3 million acre-feet as a result of pumping restrictions. Pumping restrictions impacting the SWP allocation for 2013 have reduced exports by approximately 596,000 acre-feet through calendar year 2013.[B]

5.2 San Diego County Water Authority

The Water Authority's service area lies within the foothill and coastal areas of the westerly third of San Diego County, encompassing 952,208 acres (1,488 square miles). When the Water Authority was established in 1944, its service area consisted of 94,707 acres. Growth has primarily resulted from the addition and annexation of service areas by member agencies. The City, with 210,726 acres, has the largest service area within the Water Authority's total service area. Of the total population of San Diego County, 97 percent live within the Water Authority's service area. The City represents approximately 43 percent of the total population of the Water Authority's service area.

The Water Authority's service area is a semi-arid region where the natural occurrence of water from rainfall and groundwater provides a firm water supply for only a small portion of the water demands of the current population. Since 1990, the Water Authority has provided an average of 85 percent of the water supply within its service area. As a wholesaling entity, the Water Authority has no retail customers, and only serves its member agencies.

The Water Authority's mission is to provide its service area a safe and reliable water supply. Historically, the principal source of supply for the Water Authority's service area has been water purchased by the Water Authority from MWD for sale to the Water Authority's member agencies. However, drought conditions and population growth in the Water Authority's service area have highlighted the need for diversification of the Water Authority's water supplies. Therefore, consistent with its mission statement, the Water Authority has actively pursued a strategy of supply diversification that includes the acquisition and importation of additional water supplies, the development of additional local water supply projects and augmentation of its water supply via local and regional water storage capacity. Water supplies utilized within the Water Authority service area originate from two sources: (1) water imported by the Water Authority and (2) local supplies (such as local runoff, groundwater, recycled water, and prospectively seawater desalination). Since 1990, local supplies have grown to constitute 15 percent of the Water Authority's water supply, and the Water Authority has implemented programs and supported new technologies in order to assist its member agencies in increasing this percentage. Although MWD remains the Water Authority's largest source of imported water, recent years have also seen the diversification of the Water Authority's sources of imported water through core and spot water transfers with other agencies.

In late November 2012, the Water Authority's Board of Directors approved a 30-year Water Purchase Agreement with Poseidon Resources, a private investor-owned company, to purchase water from the proposed Carlsbad Desalination Plant, which is a fully-permitted ocean desalination plant and conveyance pipeline. The plant will produce 50 million gallons a day starting in 2016. By 2020, it will generate enough water to meet seven (7) percent of the region's

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[B] http://mwdh2o.com/mwdh2o/pages/finance/PDFs/2014-Ser.A-B-FOS.pdf current demands[C]. January 8, 2014 represented the first anniversary of construction putting the project a little more than 25 percent complete.

The Quantification Settlement Agreement (QSA) for the Colorado River was completed in October 2003. This historic agreement was enacted to help settle disputes regarding the persistent over-drafting of the state's 4.4 million acre-foot basic annual apportionment of Colorado River water. The agreement includes a long-term transfer of conserved water from the Imperial Irrigation District to the Water Authority. The QSA also commits the state to a restoration path for the environmentally sensitive Salton Sea and provides full mitigation for these water supply programs. Specific programs under the QSA that directly benefit the Water Authority include the San Diego County Water Authority-Imperial Irrigation District water transfer agreement, which currently transfers 100,000 acre-feet of high priority Colorado River water to the Water Authority and will provide up to 200,000 acre-feet of water a year through water conservation measures in Imperial Valley in 2021. The QSA also allows for the transfer of water conserved from the concrete lining of portions of the previously earthen All-American and Coachella Canals from the Imperial Irrigation District. The canal lining projects reduce the loss of water that occurs through seepage. MWD assigned to the Water Authority its right to develop approximately 77,700 acre-feet of conserved Colorado River water annually.

The QSA intended to assure the San Diego region a minimum of 75 years of stable Colorado River water supplies. On November 5, 2003, the Imperial Irrigation District (IID) filed a validation action in Imperial County Superior Court, seeking a judicial determination that 13 agreements associated with the IID/SDCWA water transfer and the QSA are valid, legal and binding. Other lawsuits also were filed contemporaneously challenging the execution, approval and implementation of the QSA on various grounds. All of the QSA cases were coordinated in the Sacramento Superior Court. A final judgment invalidating 11 of the 13 agreements in Phase 1 of the trial was entered on February 11, 2010, and subsequently appealed. On December 7, 2011 the Court of Appeal issued its opinion reversing the judgment and remanding to the trial court for further proceedings. The appellate Court decision resolved many issues in the case, including the validity and constitutionality of the QSA. Trial on compliance with the California Environmental Quality Act was held in November 2012. On June 4, 2013, the court validated the 2003 QSA and related 12 agreements regarding transfers and exchanges of Colorado River water between southern California water agencies. The IID, Coachella Valley Water District, MWD, and SDCWA all sought validation of the agreements from the court under California Water Code section 22762 and California Code of Civil Procedure section 860 et seq., quantifying the amount of Colorado River water each agency may divert and subsequently transfer. The court found the agreements to be valid and adopted in compliance with the requirements of the Brown Act and the California Environmental Quality Act (CEQA). The ruling represents the latest chapter in the longstanding dispute regarding the diversion and use of California’s apportionment of the Colorado River under state and federal law.

[C] http://www.sdcwa.org/issue-desal

http://carlsbaddesal.com/

The Water Authority has encouraged the development of additional local water supply projects such as water recycling and groundwater projects through the award of Local Water Supply Development ("LWSD") incentives of up to $200 per acre-foot for recycled water and groundwater produced and beneficially reused within the Water Authority's service area. The purpose of the Water Authority's LWSD program is to promote the development of cost-effective water recycling and groundwater projects that prevent or reduce a demand for imported water and improve regional water supply reliability. The LWSD Program reimburses member agencies for all, or a portion of the difference between the actual per acre-foot cost of producing recycled water, and the revenue generated by the LWSD participant through the sale of that acre-foot of recycled water (not to exceed $200 per acre-foot). In February 2008, the program was expanded to include funding for local brackish and seawater desalination projects.

5.3 2009 Comprehensive Water Package

On November 4, 2009, the California State Legislature passed a comprehensive package of water legislation (the "2009 State Water Legislation") that included five bills (four of which were subsequently signed by Governor Schwarzenegger) addressing California's statewide water situation, with particular emphasis on the Bay-Delta. The 2009 State Water Legislation included, among other things, a 20 percent water conservation mandate for most localities in the State by 2020, new regulations regarding voluntary monitoring of groundwater levels by localities, and an $11.1 billion State general obligation bond measure. The water bond measure was originally certified to be on the State's 2010 ballot. The ballot has already been delayed twice, in 2010 and in 2012. However, the date of the ballot measure has since been pushed to November 2014. The 2009 State Water Legislation also created two new governmental agencies – the Delta Stewardship Council and the Sacramento-San Joaquin Delta Conservancy. The Delta Stewardship Council is charged with developing and implementing a Delta Plan, which would include the Bay Delta Conservation Plan, upon meeting certain conditions. The Sacramento-San Joaquin Delta Conservancy will implement ecosystem restoration activities in the Bay-Delta. In addition, the 2009 State Water Legislation included legislation addressing unauthorized Bay-Delta water diversions. At this time, it is not known what effect the 2009 State Water Legislation will have on future water supplies.

As of March 2014, several bills have been introduced aiming to reduce the amount of the original water bond measure, to amounts ranging between six and ten billion dollars. It is expected that one final bill will ultimately be selected and certified for the late 2014 ballot.

5.4 Public Utilities Department

The Department currently purchases approximately 85 to 90 percent of its water from the Water Authority, which supplies the water (raw and treated) through two aqueducts consisting of five pipelines. While the Department imports a majority of its water, it uses three local supply sources to meet or offset potable demands: local surface water, conservation, and recycled water.

The availability of sufficient imported and regional water supplies to serve existing and planned uses within the Department service area is demonstrated in the prior discussion on the water supply reliability of MWD and the Water Authority. The City has been receiving water from the Water Authority since 1947, and during the last 20 years purchased between 100,000 and 228,000

AFY. For Calendar Year 2013 water purchases totaled approximately 185,466 AF. Depending upon demands, growth and the success of local water supply initiatives, this could remain somewhat constant or increase up to a projected maximum of 298,860 AFY in 2035 during normal years. For the purpose of this analysis the maximum is used.

5.4.1 Demonstrating the Availability of Sufficient Supplies

Imported Supplies

Section 5, subdivision 11 of the County Water Authority Act states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." Depending on local weather and supply conditions, the Water Authority provides between 75 to 95 percent of the total supplies used by its 24-member agencies. As mentioned in Section 4, the Public Utilities Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from the MWD.

Local Surface Water Supplies

The Department maintains and operates nine local surface raw water storage reservoirs which are connected directly or indirectly to water treatment operations. In the San Diego region approximately 13 percent of local precipitation produces surface run-off to streams that supply Department reservoirs. Approximately half of this run-off is used for the municipal water supply, while the remainder evaporates during reservoir storage. In very wet years, the run-off remainder may spill over the reservoir dams and return to the Pacific Ocean. Average rainfall produces less than half of the average run-off in San Diego. The local climate requires about average rainfall to saturate the soils sufficiently for significant surface run-off to occur. Therefore, most of the run-off to reservoirs is produced in years with much greater than average rainfall. Some flooding may occur even during average or below average rainfall years if the annual rainfall is concentrated in a few intense storms.

The use of local water is affected by availability and water resource management policies. The Department's policy is to use local water first to reduce imported water purchases and costs. The Department also operates emergency and seasonal storage programs in conjunction with its policy.

The purpose of emergency storage is to increase the reliability of the imported water aqueduct system. This is accomplished by maintaining an accessible amount of stored water that could provide an uninterrupted supply of water to the City's water treatment facilities should an interruption to the supply of imported water occur. The management of reservoirs is guided by Council Policy 400-04, which outlines the City's Emergency Water Storage Program. The policy mandates that the Department store sufficient water in active, available storage to meet six-tenths of the normal annual (7.2 months) City water demand requirements (conservation is not included). Active, available storage is that portion of the water that is above the lowest usable outlet of each reservoir.

The monthly emergency storage requirement changes from month-to-month, and is based on the upcoming seven months water demand. This results in a seasonally fluctuating emergency storage requirement, generally peaking in May and reaching its minimum in October. This seasonally fluctuating requirement makes a portion of the required emergency storage capacity available for impounding or seasonal storage.

The purpose of seasonal storage is to increase imported water supply. This is done by storing surplus imported water in the wet winter season for use during the dry summer season. This may also be accomplished by increased use of imported water in lieu of local water in the winter when local water may be saved in reservoirs or groundwater basins for summer use. In addition to increased water yield, this type of seasonal operation also reduces summer peaking on the imported water delivery system.

Conservation

The Department's Water Conservation Program is effective in promoting permanent water savings. Established by the City Council in 1985, the Water Conservation Program accounts for more than 35,650 acre-feet of potable water savings per year. This savings has been achieved by creating a water conservation ethic, adopting programs, policies and ordinances designed to promote water conservation practices, and implementing comprehensive public information and education campaigns.

The City offers a broad range of conservation methods to help meet the needs of our residential and commercial water customers. These include, but are not limited to, the following:

- Rebate programs for high efficiency toilets, washing machines and commercial water saving devices
- Rebates for replacing turf with sustainable landscapes and micro-irrigation systems
- Residential interior/exterior and commercial landscape survey programs
- Public education and outreach

Research conducted by the City, the Water Authority, and the Water Research Foundation has shown that more than half of residential water-use is outdoors. Therefore, the City has added outdoor conservation programs to focus on water efficient landscaping and irrigation management, which provide the best opportunity to achieve significant water savings.

Tools and services available for customers include:

- Commercial and Residential Water-Use Survey Programs — account for all water-use, determine leaks, and check irrigation systems for proper function and uniform coverage. Residential surveys average 15 percent water savings, while commercial surveys, depending on type of facility, can achieve 15 percent to 25 percent water savings. The current focus is on multi-family surveys.

- Nationally recognized Landscape Watering Calculator — an on-line tool that creates watering schedules based on landscaping features, soil type, and weather data. The Calculator is very popular [http://apps.sandiego.gov/landcalc/start.do] and those who have used it are impressed with its ease of use. MWD has adopted this tool and it is available throughout Southern California.

- Water Resources Landscape Database — another tool used to create water budgets and manage irrigation using aerial photographs, GIS maps, weather data, etc. This service has generated significant water savings in City parks, freeway landscapes, schools, and homeowner associations.

- New programs in place include incentives to install water efficient irrigation equipment and evapo-transpiration controllers (smart irrigation clocks that use weather data to set watering schedules); as well as incentives to replace turf with sustainable landscapes.

- The Water Conservation Section teamed up with the Transportation & Storm Water Department to include rain barrels as an item that can receive a rebate through the "Outdoor Water Conservation Rebate Program." Rain barrels are used to collect rainwater from hard surfaces such as household rooftops. When citizens install a rain barrel at their home, they are helping to maintain a healthy urban watershed by reducing the demand on the potable water system, while also reducing the amount of wet weather runoff that is collected and sent into the public storm water system.

- 'San Diego Municipal Code (SDMC) 67.06 Water Submeters' was adopted in April 2010, to encourage water conservation in multi-family residential and mixed-use buildings by requiring the use of water submeters for each individual residential unit. Billing individual residential units based on the actual amount of water consumed in the unit creates a financial incentive for residents of multi-family residential units to conserve water.

Planning efforts to increase water conservation is an ongoing process. The aforementioned water conservation programs undergo periodic reevaluation to ensure the realization of forecasted savings. Additionally, changes in water conservation technologies may require reassessment of long-range plans. The Department continues to work with proven water conservation programs, while including irrigation management programs to maximize water savings; regularly examines new technologies and annually checks progress towards conservation goals; and, continues to work collaboratively with MWD and the Water Authority to formulate new conservation initiatives. The City's water conservation report, prepared annually, is available at http://www.sandiego.gov/water/pdf/waterreuse/2013/fy13annualwater130101.pdf. The report provides an ongoing assessment and status update, redirecting or enhancing efforts as needed. The programs outlined in the document undergo periodic reevaluation to ensure the realization of forecasted savings.

Drought Management

On January 17, 2014, California Governor Jerry Brown declared a drought in California. On February 11, 2014, the Metropolitan Water District of Southern California's Board of Directors declared a Water Supply Alert throughout its 5,200-square-mile service area as part of a set of comprehensive actions to address the state's unprecedented dry conditions. Additionally, on February 13, 2014, the San Diego County Water Authority's Board of Directors unanimously called upon the region's residents, businesses and institutions to increase water conservation efforts in response to severe drought conditions across California. The Board also approved notifying the Water Authority's 24-member agencies, including the City of San Diego, which the region is at Level 1 Drought Watch of the Model Drought Response Ordinance.

The City has an extensive list of permanent water use restrictions that are outlined in San Diego Municipal Code Section §67.3803. These restrictions were updated several times during the last California drought. They are in effect every day in San Diego and include the following limitations:

a) no runoff/excessive irrigation;
b) repair leaks upon discovery or within seventy-two hours of notification;
c) no watering of paved areas;
d) no overfilling swimming pools and spas;
e) no non- recirculating decorative water fountains;
f) car washing only in a commercial car wash or using a hose with shutoff nozzle or a bucket;
g) new buildings must recycle cooling system water and car wash water;
h) restaurants will only serve and refill water upon request;
i) hotel guests must have the option of not laundering towels and linens daily;
j) no watering after 10 am and before 4 pm (winter)/before 6 pm (summer);

San Diego's permanent water use restrictions are typically similar to the restrictions many local water agencies implement when they invoke their Level 1 water restrictions.

The City's "Drought Response Level 1 – Drought Watch Condition" is typically invoked when the City Council finds a reasonable probability, that there will be a supply shortage and that a consumer demand reduction of up to ten percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. The Level 1 Drought Watch Condition adds additional voluntary water conservation measures that are added to the City's existing permanent water restrictions outlined in SDMC §67.3803. These voluntary measures include:

1) landscape irrigation limited to assigned three days per week
2) when watering without an irrigation system a shut-off nozzle or garden hose sprinkler system on a timer is required
3) washing vehicles limited to the same schedule as irrigation (except for: boats which may be washed after use; vehicles with health/safety issues; at a commercial carwash that recycles water)
4) use recycled or non-potable water for construction purposes
5) fire hydrants for firefighting only
6) construction operations can use water only as required by regulatory agencies
7) irrigation is not permitted during rain event

The San Diego City Council invoked a "Drought Response Level 1 – Drought Watch Condition" on May 20, 2014, that will go into effect on July 1, 2014.

Recycled Water Supplies

In CY 2013, the beneficial reuse of the recycled water was 12,205 AF: 7,877 AF from the NCWRP and 4,328 AF from the SBWRP. Although landscape irrigation continues to be the leading use of the recycled water, the customer base has become more varied over the years with an increase in the number of industrial and dual plumbed meter connections.

Proactive marketing activities targeting existing irrigation customers, to encourage them to convert their cooling systems to recycled water, coupled with outreach efforts to connect new customers have been successful, as recycled water meter connections have increased over 41 percent since 2007. As of December 2013, the City provides recycled water service to 576 retail meters and 4-5 wholesale meter connections, including the City of Poway, Olivenhain Municipal Water District (3 connections) and Otay Water District. The 2013 top ten retail customers included the City of San Diego Park & Recreation Department, Miramar Marine Corps Air Station Miramar, Black Mountain Ranch and Santa Luz HOA, Caltrans, El Camino Memorial Park, U.S. International Boundary & Water Commission, The Irvine Company, Qualcomm, Village Nurseries (Miramar Nursery) and the City of San Diego's Miramar Landfill.

In CY 2013, financial incentives from the sale of recycled water resulted in nearly $2.85 million in savings towards imported water purchases. The financial incentives are a result of local water resources development agreements with Metropolitan Water District and the San Diego County Water Authority.

The Department, in cooperation with the Park & Recreation Department, has aggressively pursued the retrofitting of City parkland, street landscaping and open space to use recycled water for irrigation; sites fronting recycled water distribution pipelines were targeted. In 2007 only 23 recycled water meters were serving City sites; that number has since grown to 84 meter connections. The Departments are currently working on retrofitting four additional parks/open spaces. The irrigation retrofits are funded in part by Federal and State grants.

Public Utilities Department's Capital Improvement Program

The Department reevaluates water projects contained in the Capital Improvements Program (CIP) and the timing thereof periodically. Changes to the CIP are made to reflect changing priorities within the water system and occur as a result of project scope changes, date revisions, project sequencing, and operational considerations. The Department expended approximately $840 million from July 1, 2003 through June 30, 2013 on CIP projects. Improvements included projects to upgrade and expand water treatment plants, rehabilitate raw and treated water storage facilities, construct major transmission pipelines, replace and/or upgrade existing pump stations, replace cast iron water mains citywide, expand the recycled water system, and other new supply initiatives. In November 2013, the City Council adopted water rate increases of 7.25 percent beginning on January 1, 2014 and 7.5 percent beginning on January 1, 2015. These rate increases provided needed revenue to continue funding the upgrade and expansion of the water system through the CIP in order to ensure a reliable water supply for all City residents and meet CDPH mandates. For fiscal years ending June 30, 2009 through June 30, 2012, the Department expended approximately $408 million on such improvements.

In 2009, the Department initiated a facilities master plan to identify long-term facility needs. With the completion of the water master plan in 2011, over 80 projects were identified through the master planning effort for CIP implementation of fiscal years 2012-2032. Project scopes were developed from facility condition assessments and system evaluations. The prioritization of CIP projects are based on the adopted City Council Policy 800-14 (CP 800-14) as well as inputs from Independent Rates Oversight Committee members and operational staff. The list of prioritized projects will be the basis for 2012-2032 CIP program.

Summary of Supplies

Historic imported water deliveries from the Water Authority to the Public Utilities Department and local surface water, conservation savings and recycled water deliveries are shown in **Table 5-1.**

Table 5-1
Historic Imported, Local and Recycled Water Demands*
Public Utilities Department (Source: 2010 UWMP)

Fiscal Year	Imported Water (acre-feet)	Local Surface Water (acre-feet)	Conservation[1] (acre-feet)	Recycled Water (acre-feet)	Total[2] (acre-feet)
1990	233,158	22,500	-	-	255,658
1995	162,404	59,024	8,914	-	230,342
2000	207,874	39,098	17,410	3,250	267,632
2005	204,144	26,584	29,410	4,294	264,432
2010	188,337	13,117	34,317	12,173	247,944

Table 5-1 Notes:

[1] Conserved water results in savings and is not a direct supply.
[2] Total includes water supplied and conserved.
*Includes retail and wholesale demands

5.4.2 Plans for Acquiring Additional Supplies

Future Supplies

In 2002, the City of San Diego City Council adopted the Long-Range Water Resources Plan (Long-Range Plan) 2002-2030. This plan provides a decision-making framework for evaluating water supply options. The Long-Range Plan identifies water conservation, water recycling, groundwater desalination, groundwater storage, ocean desalination, marine transport, water transfers, and imported supply from the Water Authority and MWD as potential near-term and long-term supplies. The Long-Range Plan concluded that no single supply source would be sufficient to meet the City's future water demands, but a portfolio of supply options would reduce the dependence upon imported water over time.

The Department completed the City Council approved 2012 Long-Range Water Resources Plan (2012 LRWRP) on December 10, 2013. The 2012 LRWRP is a high level strategy document that evaluates water supply and demand-side objectives against multiple planning objectives. The 2012 LRWRP was an open participatory – stakeholder driven process that evaluated over 20 water supply options such as water conservation, recycled water, groundwater storage, brackish groundwater desalination, rainwater harvesting, graywater and potable reuse. The plan takes a long-range viewpoint through the year 2035 in addressing risk and the uncertainty of future water supply conditions. It is a plan that sets the tone or direction of where the City places its efforts in developing local water supplies.

Conservation and water recycling programs have been implemented and are under investigation for ways to be expanded or increased. The Department is also investigating the development of groundwater and potable reuse.

Conservation

Like many agencies in California, the City is committed to reducing its per capita water consumption by at least 20 percent by the year 2020. Aside from the existing programs listed in Section 5.4.1 of this report, the City is also evaluating the following programs to help reduce overall water consumption:

- Water budget based billing for irrigation only customers - An effort is currently underway to evaluate billing irrigation customers based on their ability to meet property specific water use budgets, and implement a tier rate structure that encourages usage within water budgets.

- Conservation-oriented rate structures - The new rate structure, which took effect in January 2014, adds a new tier that recognizes water conservation efforts, and increases the rates for higher tiers to discourage high volume usage.

- Automated Meter Interface - The City is starting to install smart water meters in monthly billed accounts. These meters allow remote access to consumption patterns via a web portal, and give water customers data that they can monitor and use to manage better their water consumption.

Recycled Water

Recycled Water Study:

The Recycled Water Study was presented to and unanimously accepted by the City Council on July 17, 2012, following a three-year effort that included extensive stakeholder involvement. The Study can be located at the following link:

http://www.sandiego.gov/water/pdf/waterreuse/2012/recycledfinaldraft120510.pdf.

During the 2008 to 2010 Point Loma Wastewater Treatment Plant (Point Loma) permit modification process, San Diego Coastkeeper and the San Diego Chapter of the Surfrider Foundation entered into a Cooperative agreement with the City to conduct the Recycled Water Study (Study). In accordance with the agreement, the San Diego Coastkeeper and the San Diego Chapter of the Surfrider Foundation did not oppose the United States Environmental Protection Agency's (USEPA) decision to grant the permit modification. The City Council authorized the execution of the Cooperative Agreement on February 18, 2009. The modified Permit allows Point Loma to continue operating as a chemically enhanced primary treatment facility (CEPT) for five years until July 31, 2015 when the permit must be renewed rather than upgrading the treatment system to meet secondary standards as required in the federal Clean Water Act. The Study concluded meeting all terms of the Agreement with Coastkeeper and Surfrider.

The Recycled Water Study identified five (5) Reuse Alternatives. Non-Potable Reuse, Indirect Potable Reuse, and wastewater off-load to the Point Loma are the common components of each of the five alternatives. All reuse alternatives presented in the study achieve the study goals, provide a bold vision for the future water reuse in the Metro Service Area, and provides potential savings to ratepayers. For additional details on the Reuse Alternatives, please see the Recycled Water Study Report Dated July 2012 in the above link.

Potable Reuse:

Potable Reuse is an approach the City is considering for maximizing the use of recycled water. Recycled water that is used for non-drinking uses like irrigation and industrial processes, would undergo advanced water purification (AWP) to render it safe for reuse as a drinking water supply. The AWP process uses multiple treatment barriers to remove contaminants from the water and prevent them from re-entering the water supply. It begins with membrane filtration, followed by reverse osmosis, and ends with advanced oxidation. The result is purified water that meets all drinking water standards and is similar in quality to distilled water.

There are two major types: Indirect Potable Reuse (IPR) and Direct Potable Reuse (DPR). With IPR, the purified water is sent to an environmental buffer; for the City's IPR concept, San Vicente Reservoir would be the environmental buffer. The water in San Vicente is treated at a drinking water treatment plant before it is distributed for drinking purposes. Direct potable reuse differs in that there is no environmental buffer. The California Department of Public health is mandated to determine the feasibility of establishing DPR regulations. Industry experts expect that DPR regulatory criteria to include the use of additional treatment or engineered storage barriers to compensate for the absence of an environmental buffer. The City monitoring the development of DPR regulations and how they might influence the viability of potable reuse implementation.

Water Purification Demonstration Project:

In order to assess the feasibility of indirect potable reuse with reservoir augmentation (IPR/RA), the City initiated a Water Purification Demonstration Project (Demonstration Project). The Demonstration Project evaluated the feasibility of using advanced water purification (AWP) technology to produce water that can be sent to San Vicente Reservoir, subsequently treated, and later be distributed as potable water.

As part of the Demonstration Project, the City tested and operated a one-million gallon per day demonstration-scale AWP Facility from June 2011 to August 2012. The purified water was routinely tested to determine the effectiveness of the treatment equipment and operating data was gathered to develop a cost estimate for full-scale facilities. A study of San Vicente Reservoir was also conducted to establish residence time and short circuiting conditions of the purified water in the reservoir. An extensive public outreach and education program was implemented to educate the public about the potential benefits and implications of an IPR/RA project. The City also coordinated with the State's regulatory agencies to help define the requirements for an IPR/RA project. The Final Project reports have been completed and are available at the following link: www.purewatersd.org/projectreports . The Demonstration Project reports were presented to full City Council on April 23, 2013. The City Council adopted the Demonstration Project Reports and directed staff to determine a preferred implementation plan and schedule that considers potable reuse options for maximizing local water supply and reduced flows to the Point Loma Wastewater Treatment Plant. This follow on effort, now known as the Pure Water San Diego Program, is described in more detail below.

Pure Water San Diego Program:

The Department's Pure Water San Diego Program (Program) is a 20-year program ending in year 2035. The program will create a safe and reliable local water supply through potable reuse, while reducing the Point Loma Wastewater Treatment Plant's ocean discharges and accomplishing secondary equivalency.

Department staff have initiated technical studies to refine system-wide reuse concepts development in the Recycled Water Study (July 2012), are developing a cost-sharing framework, serving on an advisory group to an Expert Panel on Direct Potable Reuse (DPR) and Recycled Water, and are continuing tours of the Advanced Water Purification Facility, speakers bureau presentations and community events participation.

In addition to the above, Department staff is engaged in the preparation of the National Pollution Discharge Elimination Permit (modified permit) for Point Loma which expires July 31, 2015. The draft modified permit application will be brought forward for City Council consideration in fall 2014. Staff is also developing a regulatory and legislative strategy related to Point Loma that will require City Council input and involvement.

The Department is working on implementing the various facets of the Pure Water San Diego Program. Implementation strategy tasks include facility siting studies, engaging key regulatory agencies to develop a modified NPDES permit renewal application which secures long-term compliance with discharge standards at Point Loma through potable reuse and secondary equivalency, and establishing a financing plan and cost-sharing principles with other public agencies that use the City's wastewater system.

This comprehensive effort will provide a secure and reliable long-term local water supply for San Diego while resolving the decade's long issues associated with Point Loma.

Groundwater

There are several groundwater basins in the San Diego region that the City has rights, concerns jurisdiction or otherwise an interest in developing for municipal supply or other beneficial use. These basins are:

- San Pasqual Basin
- Mission Valley Basin
- El Monte/Santee Basin
- Tijuana Basin
- San Diego Formation

The groundwater quality from these basins is predominantly brackish. Improved technologies provide consideration of affordable water sources, such as brackish groundwater, that were not available a few decades ago. This source is a viable alternative and is part of the City's planning efforts. Local water supply projects, particularly groundwater exploration, benefit City rate payers, offer drought protection, and are locally controlled. The City is presently pursuing groundwater feasibility projects in Mission Valley Basin, El Monte/Santee Basin, and the San Diego Formation.

The City is the Monitoring Entity for the San Pasqual Basin as identified under the California Statewide Groundwater Elevation Monitoring (CASGEM) program. Working cooperatively with the California Department of Water Resources (DWR), the City established a network of monitoring wells to regularly and systematically track seasonal and long-term trends in groundwater elevations for this alluvial groundwater basin. Included in this monitoring network are three multi-level monitoring wells in San Pasqual installed by the United States Geological Survey under a cooperative hydrogeological agreement with the City. Participation in the statewide CASGEM program allows basin groundwater data to be maintained and readily available through DWR's public data base.

A Salinity and Nutrient Management Plan (SNMP) is being developed for the San Pasqual Basin to identify excessive salt and nutrient loading for protection of groundwater quality for agriculture, potable water supply and other beneficial groundwater uses. In compliance with the adopted State Water Resources Control Board's (State Board) Recycled Water Policy 2009 to complete SNMPs by May 30, 2014, the City is facilitating a stakeholder driven basin-wide approach to complete this effort. The SNMP incorporates framework components from the SNMP guidelines *(Salinity/Nutrient Management Planning in the San Diego Region (9), Welch 2010)* adopted by the State Board.

The San Diego City Council adopted the San Pasqual Groundwater Management Plan (GMP) in 2007. Several management actions outlined in the GMP are currently being implemented and will continue in the future. For the next several years, basin activities such as surface water and groundwater monitoring programs, water quality testing, basin water budget, and basin capacity studies will be the focus for understanding, protecting and evaluating the long-term sustainable use of the San Pasqual Basin as a water supply source.

The City has been investigating Mission Valley Aquifer. Mission Valley is a narrow, east-west trending valley carved out by the San Diego River as it drains westward from Mission Gorge to the Pacific Ocean. The most conductive portion of the aquifer lies within the extent of an historical well field where the City has retained ownership of the property and where a substantial portion is overlain by Qualcomm Stadium and its parking lot. Part of the history is the establishment of the City's pueblo water right, a prior and paramount right to all of the water of the San Diego River (surface and underground). A fuel tank farm was built in Mission Valley at the mouth of Murphy Canyon in 1963 know as Mission Valley Terminal (MVT). Underground fuel contamination was suspected to being in 1986. From 1986 to 1991 approximately 200,000 gallons of gasoline leaked from the tank farm known as the Mission Valley Terminal located upstream of Qualcomm Stadium. Although remediation of the Mission Valley Aquifer has been ongoing for a period of time, the City is waiting for remediation to be complete before resuming its plans for development of the aquifer for municipal supply.

The City desires to use the San Diego Formation for groundwater municipal supply and seeks to manage the safe yield of the aquifer system in a prudent and efficient manner. The City has been engaged in investigating to gain a better understanding of the San Diego Formation Basin for many years. The City will be able to better characterize the water quality and quantity in the groundwater basin through monitoring wells installed in 2007, 2008, 2011 and 2012. In addition, the City has been working with the United States Geological Survey to develop an integrated and comprehensive understanding of the geology and hydrology of the San Diego Formation, and to use this understanding to evaluate a sustainable, long-term environmental sound use of the formation for municipal supply.

The City has been producing groundwater from the Santee – El Monte basin from two municipal supply wells. One well is located just downstream of the San Vicente Reservoir and the other is located just downstream of the El Capitan Reservoir. The City is evaluating the expansion of its groundwater production facilities at each location to maximize yield. The City's existing San Vicente Production well was constructed in 2004 and pumps a maximum of 600 gallons per minute. The well conveys groundwater directly to the City's existing raw water line from the reservoir and ultimately to the City's Alvarado Treatment Plant. The well located just downstream of the El Capitan reservoir. This well is installed in a granitic rock formation and extracts water from a fractured rock system at an average yield of 50 gallons per minute. This well also conveys groundwater to a raw water pipeline coming from the dam to supply the Alvarado Treatment Plant.

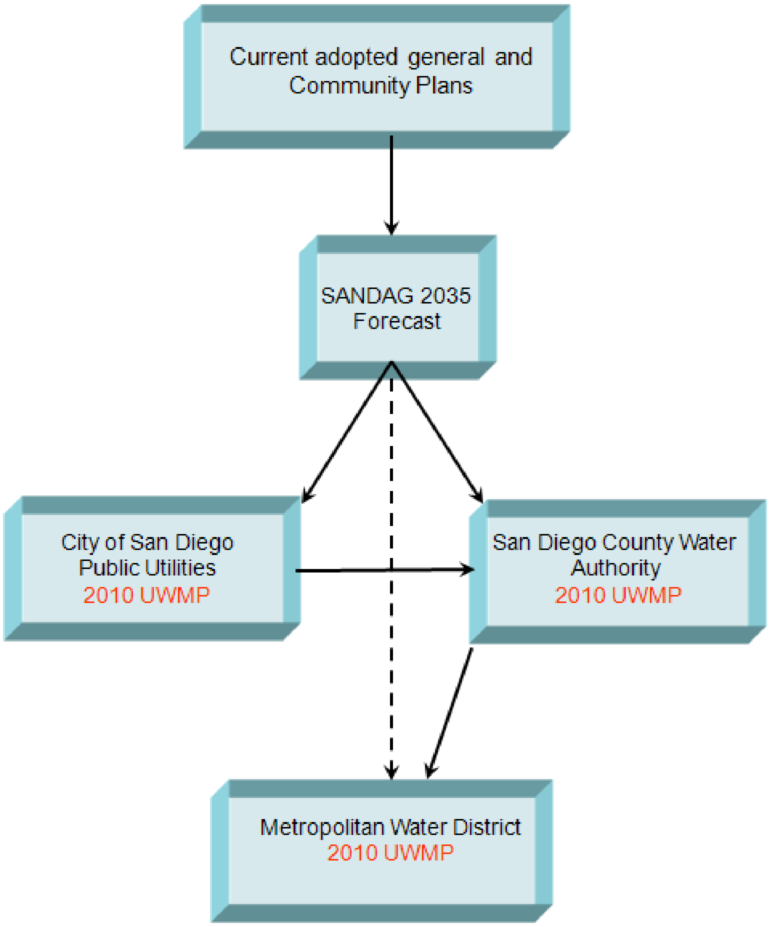
Section 6 - Projected Demands

Approximately every three years the Public Utilities Department (Department) calculates projected water demands within its service area for planning purposes. A computer model is used (IWR-MAIN) to break down water-use by major water-use sectors: Commercial, Industrial, Residential and Public uses. Using past water-use data from the Department and demographic data provided by SANDAG land use, the model is able to correlate the data to determine sector water demands. Using this correlated data, future demographic data is used to project water demands. The model also accounts for water conservation, weather and water rate changes.

In addition to the Department, the Water Authority and MWD use regional growth forecasts to calculate projected water demands within their respective service areas. This provides for consistency between the retail and wholesale agencies projected water demands, thereby ensuring that adequate supplies are being planned for the Department's existing and future water users. The SANDAG forecasts are based on adopted community plan land use, but not citywide zoning. SANDAG forecasts the number of residents, dwelling units, and employees in an area, but not square footage, hotel rooms, or visitors (non-residents or non-employees). For urban areas the smallest forecast geography is typically at the block level, but for suburban and less developed areas the forecast geography can be larger. SANDAG typically updates the regional growth forecast every three to four years. The Public Utilities Department water demand projections, based on the SANDAG Series 12 Forecast land use, are incorporated in the City's 2010 UWMP. These projections are then forwarded to the Water Authority for use in the preparation of their UWMP, which is further incorporated into MWD's UWMP to calculate the ultimate water demands of the region (see **Figure 6-1**).

The Department updates its UWMP every five years. The 2010 UWMP, originally scheduled for completion in December 2010, was completed and adopted in June 2011. The time extension granted for the completion of the 2010 UWMP was due to the new SBX7-7 reporting requirement that needed to be incorporated into the 2010 UWMP. SBX7-7, which is part of the 2009 Water Legislation, requires urban water agencies to reduce statewide per capita water consumption 20 percent by 2020.

FIGURE 6-1
WATER DEMAND PROJECTIONS



The demands from the 2010 UWMP are used throughout this Report. The historical and projected water demands for a normal year are shown in **Table 6-1**.

As part of the requirements for complying with SB 610, **Table 6-7** and **Table 6-8** show the single-dry year and consecutive multiple-dry year demands. All tables in this section are based on data from the 2010 UWMP.

TABLE 6-1
PAST, CURRENT, AND PROJECTED WATER DELIVERIES
(AFY)

Water Use Sector	2005				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single-family	217,983	77,864	0	0	77,864
Multi-family	28,443	39,220	0	0	39,220
Commercial	14,468	33,099	0	0	33,099
Industrial	253	4,276	0	0	4,276
Institutional/Governmental	2,341	16,842	0	0	16,842
Landscape Irrigation	7,245	27,877	0	0	27,877
Total	270,733	199,178	0	0	199,178

Source: City of San Diego Public Utilities Report U02-P10715.

Water Use Sector	2010				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single-family	220,862	62,367	0	0	62,367
Multi-family	28,361	36,324	0	0	36,324
Commercial	14,542	27,244	0	0	27,244
Industrial	186	2,325	0	0	2,325
Institutional/Governmental	2,321	13,774	0	0	13,774
Landscape Irrigation	7,327	20,257	0	0	20,257
Total	273,599	162,291	0	0	162,291

Source: City of San Diego Public Utilities Report U02-P100715.

Table 6-1, Continued

Water Use Sector	2015				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single-family	231,346	75,922	0	0	75,922
Multi-family	32,082	47,266	0	0	47,266
Commercial	14,376	31,617	0	0	31,617
Industrial	186	2,071	0	0	2,071
Institutional/Governmental	2,302	13,359	0	0	13,359
Landscape Irrigation	7,583	25,452	0	0	25,452
Total	287,587	195,688	0	0	195,688

Water Use Sector	2020				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single-family	236,639	79,992	0	0	79,992
Multi-family	37,330	56,700	0	0	56,700
Commercial	14,783	33,541	0	0	33,541
Industrial	186	2157	0	0	2157
Institutional/Governmental	2,302	13,772	0	0	13,772
Landscape Irrigation	7,869	27,247	0	0	27,247
Total	298,582	213,409	0	0	213,409

Water Use Sector	2025		2030		2035	
	Metered		Metered		Metered	
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)
Single-family	241,491	83,370	244,138	85,633	245,682	86,471
Multi-family	42,662	66,070	47,910	75,328	52,420	82,781
Commercial	14,681	34,012	14,100	33,116	13,853	32,740
Industrial	176	2,077	166	1,995	166	1,967
Institutional/Governmental	2,247	13,639	2,172	13,399	2,154	13,329
Landscape irrigation	8,192	28,893	8,162	29,301	8,543	30,698
Total	308,505	228,061	315,534	238,772	321,337	247,986

Table 6-2 summarizes the current and planned water sources the City is relying on to meet future demands.

TABLE 6-2
PLANNED WATER SUPPLY SOURCES
(AFY)

Water Supply Sources	Wholesaler Supplied Volume (yes/no)	2015	2020	2025	2030	2035
San Diego County Water Authority	**Yes**	**201,719**	**221,458**	**237,622**	**249,728**	**260,107**
Supplier produced surface water [(a)]		**29,000**	**29,000**	**29,000**	**29,000**	**29,000**
Supplier produced groundwater		**500**	**500**	**500**	**500**	**500**
Transfers In		**0**	**0**	**0**	**0**	**0**
Exchanges In		**0**	**0**	**0**	**0**	**0**
Recycled Water [(b)]		**9,253**	**9,253**	**9,253**	**9,253**	**9,253**
Desalinated Water		**0**	**0**	**0**	**0**	**0**
Other		**0**	**0**	**0**	**0**	**0**
Total		**240,472**	**260,211**	**276,375**	**288,481**	**298,860**

Notes:

[(a)] Local surface water estimates provided by City, 2011.

[(b)] Recycled water excludes recycled water sold to other agencies and is from table entitled, "NCWRP and SBWRP Summary of Baseline Demands", provided by the City on April 22, 2011.

6.1 Water Sales to other Agencies

Potable Water

The City, through past agreements, sells treated water to the California American Water Company (Cal-Am) which provides water service to the cities of Coronado and Imperial Beach, and Naval Air Station North Island. The population of Naval Station North Island is located within the City of Coronado, whereas the other military bases that the City serves are within the City. The City also sells untreated water to Santa Fe Irrigation District and San Dieguito Water District. **Table 6-3** presents the water sales to other agencies.

Per the agreement between the City and Cal-Am, only local surface water is sold to Cal-Am to provide water to supply Cal-Am customers. A portion of City residents in the South Bay area are also served by Cal-Am and can be served by imported water as well. Per the agreement between the City and the City of Del Mar, the City takes deliveries of water, which the City of Del Mar purchases from the Water Authority, through the Second Aqueduct Connection at Miramar. This water is then treated at the City's Miramar WTP and transported to the City of Del Mar through several interconnections.

The City has agreements to provide surplus treated water to Otay Water District and untreated exchange water to Ramona Municipal Water District. These water deliveries occur infrequently and for short periods of time, and are therefore not shown in **Table 6-3**.

TABLE 6-3
SALES TO OTHER AGENCIES-POTABLE
(AFY)

Water Distributed	2005	2010	2015	2020	2025	2030	2035
California American Water Company	13,311	11,462	13,153	13,395	13,452	13,757	13,988
Santa Fe Irrigation District and San Dieguito Water District (a)	2,012	7,227	7,596	7,983	8,391	8,819	9,268
City of Del Mar (b)	1,324	1,058	1,112	1,168	1,228	1,290	1,356
Naval Air Station North Island	1,204	1,568	1,568	1,568	1,568	1,568	1,568
Total	14,515	13,030	14,721	14,963	15,020	15,325	15,556

Notes:

(a) Through a joint agreement, the City supplies raw water from local surface water supplies to Santa Fe Irrigation District/San Dieguito Water District, and treated water to the other agencies. This water supply is not included in total since the supply is not included in the local surface water supply.

(b) City of Del Mar not included in total as the City is treating water for Del Mar that is provided by Water Authority.

Recycled and Non-Revenue Water

The City has three separate agreements to sell recycled water. Olivenhain Municipal Water District and the City of Poway are provided recycled water from the City's North City Water Reclamation Plant while Otay Water District receives recycled water from the City's South Bay Water Reclamation Plant.

Non-Revenue Water (NRW) is water that is unaccounted for or unbilled water consumption. Unaccounted for water can be attributed to unauthorized consumption, meter inaccuracies, data errors, leakage on mains, leakage and overflow at storage and leakage at service connections. Using metered demand and total City delivered values, NRW was computed as 8.2 percent in 2012. Water use for firefighting, line flushing and other authorized, but unbilled use is classified in the computation of NRW as unbilled consumption.

City staff deemed it reasonable to assume this percent system loss could be maintained in future years given the City's aggressive program of leak detection and repair. The City is going forward with an automated meter reading system that could improve billing accuracy, better quantify real versus apparent losses and identify customer leaks. Thus, NRW is held constant in the projections at 9.0 percent for forecast years. **Table 6-4** represents the City's additional water uses (recycled water) and NRW.

TABLE 6-4
ADDITIONAL WATER USES AND LOSSES
(AFY)

Water Use	2005	2010	2015	2020	2025	2030	2035
Recycled water	4,294	7,656	9,253	9,253	9,253	9,253	9,253
Non-revenue water	10,404	21,909	20,810	22,586	24,041	25,131	26,065
Total	14,698	29,565	30,063	31,839	33,294	34,384	35,318

Notes:

1. *Source for recycled water: 2005 from Table 2-8 of the City's 2005 Urban Water Management Plan. 2010 from NCWRP and SBWRP beneficial reuse summary tables with wholesale deliveries excluded provided by the City on March 2, 2011. 2015 and later from table entitled, "NCWRP and SBWRP Summary of Baseline Demands", provided by the City on April 22, 2011.*
2. *Recycled water is City use only and excludes recycled water sold to other agencies.*
3. *Source for non-revenue water: For 2005, Table 2-8 of the City's 2005 Urban Water Management Plan with 4.3% assumption. For 2010 to 2035, City of San Diego Public Utilities, Update of Long-Term Water Demand Forecast, Table 6-5, Water Demand Forecast with Normal Weather, June 2010.*

Table 6-5 is a summary of and displays City's past water use from 2005 and 2010 with projected water use shown for 2015 thru 2035.

TABLE 6-5
TOTAL WATER-USE
(AFY)

Water Distributed	Total Water Use (AFY)						
	2005	2010	2015	2020	2025	2030	2035
Total Water Deliveries (Table 6-1)	199,178	162,291	195,688	213,409	228,061	238,772	247,986
Sales to Other Water Agencies (Table 6-3)	14,515	13,030	14,721	14,963	15,020	15,325	15,556
Additional Water Uses and Losses (Table 6-4)	14,698	29,565	30,063	31,839	33,294	34,384	35,318
Total	228,391	204,886	240,472	260,211	276,375	288,481	298,860

The analysis in **Table 6-6** below compares the projected normal water supply and customer demands from 2010 to 2035, in five-year increments.

TABLE 6-6
PROJECTED NORMAL SUPPLY AND DEMAND COMPARISON
(AFY)

	2015	2020	2025	2030	2035
Supply totals	240,472	260,211	276,375	288,481	298,860
Demand totals	240,472	260,211	276,375	288,481	298,860
Difference (supply minus demand)	0	0	0	0	0

6.2 Projected Single-dry Year Water Supply and Demand

Table 6-7 provides a comparison of a single-dry year water supply with projected total water use over the next 25 years, in five-year increments. The City’s demands in single-dry years are projected to be higher similar in proportion to the increase in regional water demands projected in the Water Authority’s 2010 UWMP. An increase in use for landscape irrigation accounts for most of the increase in demands. It is assumed that recycled water demands would not increase in single-dry years. The wholesale water supplies from the Water Authority are assumed to increase to meet the difference between the City’s increased water demands and reduced local water supplies.

TABLE 6-7
PROJECTED SINGLE-DRY YEAR SUPPLY AND DEMAND COMPARISON
(AFY)

	2015	2020	2025	2030	2035
Supply totals	255,040	276,526	293,895	307,230	318,586
Demand totals	255,040	276,526	293,895	307,230	318,586
Difference (supply minus demand)	0	0	0	0	0

6.3 Projected Multiple-dry Year Water Supply and Demand

Table 6-8 compares the total water supply available in multiple-dry water years with projected total water use over the next 25 years. The City’s demands in multiple-dry years are projected to be higher similar in proportion to the increase in regional water demands projected in Water Authority’s 2010 UWMP. It is assumed that recycled water demands would not increase in multiple-dry years. The wholesale water supplies from Water Authority are assumed to increase to meet the difference between the City’s increased water demands and reduced local water supplies. Multiple-dry year scenarios represent hot, dry weather periods which may generate urban water demands that are greater than normal.

No extraordinary conservation measures are reflected in the demand projections. The recycled water supplies are assumed to experience no reduction in a dry year.

TABLE 6-8
PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE DRY YEAR PERIOD ENDING IN 2035

(AFY)

		Supply and Demand Comparison – Multiple-dry Year Events				
		2015	2020	2025	2030	2035
Multiple-dry year First year supply	Supply totals	257,587	278,451	296,319	309,230	320,382
	Demand totals	257,587	278,451	296,319	309,230	320,382
	Difference	0	0	0	0	0
Multiple-dry year Second year supply	Supply totals	267,323	288,723	306,726	320,467	332,038
	Demand totals	267,323	288,723	306,726	320,467	332,038
	Difference	0	0	0	0	0
Multiple-dry year Third year supply	Supply totals	281,466	303,004	322,166	334,720	346,823
	Demand totals	281,466	303,004	322,166	334,720	346,823
	Difference	0	0	0	0	0

Section 7 - Conclusion - Availability of Sufficient Supplies

The Project is consistent with water demand assumptions in the regional water resource planning documents of the City, the Water Authority and MWD. The Public Utilities Department receives the majority of its water supply from MWD through the Water Authority. In addition, MWD and the Water Authority have developed water supply plans to improve reliability and reduce dependence upon existing imported supplies. MWD's Regional Urban Water Management Plan and Integrated Resources Plan, the Water Authority's 2010 UWMP and annual water supply report include projects that meet long-term supply needs through securing water from the State Water Project, Colorado River, local water supply development and recycled water.

The forecasted normal year water demands compared with projected supplies for the Public Utilities Department are shown in **Table 7-1**. This demonstrates that with existing supplies and implementation of the projects discussed in the three agencies' planning documents there will be adequate water supplies to serve all anticipated growth (existing and future planned uses) and development.

TABLE 7-1
PROJECTED SUPPLY AND DEMAND COMPARISON – NORMAL YEAR
(AFY)

	2015	2020	2025	2030	2035
Supply totals	240,472	260,211	276,375	288,481	298,860
Demand totals	240,472	260,211	276,375	288,481	298,860
Difference (supply minus demand)	0	0	0	0	0

Table 7-2 provides a comparison of a single-dry year water supply with projected total water use over the next 25 years, in five-year increments.

TABLE 7-2
PROJECTED SINGLE-DRY YEAR SUPPLY AND DEMAND COMPARISON
(AFY)

	2015	2020	2025	2030	2035
Supply totals	255,040	276,526	293,895	307,230	318,586
Demand totals	255,040	276,526	293,895	307,230	318,586
Difference (supply minus demand)	0	0	0	0	0

The multiple-dry year scenarios, within a 20-year projection, are shown in **Table 7-3**. This demonstrates that supplies will be adequate to meet all anticipated growth (existing and future planned uses) and development in multiple-dry year periods.

TABLE 7-3
PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE DRY YEAR PERIOD ENDING IN 2035

(AFY)

		Supply and Demand Comparison – Multiple-dry Year Events				
		2015	2020	2025	2030	2035
Multiple-dry year First year supply	Supply totals	257,587	278,451	296,319	309,230	320,382
	Demand totals	257,587	278,451	296,319	309,230	320,382
	Difference	0	0	0	0	0
Multiple-dry year Second year supply	Supply totals	267,323	288,723	306,726	320,467	332,038
	Demand totals	267,323	288,723	306,726	320,467	332,038
	Difference	0	0	0	0	0
Multiple-dry year Third year supply	Supply totals	281,466	303,004	322,166	334,720	346,823
	Demand totals	281,466	303,004	322,166	334,720	346,823
	Difference	0	0	0	0	0

This Report demonstrates that there are sufficient water supplies over a 20-year planning horizon to meet the projected demands of the Project as well as the existing and other planned development projects within the Public Utilities Department service area in normal, dry year, and multiple-dry year forecasts. This Project is proposing water demands which are included in the regional water resource planning documents of the City, the Water Authority, and MWD.

Source Documents

California Department of Water Resources (DWR), Progress on Incorporating Climate Change into Management of California's Water Resources, July 2006 Report

California Climate Change Center, 2006 Biennial Report: Our Changing Climate: Assessing the Risks to California, 2006

California Department of Water Resources Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, March 2011

DSD Memorandum - Request for assessment and project description, February 2013

MWD 2010 Regional Urban Water Management Plan

MWD Report on Metropolitan's Water Supplies, A Blueprint for Water Reliability, March 2003

MWD Integrated Resources Plan Update, Oct 2010

Public Utilities Department 2010 Urban Water Management Plan

Public Utilities Department Annual 2012 Water Conservation Report

Public Utilities Department Recycled Water Study July 2012

Public Utilities Department Recycled Water Master Plan August 2011

Public Utilities Department Water Purification Demonstration Project Report

Water Authority 2010 Urban Water Management Plan

Water Authority Regional Water Facilities Master Plan, 2003

Water Department Long-Range Water Resources Plan (2002-2030), December 2002

Water Department The City of San Diego Subordinated Water Revenue Bonds, Series 2002, October 2002

Water Authority's approval email following a request from City of San Diego Public Utilities Department staff for the use of the Accelerated Forecasted Growth (AFG) component of the Water Authority's 2010 Urban Water Management Plan to meet the unanticipated water demands associated with this project.

From: Weinberg, Ken [mailto:KWeinberg@sdcwa.org]
Sent: Monday, May 19, 2014 3:50 PM
To: Steirer, Marsi
Cc: Friehauf, Dana; Bombardier, Tim; Adrian, George
Subject: FW: WSA-Chollas Community Plan Ammendment
Importance: High

Dear Marsi,

Thank you for your email regarding the Chollas Triangle Community Plan Amendment and Rezone project. The following is the Water Authority's response to your request to use the Accelerated Forecasted Growth (AFG) component of the Water Authority's 2010 Urban Water Management Plan to meet the unanticipated water demands associated with the proposed project.

The purpose of the AFG component of the demand forecast is to estimate, on a regional basis, additional demand associated with proposed projects not yet included in local jurisdictions' general plans and to plan for sufficient regional supplies to reliably meet the water demand of those projects. The Chollas Triangle Community Plan Amendment and Rezone project identified in your e-mail, meets the criteria for the AFG component of the Water Authority's 2010 UWMP and we are planning to have water supplies to reliably meet the demand associated with the project. Our accounting of the AFG demand component will be adjusted to reflect the additional demand associated with the proposed project.

Please let me know if you have any questions or want to discuss further.

Ken

Ken Weinberg
Director of Water Resources

From: Steirer, Marsi [mailto:MSteirer@sandiego.gov]
Sent: Monday, April 14, 2014 10:02 AM
To: Weinberg, Ken
Cc: Friehauf, Dana; Bombardier, Tim; Adrian, George; Bista, Seevani; Kaziha, Anas; Steirer, Marsi
Subject: WSA-Chollas Community Plan Ammendment

Dear Ken,

The City of San Diego is preparing a water supply assessment for the Chollas Triangle Community Plan Amendment and Rezone project, in accordance with the requirements of SB 610. The project is an amendment to the General Plan and Mid-City Communities Plan – Eastern Area to redesignate approximately 12.5 acres of Commercial Mixed Use and approximately 3.4 acres of Industrial to Neighborhood Village in an approximately 36 acre area between University Avenue to the north, Chollas Creek and Chollas Parkway to the south and east, and 54th street to the west. The Neighborhood Village land use designation would allow for the development of multi-family housing in a mixed-use setting and convenience shopping at build-out as listed below:

- 486 multi-family dwelling units,
- 130,000 square feet of non-residential developments,
- 5.4 acres as population-based park land

As some of the proposed development for this project was not accounted for in the SANDAG Series 12 forecast, the water demand associated with the unaccounted growth was also not included in the City's 2010 Urban Water Management Plan. The unaccounted water demand associated with this project is **14.7 acre-feet per year** as seen in the table below:

Portion of Chollas Triangle Project Not Accounted for in the SANDAG's Series 12 Forecast

	Water Demands (Acre Feet per Year)		
Project	**Planned**	**Projected**	**Delta**
Chollas Triangle Development Project	110.58 AFY	125.23 AFY	- 14.7
Total			**- 14.7**

The City is requesting the use of the Accelerated Forecasted Growth (AFG) component of the Water Authority's 2010 Urban Water Management Plan to meet the unanticipated water demands associated with this project, similar to the other projects requested.

Attached are a vicinity map for the project and a spreadsheet showing the total AFG that the City has requested to date.

Your assistance with this request will be greatly appreciated.

Thank you,

Marsi

APPENDIX K

TRANSPORTATION IMPACT STUDY

TRANSPORTATION IMPACT STUDY
CHOLLAS TRIANGLE MASTER PLAN
CITY OF SAN DIEGO, CA

Transportation Strategies for
Sustainability

Prepared for:

City of San Diego
202 C Street
San Diego, CA 92101

Civitas
1200 Bannock Street
Denver, CO 80204

Submitted by:

Fehr & Peers
401 West A Street, Suite 900
San Diego, CA 92101

FEHR PEERS

April 2014

TRANSPORTATION IMPACT STUDY
of
CHOLLAS TRIANGLE MASTER PLAN
City of San Diego, California

April 2014

Prepared for:

Civitas, Inc.
1200 Bannock Street
Denver, CO 80204

Prepared by:

FEHR & PEERS
401 West A Street, Suite 900
San Diego, California 92101
(619) 234-3190

Ref: SD11-0037

Responsible Engineer:

D. Sohrab Rashid

D. SOHRAB RASHID
No. 1845
Exp.

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APPENDICES

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LIST OF TABLES

1. EXECUTIVE SUMMARY

This project evaluates the potential traffic and mobility impacts associated with the Chollas Triangle project. The report is formatted as follows:

INTRODUCTION

Chapter 2 provides the project description and a summary of the report's organization. The Chollas Triangle Master Plan report conducts a traffic analysis for a mixed-use project, including residential and retail components, at the southeast corner of University Avenue & 54th Street. The site has several existing uses that would be replaced by the proposed project. This traffic impact study analyzes existing conditions and conducts a segment and intersection impact analysis for the proposed project 2035 horizon year scenario.

EXISTING CONDITIONS

Chapter 3 describes the existing roadway network within the project study area and provides analysis results for existing conditions. Thirteen of the sixteen segments analyzed currently operate at an acceptable level of service (D or better). 14 of the 18 intersections analyzed currently operate at an acceptable level of service (D or better). A description of the existing pedestrian, bicycle, transit, and parking facilities near the project site is also included.

STUDY METHODOLOGY

Chapter 4 describes the methodologies and standards utilized to analyze roadway and intersection operations, and the criteria applied for the determination of significant impacts. The intersection analysis was conducted with the HCM methodology using the Synchro software package.

PROJECT DESCRIPTION AND TRIP GENERATION

Chapter 5 describes the proposed project including project traffic generation, trip distribution pattern, and trip assignment. With credits for existing land uses applied, the project's cumulative trip generation is estimated to be approximately 7,200 daily trips, 490 AM peak hour trips, and 820 PM peak hour trips. Additionally, with credits for existing land uses applied, the project's driveway trip generation is estimated to be approximately 10,060 daily trips, 590 AM peak hour trips, and 1,190 PM peak hour trips.

HORIZON YEAR (2035) CONDITIONS

Chapter 6 describes projected long-term year traffic conditions and the proposed projects traffic impacts. Analysis results are provided for both with and without project conditions. Under horizon year conditions, 13 of 16 analyzed segments and 14 of 18 analyzed intersections are projected to operate at an acceptable level of service (D or better). The project results in two roadway impacts and three intersection impacts.

FINDINGS AND RECOMMENDATIONS

The final chapter outlines the overall study findings and identifies recommended project-related mitigation measures and their effectiveness. An analysis of site access and operating conditions is also included.

2. INTRODUCTION

2.1. STUDY PURPOSE

The purpose of this Transportation Impact Study (TIS) is to identify and document the transportation related impacts associated with the development of the proposed Chollas Triangle Master Plan (proposed project), as well as to recommend mitigation measures for any identified transportation impacts associated with the proposed project. According to City staff, the project does not require a Community Plan Update.

2.2. PROJECT DESCRIPTION

The proposed project is located in the City of San Diego within the Eastern Area neighborhood of the Mid City Community Plan Area. The project area is bound by 54th Street to the west, University Avenue to the north, and Chollas Parkway to the east and south, plus a small area north of University Avenue. **Figure 2-1** displays the regional location of the proposed project and **Figure 2-2** displays the projects proposed zoning.

The project proposes to redevelop the existing Chollas Triangle site, which currently includes a service station, anchor retail, several smaller commercial establishments and the Teen Challenge Center. The project proposes to develop a set of mixed land uses which include approximately 130,000 square feet of neighborhood commercial uses, 486 multi-family dwelling units, and 5.5 acres of passive park uses. The proposed project would continue to take access from both 54th Street and University Avenue, but would consolidate access from a total of 11 driveways to five vehicular access points, one of which currently exists opposite Lea Street on 54th Street. **Figure 2-3** displays the site plan of the proposed project.

The proposed Chollas Triangle Master Plan also contains several roadway network modifications which will be included as project features:

- *Chollas Parkway -* The Chollas Triangle Master Plan proposes the vacation of Chollas Parkway. This would result in the removal of the four-lane Chollas Parkway and elimination of the T-intersections of Chollas Parkway & University Avenue and Chollas Parkway & 54th Street. The vacation of Chollas Parkway will allow for the creation of new open space and local circulation will be facilitated by a new network of on-site streets connecting 54th Street and University Avenue.

- *Chollas Triangle Collector Street* (New Street A) - The proposed two-lane collector street will connect 54th Street and University Avenue and facilitate project access. The project proposes to form a four-legged signalized intersection at the existing Lea Street & 54th Street intersection, which is already signalized. The collector street would curve to the north, forming a proposed signalized, four-legged intersection at University Avenue opposite the existing Promise Hospital Driveway.

- *New Street B* – A new north-south, two-lane collector street will be constructed approximately 500 feet east of 54th Street connecting University Avenue to New Street A. This street is expected to provide on-street parking on both sides and be controlled with stop signs at on-site intersections. The intersection of New Street B and University Avenue is proposed to be a full access intersection and signalized.

- *New Street C* – A new east-west, two-lane collector street will be constructed approximately 540 feet south of University Avenue (at 54th Street) connecting 54th Street with New Street A. This street is expected to provide on-street parking on both sides and be controlled with stop signs at on-site intersections. The intersection of New Street C and 54th Street is proposed to be a full access intersection (except for left-turns out to 54th Street) and controlled by a stop sign on the New Street C approach.

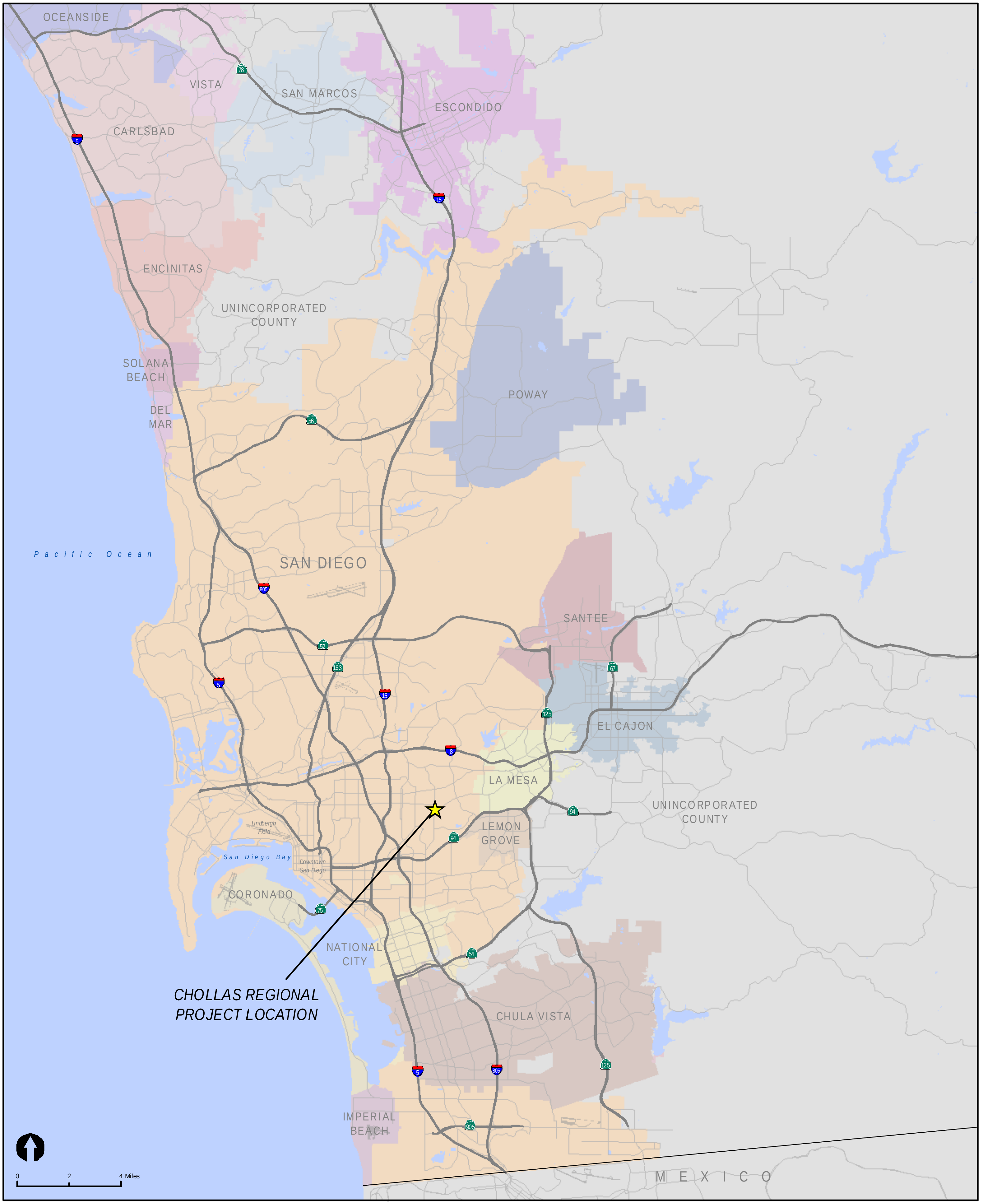

Figure **2**-1: Regional Project Location

Chollas Triangle Master Plan Traffic Impact Study

Date:11/6/2012

Source: SANDAG (2011)

FEHR & PEERS

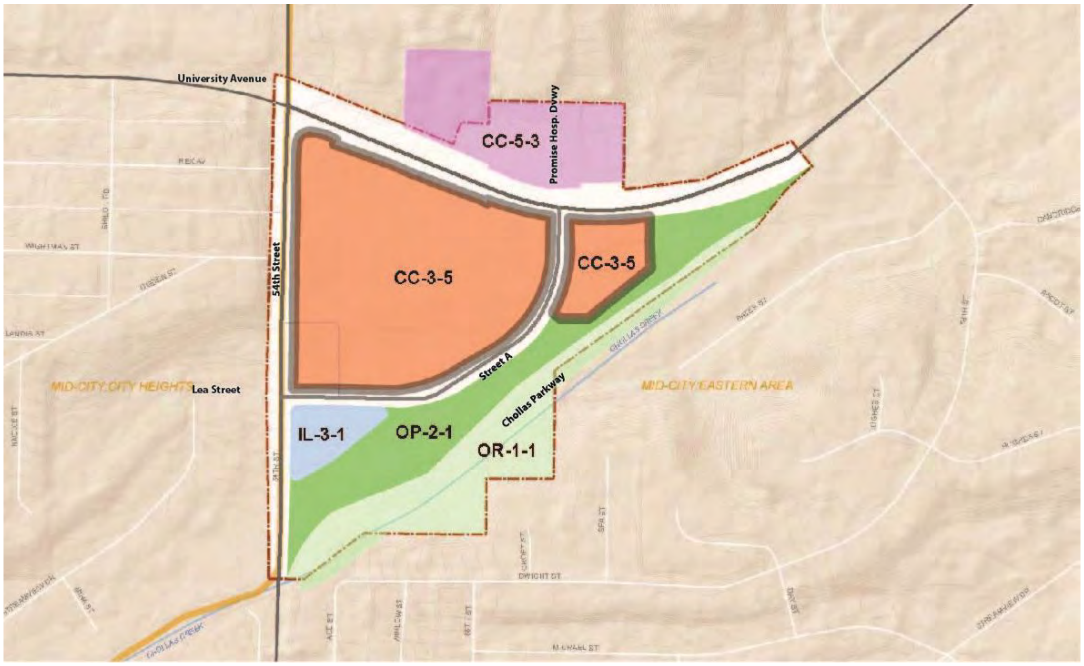

Figure 2-2
Project Zoning

- *New Street D* – A new east-west, two-lane collector street will be constructed approximately 300 feet south of University Avenue (at 54th Street) connecting 54th Street with New Street B. This street is expected to provide on-street parking on both sides and be controlled with stop signs at on-site intersections. The intersection of New Street D and 54th Street is proposed to be a right-turn only intersection and controlled by a stop sign on the New Street D approach.

2.3. REPORT ORGANIZATION

Following this introduction chapter, this report is organized into the following chapters:

Chapter 3: Existing Conditions – This chapter describes the existing roadway network within the project study area and provides analysis results for existing conditions.

Chapter 4: Study Methodology – This chapter describes the methodologies and standards utilized to analyze roadway and intersection operations.

Chapter 5: Project Description and Trip Generation – This chapter describes the proposed project including project traffic generation, trip distribution pattern, and trip assignment.

Chapter 6: Horizon Year (2035) Conditions – This chapter describes projected long-term year traffic conditions. Analysis results are provided for both with and without project conditions.

Chapter 7: Findings and Recommendations – Outlines the overall study findings and identifies recommended project-related mitigation measures.

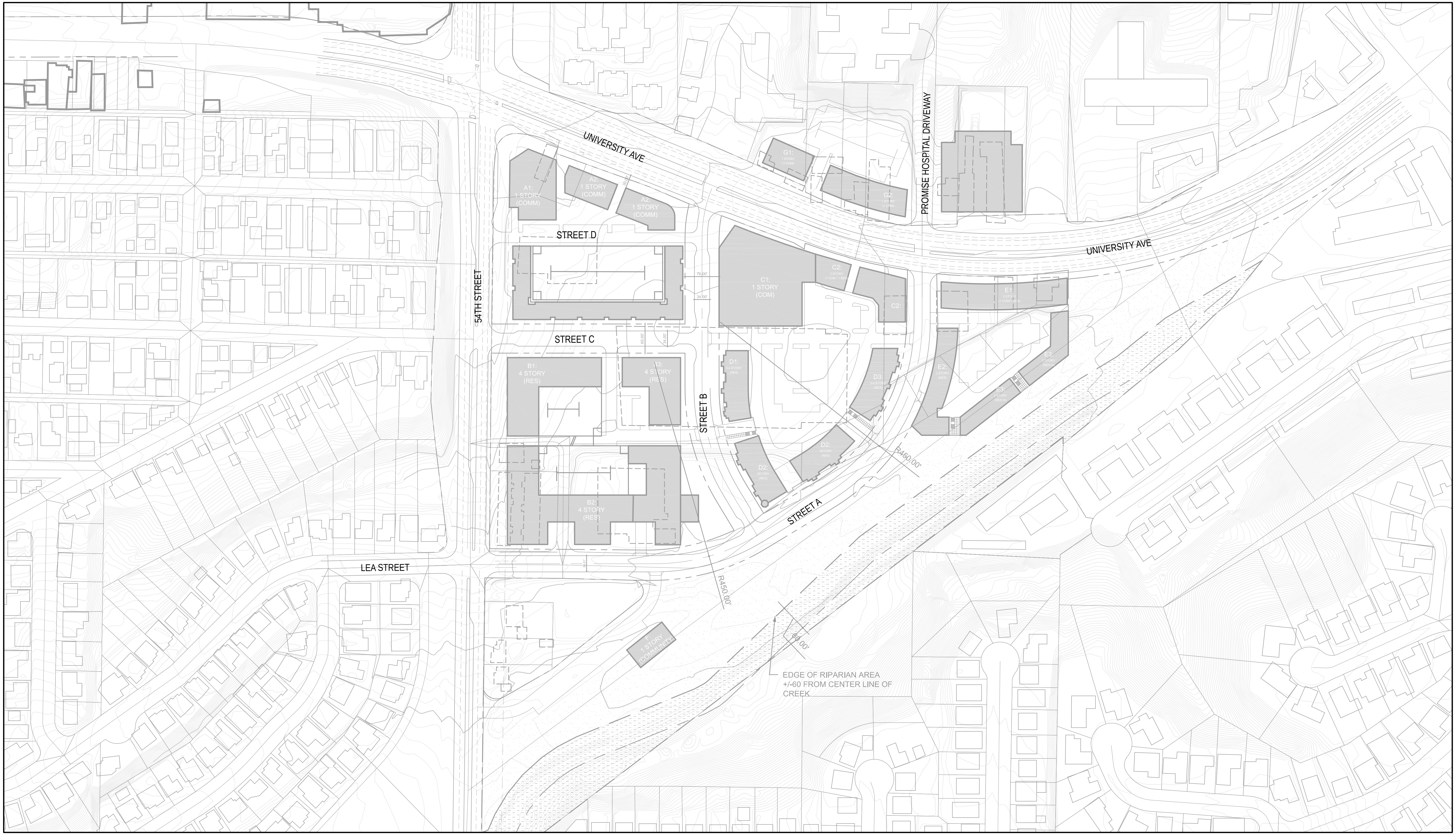

Figure **2-3**: Site Plan and Circulation

Chollas Triangle Master Plan Traffic Impact Study

Date: 11/6/2012
Source: Civitas

FEHR & PEERS

3. EXISTING CONDITIONS

This section describes key study area roadway segments and intersections, existing daily roadway and peak hour intersection traffic volume information, and LOS analysis results.

3.1. EXISTING ROADWAY NETWORK AND TRAFFIC VOLUMES

Major roadway facilities within the project study area include the following:

North/South Roadway Facilities

54th Street – spans between Montezuma Road to the north and Euclid Avenue to the south. Within the project study area 54th Street is a four-lane roadway divided by a raised median and has a posted speed limit of 35 mph. 54th Street is currently classified as a Class III Bike Route north of University Avenue, and on-street parking is allowed on both sides of the street along a limited number of segments. 54th Street is classified as a Four-Lane Major Street in the Mid-City Community Plan.

Euclid Avenue – spans between Monroe Avenue to the north and Home Avenue to the south. Within the project study area Euclid Avenue is a two-lane roadway divided by double yellow line and has a posted speed limit of 35 mph. Euclid Avenue currently has Class II Bike Lanes north of Monroe Avenue and allows on-street parking on both sides of the Street north of Thorn Street. Euclid Avenue is classified as a Three-Lane Collector Street in the Mid-City Community Plan; however, a median-turn lane is only provided at select major intersections such as at University Avenue or El Cajon Boulevard.

College Avenue – spans between Navajo Road to the north and Federal Boulevard to the south. Within the project study area College Avenue is a four-lane roadway divided by double yellow line north of University Avenue and has a raised median south of University Avenue. College Avenue currently has a posted speed limit of 35 mph north of University Avenue and 40 mph south of University Avenue. There are no existing bicycle facilities designated on College Avenue. On-street parking is allowed on both sides of the street north of University Avenue. In the Mid-City Community Plan, College Avenue is classified as a Four-Lane Major Street, although the section from El Cajon Boulevard to University Avenue currently operates as a Four-Lane Collector Street by definition. .

Collwood Boulevard – extends between Montezuma Road to the north and 54th Street to the south, where 54th Street is designated as the east and south legs of this latter intersection. Collwood Boulevard is a two-lane roadway with a center two-way left turn lane (TWLTL) along almost its entire length, and includes a posted speed limit of 35 mph. Existing bicycle lanes are provided on almost the entire roadway length except for: 1) a short section between Monroe Avenue and 54th Street, and 2) the northbound approach to the Montezuma Road intersection. On-street parking is allowed on both sides of the street along its entire length. Collwood Boulevard operates as a Two-Lane Collector with a TWLTL but its ultimate classification is a Four-Lane Major in the College Area Community Plan.

East/West Roadway Facilities

Montezuma Road – spans between Fairmount Avenue to the west and El Cajon Boulevard to the east. Within the project study area Montezuma Road is currently a four-lane roadway. Montezuma Road is currently divided by a raised median and has a posted speed limit of 50 mph west of Collwood Boulevard, a posted speed limit of 40 mph between Collwood Boulevard and College Avenue, and a posted speed limit of 35 mph east of College Avenue (plus a 25 mph school zone). Montezuma Road has a designated Class II Bicycle Lane and parking is prohibited on both sides of the street within the project study area. Montezuma Road is classified by the current College Area Community Plan as a Four-Lane Major Street (Access Restricted).

El Cajon Boulevard – spans between Park Boulevard to the west and Spring Street in the City of La Mesa to the east. Within the project study area El Cajon Boulevard is a four-lane roadway. El Cajon Boulevard is currently divided by a raised median near the intersection with 54th Street and double yellow lines as one travels east or west. The posted speed limit is 35 mph (plus a 25 mph school zone). El Cajon Boulevard is not designated to include bicycle facilities and parking is generally allowed on both sides of the street. El Cajon Boulevard is classified by the current Mid-City Community Plan as a Four-Lane Major Street.

University Avenue – spans between Washington Street to the west and La Mesa Boulevard to the east. Within the project study area University Avenue is currently a five-lane roadway (two-lanes WB three-lanes EB) between Chollas Parkway and College Avenue and a four-lane roadway west of Chollas Parkway and east of College Avenue. University Avenue is currently divided by a raised median between College Avenue and Winona Avenue, while other segments in the study area generally include a two-way-left-turn-lane. University Avenue has a posted speed limit of 40 mph. Parking is generally allowed on both sides of University Avenue and it is classified by the current Mid-City Community Plan as a Four or Five-Lane Major Though Street.

Chollas Parkway – spans between 54th Street to the west and University Avenue to the east. Within the project study area Chollas Parkway is currently a four-lane roadway along its entire length. Chollas Parkway is currently divided by a raised median with a posted speed limit of 45 mph, and parking is prohibited on both sides of the street. In the current Mid-City Community Plan, Chollas Parkway is planned to be reduced in width and is designated as a Two-Lane Collector. However, the Community Plan also identifies an alternative where Chollas Parkway would be partly or completely closed and Lea Street would be extended to make an east-west connection.

College Grove Drive – extends between 54th Street on the west and College Avenue on the east. Within the project study area College Grove Drive is a four-lane roadway divided by a raised median except for a painted median located between 55th Street and Chollas Station Road. College Grove Drive currently has a posted speed limit of 40 between 54th Street and Chollas Station Road, 45 mph from Chollas Station Road to College Grove Way, and 35 mph from College Grove Way to College Avenue. Bike lanes are provided along the entire length of the street except between College Grove Way and College Avenue. On-street parking is only allowed on the north side of the street between 55th Street and the entrance to the east parking lot at Chollas Lake. In the Mid-City Community Plan, College Grove Drive is planned to have a reduced width and operate as a Three-Lane Collector Street (i.e., one lane in each direction with a TWLTL), although the street currently operates as a Four-Lane Collector Street by definition. .

Streamview Drive – extends between 54th Street on the west and College Avenue on the east. Within the project study area Streamview Drive is a two-lane roadway divided by a raised median (that varies in width from 24 to 54 feet) or angled parking in the median from east of the Michael-Lynn Street intersection to west of Gayle Street. Streamview Drive currently has a posted speed limit of 25 mph. No separate bike facilities are provided, but MTS bus service operates on this street. In addition to the diagonal parking in some median areas, on-street parking is allowed on the curb on both sides of the street. In the Mid-City Community Plan, Streamview Drive is designated as a Two-Lane Collector.

Figure 3-1 displays the existing roadway and intersection geometry for all key study roadway facilities, as well as the existing Average Daily Traffic (ADT) volumes for the study area roadway segments and AM / PM peak hour traffic volumes for the key study area intersections. Study area roadway segment and intersection counts were conducted in November/December 2011 and May 2012. Count worksheets are provided in **Appendix A**.

3.2. EXISTING TRAFFIC OPERATIONS

LOS analyses of existing conditions were conducted using the methodologies described in Chapter 4.0. Roadway segment and intersection LOS results are discussed separately below.

Roadway Segment Analysis

Table 3.1 displays the LOS analysis results for the key study area roadway segments under existing conditions.

As shown in Table 3.1, all key study area roadway segments are currently operating at LOS D or better based on their existing function with the exception of the following segments:

1. Montezuma Road between Collwood Boulevard and Fairmount Avenue (LOS F)
2. Collwood Boulevard between Montezuma Road and 54th Street (LOS F)

TABLE 3.1
ROADWAY SEGMENT LOS RESULTS- EXISTING CONDITIONS

No.	Street	Segment	Existing Street Classification	Daily Traffic Count	LOS E Threshold	V/C	Existing LOS
1	Montezuma Rd	Fairmount Ave to Collwood Bl	4-Lane Major	**49,575**	**40,000**	**1.239**	**F**
2	Collwood Blvd	Montezuma Rd to 54th St	2-Lane Collector(w TWLTL[1])	**24,178**	**15,000**	**1.612**	**F**
3	54th St	El Cajon Blvd to Trojan Ave	4-Lane Major	22,215	40,000	0.555	C
4		Trojan Ave to University Ave	4-Lane Major	24,842	40,000	0.621	C
5		University Ave to Chollas Pkwy	4-Lane Major	17,387	40,000	0.435	B
6		Streamview Dr to Redwood St	4-Lane Major	19,482	40,000	0.487	B
7		College Grove Dr to Euclid Ave	4-Lane Major	19,142	40,000	0.479	B
8	College Ave	El Cajon Blvd to University Ave	4-Lane Collector	22,604	30,000	0.753	D
9		University Ave to Streamview Dr	4-Lane Major	23,579	40,000	0.589	C
10	University Ave	Euclid Ave to Winona Ave	4-Lane Collector	18,905	30,000	0.630	C
11		52nd St to 54th St	4-Lane Major	27,361	40,000	0.684	C
12		54th St to 58th St	4-Lane Collector	23,126	30,000	0.771	C
13		58th St to College Ave	5-Lane Major	21,675	45,000	0.482	B
14		College Avenue to Rolando Bl	4-Lane Collector (w TWLTL)	17,410	30,000	0.580	C
15		Rolando Bl to Aragon Dr	4-Lane Collector (w TWLTL)	15,689	30,000	0.523	C
16	Chollas Pkwy	54th St to University Ave	4-Lane Collector	4,616	30,000	0.154	A

Source: Fehr & Peers, June 2013

Notes:
1. TWLTL = Two-way left-turn lane in center of roadway.

Bold letters indicate facilities operating at LOS E or worse

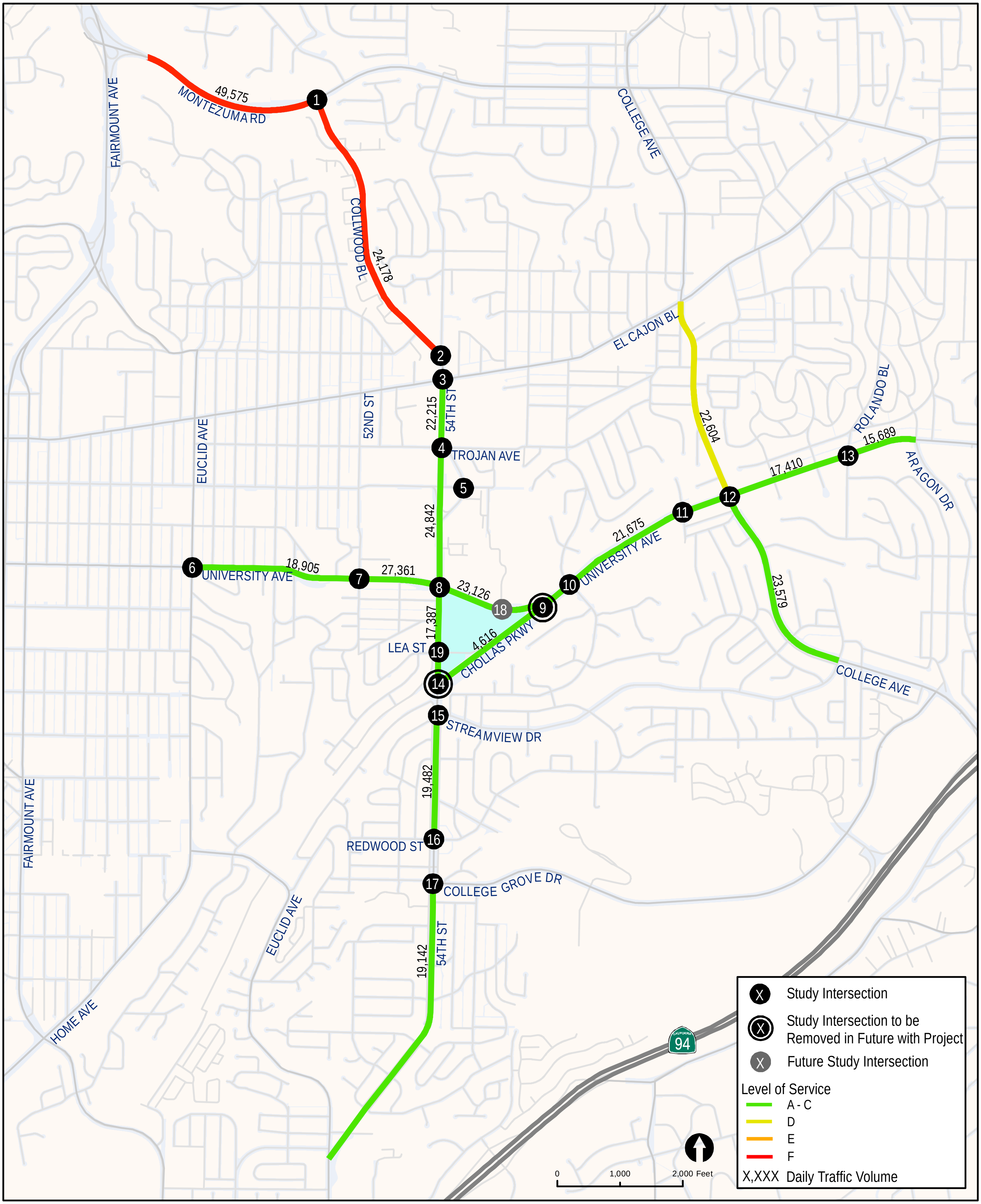

Figure 3-1: Roadway Traffic Volumes - Existing Conditions

Chollas Triangle Master Plan Traffic Impact Study

Date: 11/6/2012
Source: Fehr & Peers (2011)
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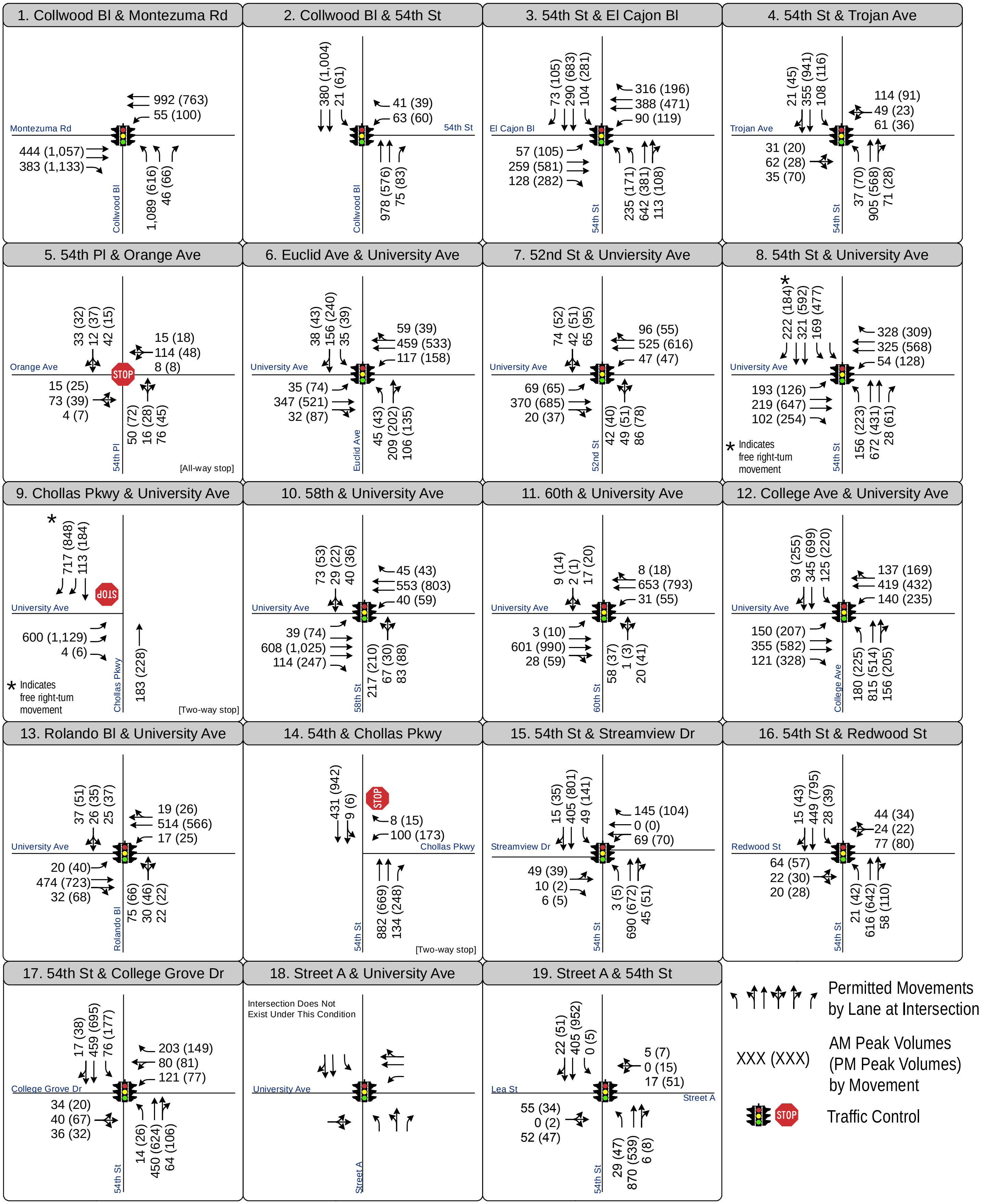

Intersection Geometry and Traffic Volumes - Existing Conditions

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Source: Fehr & Peers (2011)
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Intersection Analysis

Table 3.2 displays intersection LOS and average vehicle delay results for the key study area intersections under Existing conditions. All study area intersections are currently signalized unless otherwise noted. LOS calculation worksheets for Existing conditions are provided in **Appendix B**.

TABLE 3.2
PEAK HOUR INTERSECTION LOS RESULTS – EXISITING CONDITIONS

No.	Intersection	AM		PM	
		Delay (sec)	LOS	Delay (sec)	LOS
1	Collwood Boulevard & Montezuma Road	29.4	C	21.5	C
2	Collwood Boulevard & 54th Street	12.4	B	10.7	B
3	54th Street & El Cajon Boulevard	41.4	D	38.8	D
4	54th Street & Trojan Avenue	25.7	C	16.4	B
5	54th Street & Orange Avenue [a]	12.8	B	8.2	A
6	Euclid Avenue & University Avenue	20.5	C	26.5	C
7	52nd Street & University Avenue	21.6	C	23.7	C
8	54th Street & University Avenue	32.1	C	30.4	C
9	Chollas Parkway & University Avenue [b]	28.5	D	**>200**	**F**
10	58th Street & University Avenue	20.6	C	21.5	C
11	60th Street & University Avenue	8.3	A	8.2	A
12	College Avenue & University Avenue	36.2	D	**57.1**	**E**
13	Rolando Boulevard & University Avenue	11.2	B	13.5	B
14	54th Street & Chollas Parkway [b]	**42.9**	**E**	**117.1**	**F**
15	54th Street & Streamview Drive	17.2	B	17.3	B
16	54th Street & Redwood Street	13.4	B	12.1	B
17	54th Street & College Grove Drive	23.8	C	26.4	C
19	54th Street & Lea Street	8.0	A	10.8	B

Source: Fehr & Peers, June 2013

Notes:
[a] Intersection is all-way stop-controlled
[b] Intersection is side-street stop-controlled
Bold letters indicate facilities operating at LOS E or worse

As shown above, all key study area intersections are currently operating at LOS D or better with the exception of the following:

9. Chollas Parkway & University Avenue (LOS F - PM Peak)
12. College Avenue & University Avenue (LOS E - PM Peak)
14. 54th Street & Chollas Parkway (LOS E – AM Peak, LOS F – PM Peak)

3.3. EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian facilities include, but are not limited to, sidewalks and paths, striped crosswalks, and pedestrian display heads at signalized intersections. The site frontage includes a concrete sidewalk along the entire length of both sides of 54th Street and on both sides of University Avenue except for a short 280-foot segment on the south side of the street just west of the Chollas Parkway intersection. In addition, no sidewalks are provided on either side of Chollas Parkway immediately adjacent to the site, although an informal walking path is visible on the south side of Chollas Parkway. This path eventually connects to a 400-foot section of sidewalk on University Avenue west of 58th Street. Because of the layout of the University Avenue/Chollas Parkway intersection and the overall lack of sidewalks, no convenient pedestrian crossing point of either street is provided near this intersection. This existing configuration makes pedestrian access to and from University Avenue to the east challenging in that the only controlled crossing point west of 58th Street is at the University Avenue/54th Street intersection approximately 2,200 feet away. This signalized intersection includes pedestrian heads and striped crosswalks.

Beyond the immediate site frontage, a sidewalk is provided on both sides of University Avenue east of 58th Street and on 54th Street north of University Avenue. On 54th Street south of Lea Street to Chollas Parkway, narrow asphalt paths are provided on both sides of the street, but do not appear to meet Americans with Disabilities Act (ADA) requirements. At several points, the available sidewalk width is less than 36 inches wide because of light standards or utility poles.

Observations near the site showed that jaywalking occurs on the east and south legs of the University Avenue/54th Avenue intersection because of the bus transit stops that are located 150 feet to 250 away from the intersection crosswalks. Some patrons of the existing site development do not use the signalized crosswalks and avoid the more circuitous path to get to the stops.

Bicycle facilities include separate paths, lanes, and routes in addition to storage facilities. In the immediate vicinity of the project site, the only bike lanes are provided on 54th Street and are discontinuous in that the lanes do not extend through all intersections (e.g., northbound through the University Avenue intersection) or do not exist (e.g., northbound between Chollas Parkway and Lea Street). Further from the site, bicycle lanes are provided on Collwood Boulevard, Montezuma Road, portions of 54th Street, and most of College Grove Avenue.

3.4. EXISTING TRANSIT SERVICE

The project site is served by three bus routes operated by the Metropolitan Transit System (MTS): Route 7, Route 10 and Route 955. The closest stops are located in both directions on University Avenue east of 54th Street and on southbound 54th Street south of University Avenue. A brief description of each route presented below and detailed schedules with additional route information are provided in **Appendix C.**

> **Route 7**—Route 7 provides east-west service between Downtown and La Mesa by way of University Avenue. The route connects Horton Plaza with City College, Balboa Park, the San Diego Zoo, City Heights Transit Plaza, and the Joan Kroc Center in La Mesa. This route operates seven days a week.
>
> **Route 10**—Route 10 provides east-west, limited stops, service between Old Town and the University Avenue/College Avenue intersection by way of University Avenue. The route terminates at the Old Town Transit Center and connects to Hillcrest, North Park, and City Heights. This route operates seven days a week.
>
> **Route 955**—Route 955 provides north-south service between the 8th Street Trolley station and the SDSU Transit Center. The route connects the 8th Street Trolley station with the Euclid Avenue Trolley station and the SDSU transit center via 43rd Street and 54th Street. This service operates seven days a week.

3.5. EXISTING PARKING SUPPLY

Parking is provided for all uses on the site and is generally segregated by use, except for the two largest uses on the site that share spaces in the largest lot area. While a detailed parking study was not conducted for existing uses, the overall supply is adequate based on anecdotal information and a substantial surplus of parking is typically available.

4. STUDY METHODOLOGY

The traffic analyses prepared for this study were performed in accordance with City of San Diego requirements and the enhanced California Environmental Quality Act (CEQA) project review process. Detailed information on roadway segment, as well as, intersection analysis methodologies, standards, and thresholds are discussed in the following sections.

4.1. ROADWAY SEGMENT LEVEL OF SERVICE STANDARDS AND THRESHOLDS

Roadway segment Level of Service (LOS) standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. The City of San Diego's roadway classifications, levels of service, and average daily traffic thresholds for level of service are provided in table two of the city's *Traffic Impact Study Manual* (1998). The roadway segment capacity and LOS standards utilized to analyze roadways evaluated in this report is contained in **Appendix D**.

These standards are generally used as planning guidelines to determine the classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of its intersections to accommodate peak hour traffic volumes. For the purposes of this traffic analysis, LOS D is considered acceptable for circulation element roadway segments.

4.2. PEAK HOUR INTERSECTION LOS STANDARDS AND THRESHOLDS

This section presents the methodologies used to perform peak hour intersection capacity analysis, including both signalized and unsignalized intersections. The following assumptions were utilized in conducting all intersection LOS analyses according to Highway Capacity Manual methodology:

- *Pedestrian Calls per Hour:* Based on existing pedestrian count data. Where data was not available, 10 calls per hour for each pedestrian movement was assumed.
- *Heavy Vehicle Factor:* A 2% heavy vehicle factor was assumed for all intersections within the study area.
- *Signal Timing:* Based on existing City signal timing plans (as of July 2011)
- *Peak Hour Factor:* Based on existing peak hour count data

Signalized Intersection Analysis

The analysis of signalized intersections utilized the operational analysis procedures as outlined in the *2000 Highway Capacity Manual (HCM), Transportation Research Board Special Report 209*. This method defines LOS in terms of delay, or more specifically, average stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption and lost travel time. This technique uses 1,900 vehicles per hour per lane (VPHPL) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks) and shared lane movements (i.e. through and right-turn movements originating from the same lane). The LOS criteria used for this technique are described in **Table 4.1**. The computerized analysis of intersection operations was performed utilizing the *SYNCHRO 6.0* traffic analysis software.

TABLE 4.1
SIGNALIZED INTERSECTION LOS CRITERIA

Average Stopped Delay Per Vehicle (seconds)	LOS Characteristics
<10.0	*LOS A* describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1 – 20.0	*LOS B* describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
20.1 – 35.0	*LOS C* describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1 – 55.0	*LOS D* describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1 – 80.0	*LOS E* is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80.0	*LOS F* describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Highway Capacity Manual 2000, TRB Special Report 209

Unsignalized Intersection Analysis

Unsignalized intersections, including two-way and all-way stop controlled intersections, were analyzed using the 2000 Highway Capacity Manual (Section 10) unsignalized intersection analysis methodology. The *SYNCHRO 6.0* Traffic Analysis software supports this methodology and was utilized to produce LOS results. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed control delay and is defined for each minor movement. **Table 4.2** summarizes the LOS criteria for unsignalized intersections. The City of San Diego considers LOS D or better during the AM and PM peak hours to be acceptable for intersection LOS.

TABLE 4.2
UNSIGNALIZED INTERSECTION LOS CRITERIA

Average Control Delay (sec/veh)	LOS
≤10	A
>10 and ≤15	B
>15 and ≤25	C
>25 and ≤35	D
>35 and ≤50	E
>50	F

Highway Capacity Manual 2000, TRB Special Report 209

4.3. DETERMINATION OF SIGNIFICANT IMPACTS

The *City of San Diego Significance Determination Thresholds, January 2011* defines project impact thresholds corresponding to the type of facility. These thresholds are generally based upon an acceptable increase in the Volume / Capacity (V/C) ratio for roadway and freeway segments, and upon increases in vehicle delays for intersections and ramps.

In the City of San Diego, LOS D is considered acceptable for roadway and intersection operations. **Table 4.3** summarizes the impact significant thresholds as identified by the City of San Diego beyond which mitigation measures are required.

TABLE 4.3
MEASURE OF SIGNIFICANT PROJECT TRAFFIC IMPACTS

LOS with Project*	Allowable Change Due to Impact**					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec)	Delay (min.)
LOS E (or ramp meter delays above 15 min.)	0.010	1.0	0.02	1.0	2.0	2.0
LOS F (or ramp meter delays above 15 min.)	0.005	0.5	0.01	0.5	1.0	1.0

Source: *City of San Diego, Significance Determination Thresholds, January 2011*

Note 1: The allowable increase in delay at a ramp meter with more than 15 minutes id delay and freeway LOS E is 2 minutes.
Note 2: The allowable increase in delay at a ramp meter with more than 15 minutes id delay and freeway LOS F is 1 minute.

* All LOS measurements are based upon HCM procedures for peak-hour conditions. However, vehicle to capacity (V/C) ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2.1 or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

** If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigation (within the Traffic Impact Study report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see above * note), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

Impacts to pedestrians, bicyclists and transit patrons are evaluated differently than for vehicles. In general, multi-modal impacts are identified when implementation of the proposed project would result in one of the following conditions:

- Conflicts with an existing or planned bicycle, pedestrian or transit facility or service, or results in the addition of a substantial number of pedestrians, bicyclists and/or transit patrons that would require modification of existing or planned multi-modal facilities or services.

5. PROJECT DESCRIPTION AND TRIP GENERATION

This section describes the proposed Chollas Triangle Master Plan including the proposed land uses, estimated trip generation, trip distribution, and trip assignment.

5.1. PROJECT DESCRIPTION

The proposed project is located in the City of San Diego in the Eastern Area neighborhood of the Mid-City Community Plan Area. The project area is bound by 54th Street to the west, University Avenue to the north, and Chollas Parkway to the east and south, with a small area north of University Avenue. **Figure 5-1** illustrates the location of the proposed project within the greater study area, as well as the number of travel lanes on each segment and the primary traffic control device (i.e., signal or stop sign(s)) at each location.

The project proposes to redevelop the existing Chollas Triangle site, which currently includes a service station, anchor retail, several smaller commercial establishments and the Teen Challenge Center. The project proposes to develop a set of mixed land uses which include approximately 130,000 square feet of neighborhood commercial uses, 486 multi-family dwelling units, and 5.5 acres of passive park uses. The proposed project would continue to take access via driveways located on 54th Street and University Avenue but will consolidate the number of access points add two new traffic signals on University Avenue. The project site plan was previously provided in **Figure 2-3.**

5.2. PROJECT TRIP GENERATION

Project trip generation estimates were derived utilizing the *City of San Diego Land Development Code – Trip Generation Manual, May 2003*. **Table 5.1** displays the projected cumulative trip generation for the proposed project, which presents the traffic volumes that would be added to the roadway system at the study intersections that are not immediately adjacent to the project site. These trips exclude pass-by trips to the commercial uses, which are those trips that will be made to and from the site by traffic that is already passing by the site.

TABLE 5.1
CUMULATIVE PROJECT TRIP GENERATION

Land Use	Units	Trip Rate	ADT	AM Peak					PM Peak				
				%	Trips	Split	In	Out	%	Trips	Split	In	Out
Proposed Project Land Uses													
Multi-Family Residential	486 DU	8/DU	3,888	8	311	2:8	62	249	10	389	7:3	272	117
Neighborhood Commercial	130 KFS	72/KSF	9,360	4	375	6:4	225	150	11	1,030	5:5	515	515
Undeveloped Park	5.5 Acre	5/acre	28	4	2	5:5	1	1	8	2	5:5	1	1
Sub-Total			*13,276*		*688*		*288*	*400*		*1,421*		*788*	*633*
Existing Land Uses to be Removed													
Multi-Family Residential	7 DU	8/DY	56	8	5	2:8	1	4	10	6	7:3	4	2
Other Group Quarters	26 KFS	3/KSF	78	7	5	6:4	3	2	7	5	4:6	2	3
Community Commercial	116 KFS	49/KSF	5,684	3	170	6:4	102	68	10	568	5:5	284	284
Service Station	8 Pump	30/Pump	240	8	20	5:5	10	10	8	20	5:5	10	10
Sub-Total			*6,058*		*200*		*116*	*84*		*599*		*300*	*299*
Net New Project Trips			**7,218**		**488**		**172**	**316**		**822**		**488**	**334**

Source: City of San Diego Land Development Code – Trip Generation Manual, May 2003

As shown, the land uses described above included as part of the proposed project, in combination with the removal of existing uses, are anticipated to generate 7,218 daily vehicle trips, including 488 trips during the AM peak hour (172-in/316-out) and 822 trips during the PM peak hour (488-in/334-out).

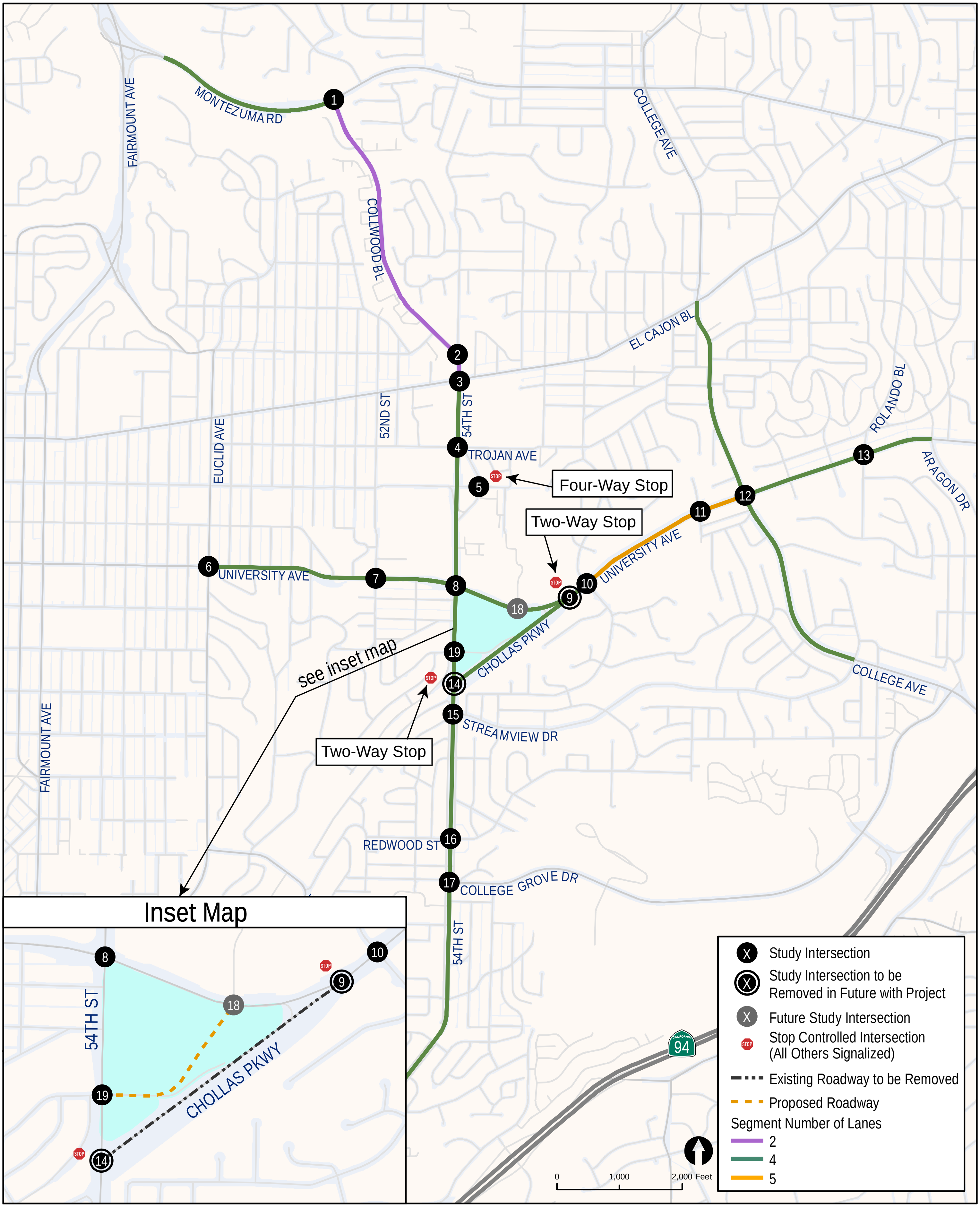

Figure 5-1: Chollas Triangle Study Area and Key Intersections

Chollas Triangle Master Plan Traffic Impact Study

Date: 11/6/2012
Source: Fehr & Peers (2011)

FEHR & PEERS

For the analysis of the site driveways, pass-by trips need to be included in the total project trip generation to ensure that all site-generated traffic is accounted for. The projected driveway trip generation is presented in **Table 5.2** and was used to analyze operations at intersections immediately adjacent to the site.

TABLE 5.2
DRIVEWAY PROJECT TRIP GENERATION

				AM Peak					PM Peak				
Land Use	**Units**	**Trip Rate**	**ADT**	**%**	**Trips**	**Split**	**In**	**Out**	**%**	**Trips**	**Split**	**In**	**Out**
Proposed Project Land Uses													
Multi-Family Residential	486 DU	8/DU	3,888	8	311	2:8	62	249	10	389	7:3	272	117
Neighborhood Commercial	130 KFS	120/KSF	15,600	4	624	6:4	374	250	11	1,716	5:5	858	858
Undeveloped Park	5.5 Acre	5/acre	28	4	2	5:5	1	1	8	2	5:5	1	1
Sub-Total			*19,516*		*936*		*437*	*499*		*2,107*		*1,131*	*976*
Existing Land Uses to be Removed													
Multi-Family Residential	7 DU	8/DY	56	8	5	2:8	1	4	10	6	7:3	4	2
Other Group Quarters	26 KFS	3/KSF	78	7	5	6:4	3	2	7	5	4:6	2	3
Community Commercial	116 KFS	70/KSF	8,120	3	244	6:4	146	97	10	812	5:5	406	406
Service Station	8 Pump	150/Pump	1,200	8	96	5:5	48	48	8	96	5:5	48	48
Sub-Total			*9,454*		*350*		*198*	*151*		*919*		*460*	*459*
Net New Project Trips			**10,062**		**587**		**239**	**348**		**1,188**		**671**	**517**

5.3. PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Project Trip Distribution

The project trip distribution was developed based upon a SANDAG Series 12 select Zone assignment as well as input from City staff. **Figure 5-2** displays the assumed project trip distribution. Outputs from the select zone assignment are provided in **Appendix E.**

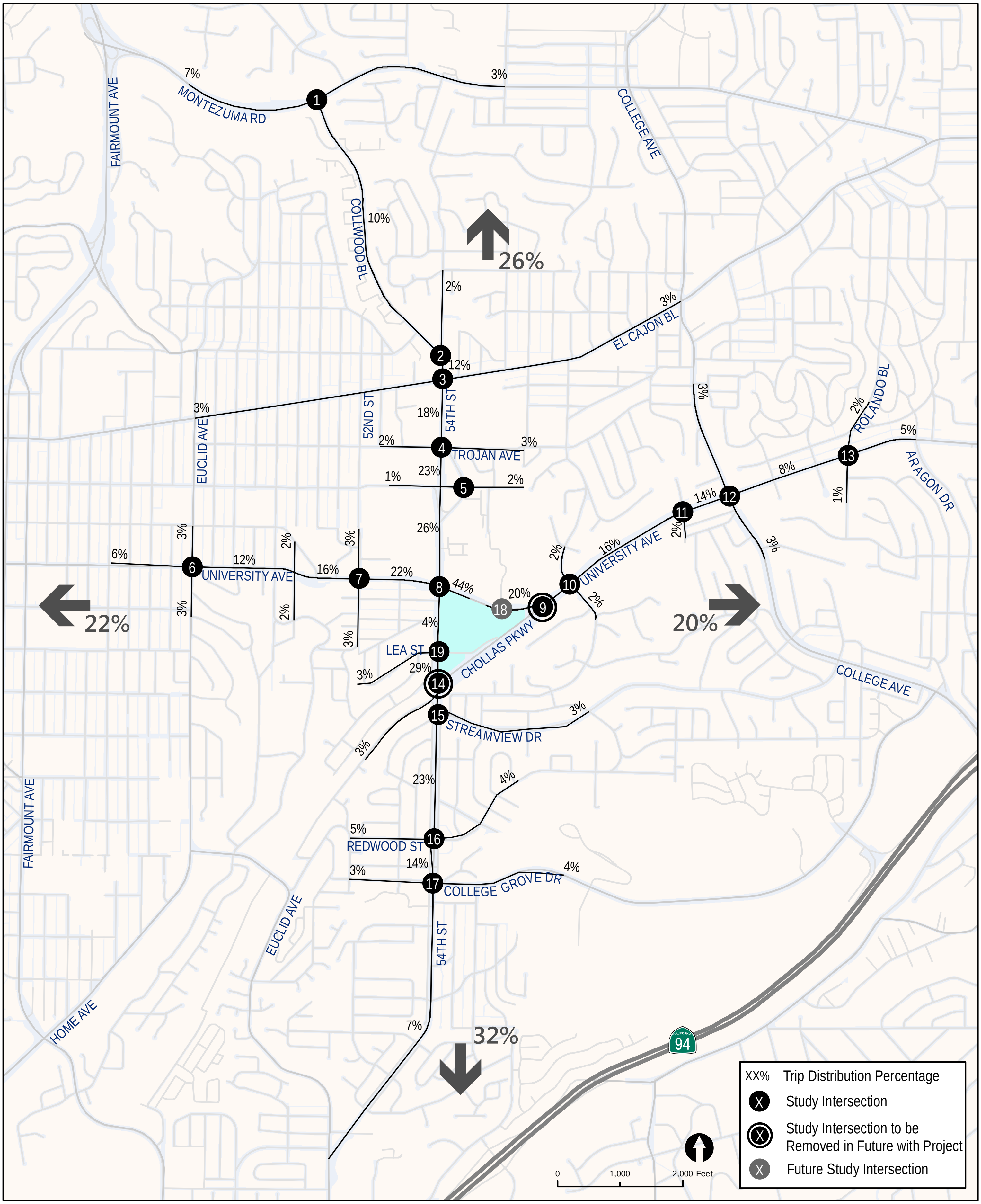

Figure 5-2: Trip Distribution

Chollas Triangle Master Plan Traffic Impact Study

Date: 11/6/2012

Source: Fehr & Peers (2011)

Project Trip Assignment
Based upon the daily and AM/PM peak hour project trip generation along with the assumed trip distribution, project trips were assigned to the adjacent roadway network, as displayed in **Figure 5-3**.

5.4. PROJECT STUDY AREA

The project study area was determined based upon the City of San Diego Traffic Impact Study guidelines as well as the SANTEC/ITE guidelines. Based on the methodologies outlined in these guidelines all intersections and roadway segments in which the proposed project is anticipated to add 50 or more peak hour trips was included as part of this analysis.

The major components of the project include neighborhood-commercial and residential land uses. Based on the nature of the commercial uses and various neighborhood and regional-commercial developments in the area, it is anticipated that the majority of retail project trips will be drawn from the local community. The analyzed land uses would have a limited regional draw and shopping opportunities such as Marketplace at the Grove Shopping Center, Metropolitan Shopping Center, University Square, Boulevard Mart Shopping Center, Campus Plaza Shopping Center, Lemon Grove Plaza Shopping Center, and retail shopping opportunities along University Avenue, El Cajon, and near Fairmount Avenue & Mission Gorge Road highlight the local nature of this commercial center.

The availability of so many shopping destinations indicates there is also a sizeable work-force in the area, and this is only when considering retail shopping opportunities. While there are likely to be residents who are employed in traditional employment centers such as downtown San Diego, there are several other commercial or industrial areas near the project site that are accessible such as Federal Boulevard, Market Street, College Grove Drive, Mission Gorge/Friars Road, San Diego State University, various hospitals, and employment opportunities along University Ave and El Cajon Boulevard. Additionally, during the peak hours the residential trips account for up to about half of the estimated net new trip generation. Based on the diversity of available land uses and composition of the trip generation estimates it is projected that fewer than 20 trips would utilize a freeway ramp in the area.

The following 16 roadway segments were identified for study:

1. Montezuma Road, between Fairmount Avenue & Collwood Boulevard
2. Collwood Boulevard, between Montezuma Road & 54th Street
3. 54th Street, between El Cajon Boulevard & Trojan Avenue
4. 54th Street, between Trojan Avenue & University Avenue
5. 54th Street, between University Avenue & Chollas Parkway
6. 54th Street, between Streamview Drive & Redwood Street
7. 54th Street, between College Grove Drive & Euclid Avenue
8. College Avenue, between El Cajon Boulevard & University Avenue
9. College Avenue, between University Avenue & Streamview Drive
10. University Avenue, between Euclid Avenue & 52nd Street
11. University Avenue, between 52nd Street & 54th Street
12. University Avenue, between 54th Street & 58th Street
13. University Avenue, between 58th Street & 60th Street
14. University Avenue, between College Avenue & Rolando Boulevard
15. University Avenue, between Rolando Boulevard to Aragon Drive
16. Chollas Parkway, between 54th Street & University Avenue

The following 18 key intersections were identified for study:

1. Collwood Boulevard & Montezuma Road
2. Collwood Boulevard & 54th Street
3. 54th Street & El Cajon Boulevard
4. 54th Street & Trojan Avenue
5. 54th Street & Orange Avenue (all-way stop-controlled)
6. Euclid Avenue & University Avenue
7. 52nd Street & University Avenue
8. 54th Street & University Avenue
9. Chollas Parkway & University Avenue (side-street stop-controlled)
10. 58th Street & University Avenue
11. 60th Street & University Avenue
12. College Avenue & University Avenue
13. Rolando Boulevard & University Avenue
14. 54th Street & Chollas Parkway (side-street stop-controlled)
15. 54th Street & Streamview Drive
16. 54th Street & Redwood Street
17. 54th Street & College Grove Drive
18. 54th Street & Lea Street

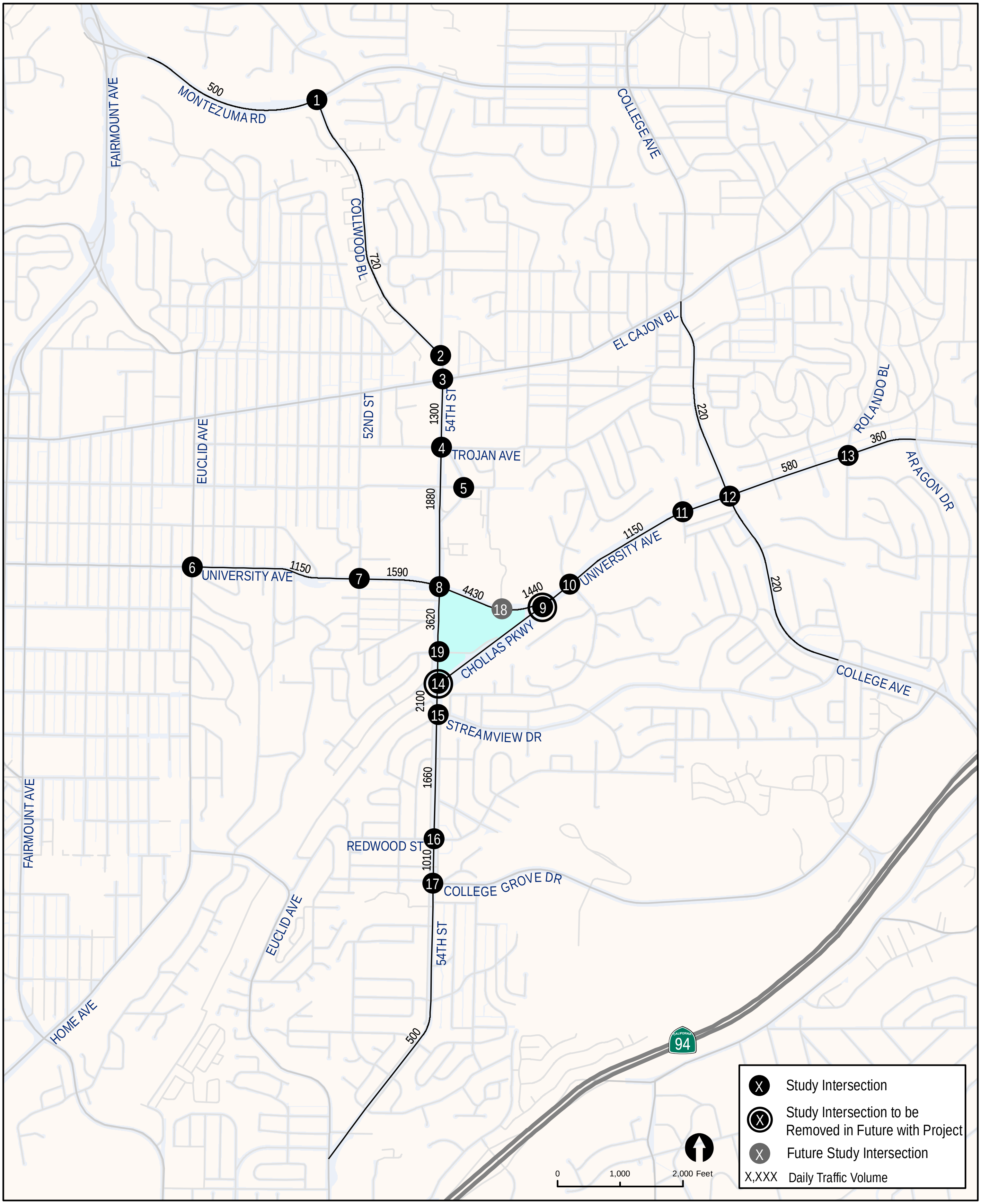

Figure 5-3: Roadway Project Traffic Volume Assignment

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Date: 11/6/2012
Source: Fehr & Peers (2011)
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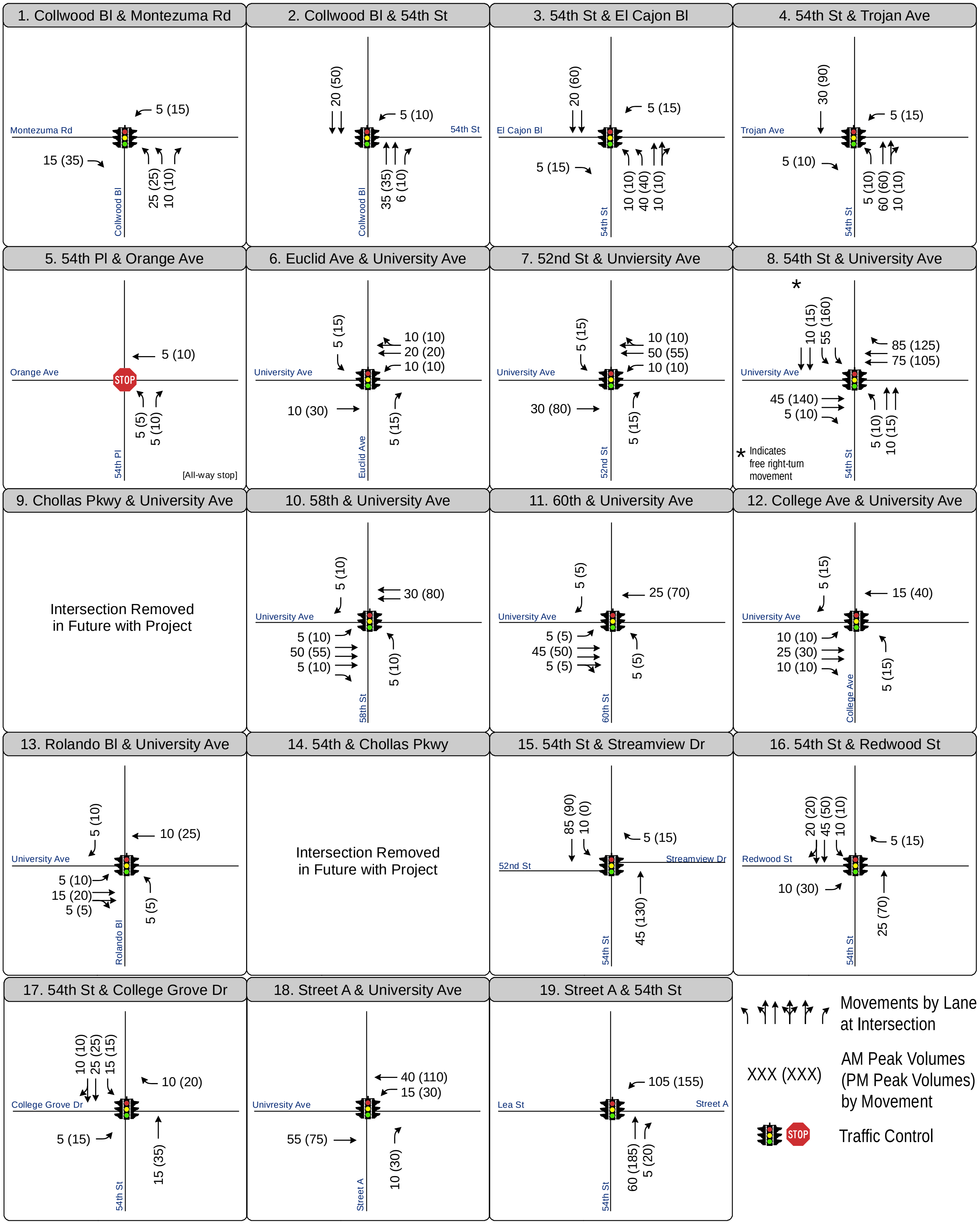

Intersection Geometry and Project Traffic Volume Assignment

Chollas Triangle Master Plan Traffic Impact Study

Date: 11/6/2012
Source: Fehr & Peers (2011)
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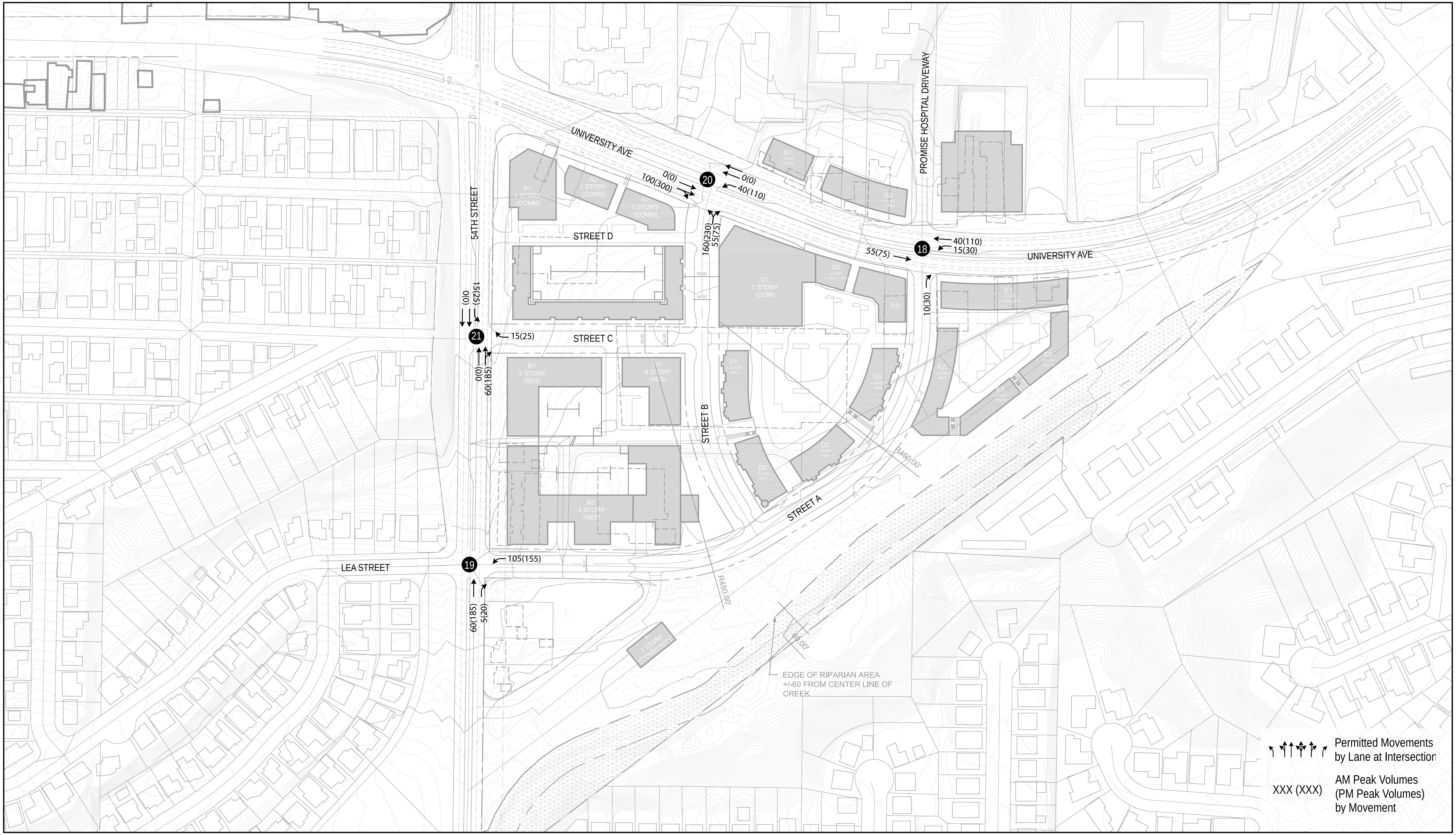

Figure 5-3: Peak Hour at Project Access Point Volume Assignment

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Date: 11/6/2012
Source: Civitas
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6. HORIZON YEAR (2035) CONDITIONS

This section provides an analysis of Horizon Year traffic conditions both with and without the proposed project.

6.1. HORIZON YEAR ROADWAY NETWORK AND TRAFFIC VOLUMES

It is assumed that no roadway or intersection improvements would be implemented under Horizon Year conditions.

Horizon Year traffic volumes were derived from the SANDAG Series 12 Year 2035 Transportation Forecast and processed consistent with Small Study Area Traffic Modeling Process. An overview and details regarding the steps to complete the modeling process is included in **Appendix E**, along with the tables that were used to develop the future volume forecasts. Prior to completing the model forecasts, a thorough review of model inputs was completed for the base and horizon year scenarios. Horizon Year 2035 peak hour intersection turning movements at these locations were developed by comparing existing and forecasted Year 2035 ADTs as well as peak hour approach and departure volumes, then applying the respective growth factors. Manual adjustments were also made to ensure that traffic volumes among adjacent intersections are reasonably balanced. **Appendix E** includes the tables that were used to develop the future volume forecasts. The model review included the following:

- Circulation network
- Number of lanes on roadways and approach lanes at signalized intersections
- Traffic controls
- Street classification
- Base year traffic volumes
- Roadway speed limits
- Zone connector locations and granularity
- Traffic Analysis Zones
- City approved model land use and trip generation inputs (land use description, unit type, quantity, and City of San Diego trip generation rates)

The model inputs described above were reviewed by the project team and approved by City staff prior to running the final model forecasts used to derive Horizon Year traffic volumes.

Figure 6-1 displays the assumed Horizon Year Base roadway geometry and traffic volumes at key study area roadway segments and intersections.

6.2. HORIZON YEAR BASE TRAFFIC OPERATIONS

LOS analyses under Horizon Year Base (without project) conditions were conducted using the methodologies described in Chapter 4.0. Roadway segment and intersection LOS results are discussed separately below.

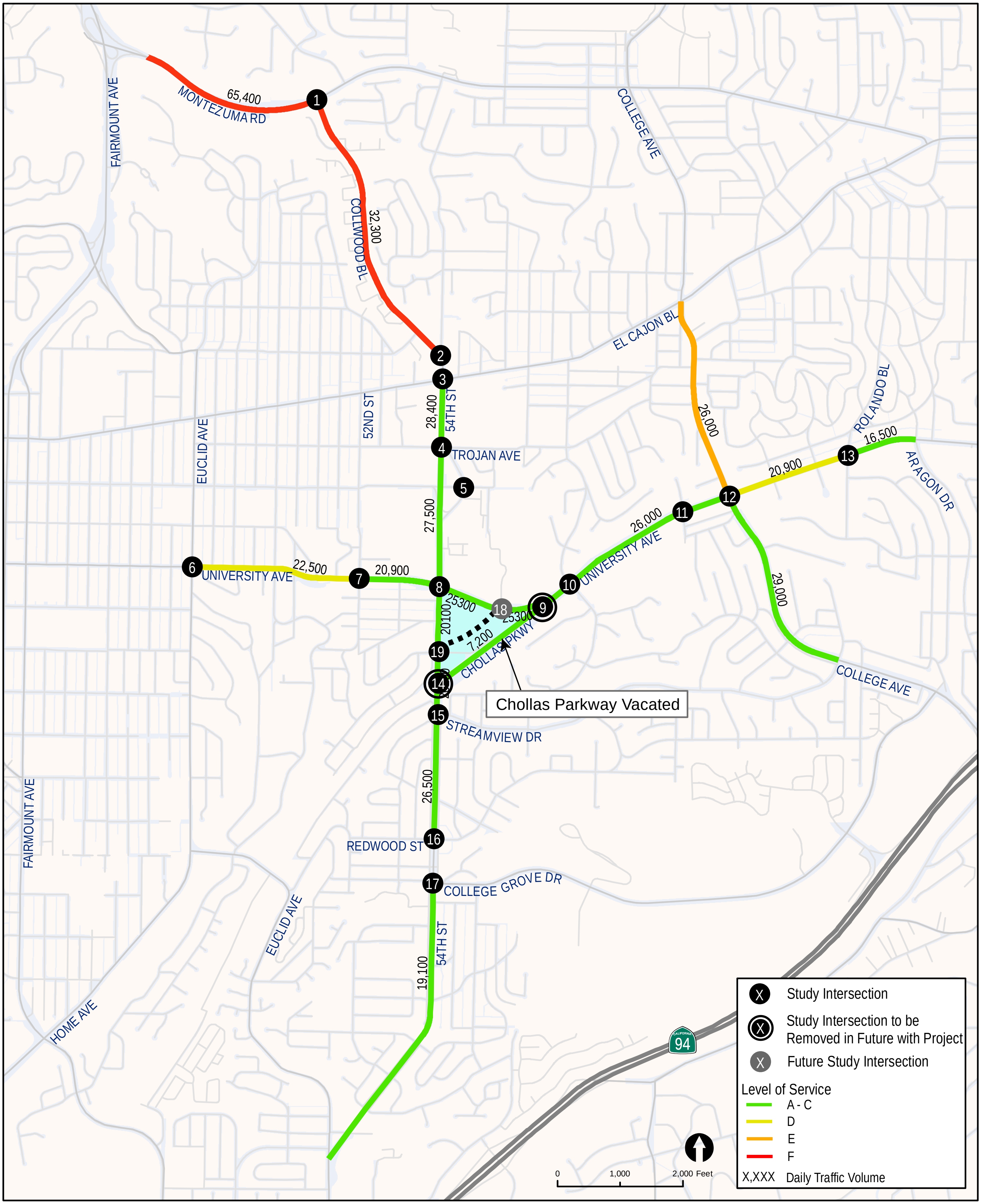

Figure 6-1: Roadway Traffic Volumes - Horizon Year Base Conditions

Chollas Triangle Master Plan Traffic Impact Study

Date: 11/6/2012
Source: Fehr & Peers (2011)
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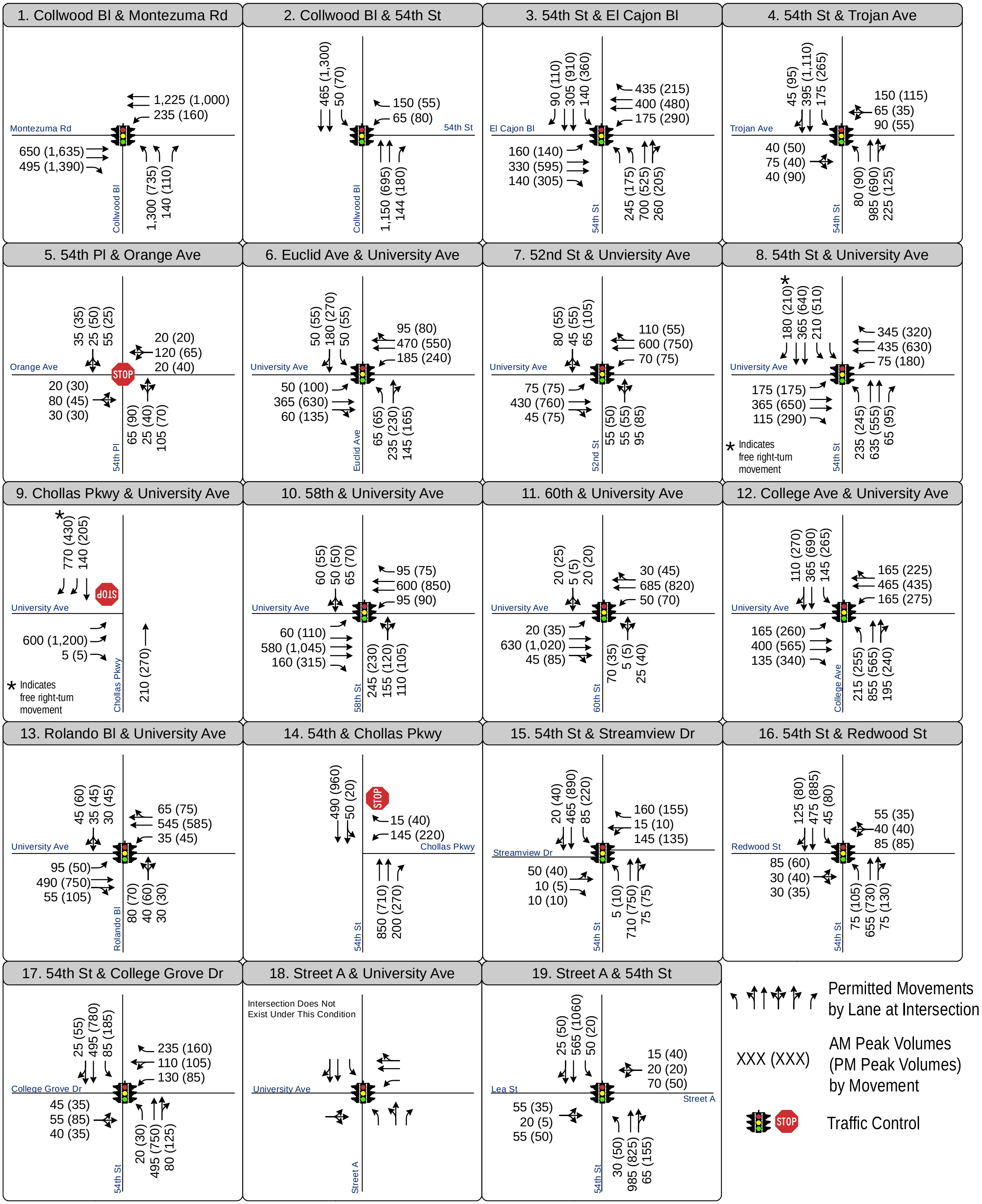

Intersection Geometry and Traffic Volumes - Horizon Year Base Conditions

FEHR & PEERS

Chollas Triangle Master Plan Traffic Impact Study

Date: 11/6/2012
Source: Fehr & Peers (2011)
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Roadway Segment Analysis

Table 6.1 displays the LOS analysis results for the key study area roadway segments under Horizon Year Base conditions.

TABLE 6.1
ROADWAY SEGMENT LOS RESULTS – HORIZON YEAR BASE CONDITIONS

No.	Street	Segment	Street Classification	ADT	LOS E Threshold	V/C[1]	LOS
1	Montezuma Rd	Fairmount Ave to Collwood Blvd	4-Lane Major	65,400	40,000	1.635	F
2	Collwood Blvd	Montezuma Rd to 54th St	2-Lane Collector (w TWLTL)[2]	32,300	15,000	2.153	F
3	54th St	El Cajon Blvd to Trojan Ave	4-Lane Major	28,400	40,000	0.710	C
4		Trojan Ave to University Ave	4-Lane Major	27,500	40,000	0.688	C
5		University Ave to Chollas Prkwy	4-Lane Major	20,100	40,000	0.503	B
6		Streamview Dr to Redwood St	4-Lane Major	26,500	40,000	0.663	C
7		College Grove Dr to Euclid Ave	4-Lane Major	19,200	40,000	0.480	B
8	College Ave	El Cajon Blvd to University Ave	4-Lane Collector	26,000	30,000	0.867	E
9		University Ave to Streamview Dr	4-Lane Major	29,000	40,000	0.725	C
10	University Ave	Euclid Ave to Winona Ave	4-Lane Collector	22,500	30,000	0.750	D
11		52nd St to 54th St	4-Lane Major	27,400	40,000	0.685	C
12		54th St to 58th St	4-Lane Collector	25,300	30,000	0.843	E
13		58th St to 60th St	5-Lane Major	26,000	45,000	0.578	C
14		College Avenue to Rolando Blvd	4-Lane Collector (w TWLTL)	20,900	30,000	0.697	D
15		Rolando Bl to Aragon Dr	Collector (4-Lane w TWLTL)	16,500	30,000	0.550	C
16	Chollas Pkwy	54th St to University Ave	4-Lane Collector	7,200	30,000	0.240	A

Source: Fehr & Peers, June 2013

Note:
1. V/C: Volume to capacity ratio
2. TWLTL = Two-Way Left-Turn Lane

Bold letters indicate facilities operating at LOS E or worse

As shown, all study area roadway segments are projected to operate at LOS D or better under Horizon Year Base conditions, with the exception of the following:

1. Montezuma Road between Fairmount Avenue and Collwood Boulevard (LOS F)
2. Collwood Boulevard between Montezuma Road and 54th Street (LOS F)
8. College Avenue between El Cajon Blvd to University Ave (LOS E)

Intersection Analysis

Table 6.2 displays intersection LOS and average vehicle delay results for the key study area intersections under Horizon Year Base conditions. All intersections are assumed to be signalized unless otherwise noted. LOS calculation worksheets for Horizon Year Base Plus Project conditions are provided in **Appendix F**.

TABLE 6.2
PEAK HOUR INTERSECTION LOS RESULTS – HORIZON YEAR BASE CONDITIONS

No.	Intersection	AM		PM	
		Delay (sec)	LOS	Delay (sec)	LOS
1	Collwood Boulevard & Montezuma Road	35.4	D	47.0	D
2	Collwood Boulevard & 54th Street	16.2	B	11.9	B
3	54th Street & El Cajon Boulevard	49.2	D	53.9	D
4	54th Street & Trojan Avenue	33.7	C	27.4	C
5	54th Street & Orange Avenue [a]	24.3	C	9.1	A
6	Euclid Avenue & University Avenue	22.4	C	27.6	C
7	52nd Street & University Avenue	22.6	C	23.5	C
8	54th Street & University Avenue	25.6	C	38.4	D
9	Chollas Parkway & University Avenue [b]	33.5	D	**>200**	**F**
10	58th Street & University Avenue	26.1	C	25.2	C
11	60th Street & University Avenue	9.4	A	10.6	B
12	College Avenue & University Avenue	**63.9**	**E**	**67.6**	**E**
13	Rolando Boulevard & University Avenue	15.2	B	15.8	B
14	54th Street & Chollas Parkway [b]	**60.6**	**F**	**145.7**	**F**
15	54th Street & Streamview Drive	23.5	C	26.6	C
16	54th Street & Redwood Street	18.2	B	14.7	B
17	54th Street & College Grove Drive	25.9	C	29.3	C
19	54th Street & Lea Street	14.7	B	11.9	B

Source: Fehr & Peers, June 2013

Notes:
[a] Intersection is all-way stop-controlled
[b] Intersection is side-street stop-controlled
Bold letters indicate facilities operating at LOS E or worse

As shown, all key study area intersections are projected to operate at LOS D or better under Horizon Year Base conditions, with the exception of the following:

9. Chollas Parkway & University Avenue (LOS F – AM Peak)
12. College Avenue & University Avenue (LOS E – AM & PM Peaks)
14. 54th Street & Chollas Parkway (LOS F – AM & PM Peaks)

6.3. HORIZON YEAR BASE PLUS PROJECT ROADWAY NETWORK AND TRAFFIC VOLUMES

The proposed Chollas Triangle Master Plan contains several roadway network modifications which will be included as project features. The roadway changes assumed under the Horizon Year Base Plus Project conditions are as follows:

- *Chollas Parkway* - The Chollas Triangle Master Plan proposes the vacation of Chollas Parkway. This would result in the removal of the four-lane Chollas Parkway and elimination of the T-intersections of Chollas Parkway & University Avenue and Chollas Parkway & 54th Street. The vacation of Chollas Parkway will allow for the creation of new open space and local circulation will be facilitated by a new network of on-site streets connecting 54th Street and University Avenue.

- *Chollas Triangle Collector Street (New Street A)* - The proposed two-lane collector street will connect 54th Street and University Avenue and facilitate project access. The project proposes to form a four-legged signalized intersection at the existing Lea Street/54th Street intersection, which is already signalized. The collector street would curve to the north, forming a signalized, four-legged intersection at University Avenue opposite the existing Promise Hospital Driveway.

- *New Street B* – A new north-south, two-lane collector street will be constructed approximately 500 feet east of 54th Street connecting University Avenue to New Street A. This street is expected to provide on-street parking on both sides and be controlled with stop signs at on-site intersections. The intersection of New Street B and University Avenue is proposed to be a full access intersection and signalized.

- *New Street C* – A new east-west, two-lane collector street will be constructed approximately 540 feet south of University Avenue (at 54th Street) connecting 54th Street with New Street A. This street is expected to provide on-street parking on both sides and be controlled with stop signs at on-site intersections. The intersection of New Street C and 54th Street is proposed to be a full access intersection (except for left-turns out to 54th Street) and controlled by a stop sign on the New Street C approach.

- *New Street D* – A new east-west, two-lane collector street will be constructed approximately 300 feet south of University Avenue (at 54th Street) connecting 54th Street with New Street B. This street is expected to provide on-street parking on both sides and be controlled with stop signs at on-site intersections. The intersection of New Street D and 54th Street is proposed to be a right-turn only intersection and controlled by a stop sign on the New Street D approach.

Volume Forecasts at New Streets and Intersections

As discussed, Chollas Parkway will be replaced by a new collector street that will result in new intersections at 54th Street & Lea Street and University Avenue & Promise Hospital Driveway. The forecasts for the daily segment volume and peak hour intersection volumes were developed based on three sources of traffic:

1. Existing volumes at the 54th Street & Lea Street, 54th Street & Chollas Parkway and Chollas Parkway & University Avenue intersections:
    a. Turning movement volumes at these intersections were reviewed to gain a better understanding of local travel patterns around the project site and along Chollas Parkway.
    b. Another intersection, 54th Street & University Avenue, was also reviewed due to its importance to serving the project site and capacity to serve additional traffic that would

no longer be able to utilize the former Chollas Parkway alignment as a cut-through route connecting University Avenue and 54th Street.

2. Segment volumes on Chollas Parkway and the new collector street:

    a. Based on the reduction in capacity, from the four lanes provided on Chollas Parkway fronting no active land uses, to the new two-lane collector street with on-street parking and commercial frontages, some of the traffic currently utilizing Chollas Parkway was assumed to be shifted to the University Avenue & 54th Street intersection, rather than the Chollas Parkway alignment previously available as a cut-through route. The reduced speed, curved alignment, and overall reduced capacity on New Street A will keep some drivers on the major streets.

    b. Segment volumes on Chollas Parkway were reviewed and compared to the projected volumes on the new collector street (based on the year 2035 SANDAG transportation forecast) to determine the magnitude of through traffic currently using Chollas Parkway that would redistribute to the 54th Street & University Avenue intersection. Additional information regarding this shift in volumes is provided in **Appendix G.**

2. Project-generated traffic

    a. Traffic generated by the proposed project was assigned to the local street network

    b. Following the addition of the three sources of traffic above, the intersection volumes were reviewed and compared against the existing volumes and volume forecasts for reasonableness

The Horizon Year Base Plus Project traffic volumes were derived by adding the project trip assignment (displayed in Figure 5-3) to the Horizon Year Base volumes (displayed in Figure 6-1).

Figure 6-2 displays the Horizon Year Base Plus Project intersection lane configurations and daily ADT, AM and PM peak hour traffic volumes for the key study area roadway segments and intersections.

6.4. HORIZON YEAR BASE PLUS PROJECT TRAFFIC OPERATIONS

LOS analyses under Horizon Year Base Plus Project conditions were conducted using the methodologies described in Chapter 4.0. Roadway segment and intersection LOS results are discussed separately below.

Roadway Segment Analysis

Table 6.3 displays the LOS analysis results for the key study area roadway segments under Horizon Year Base Plus Project conditions.

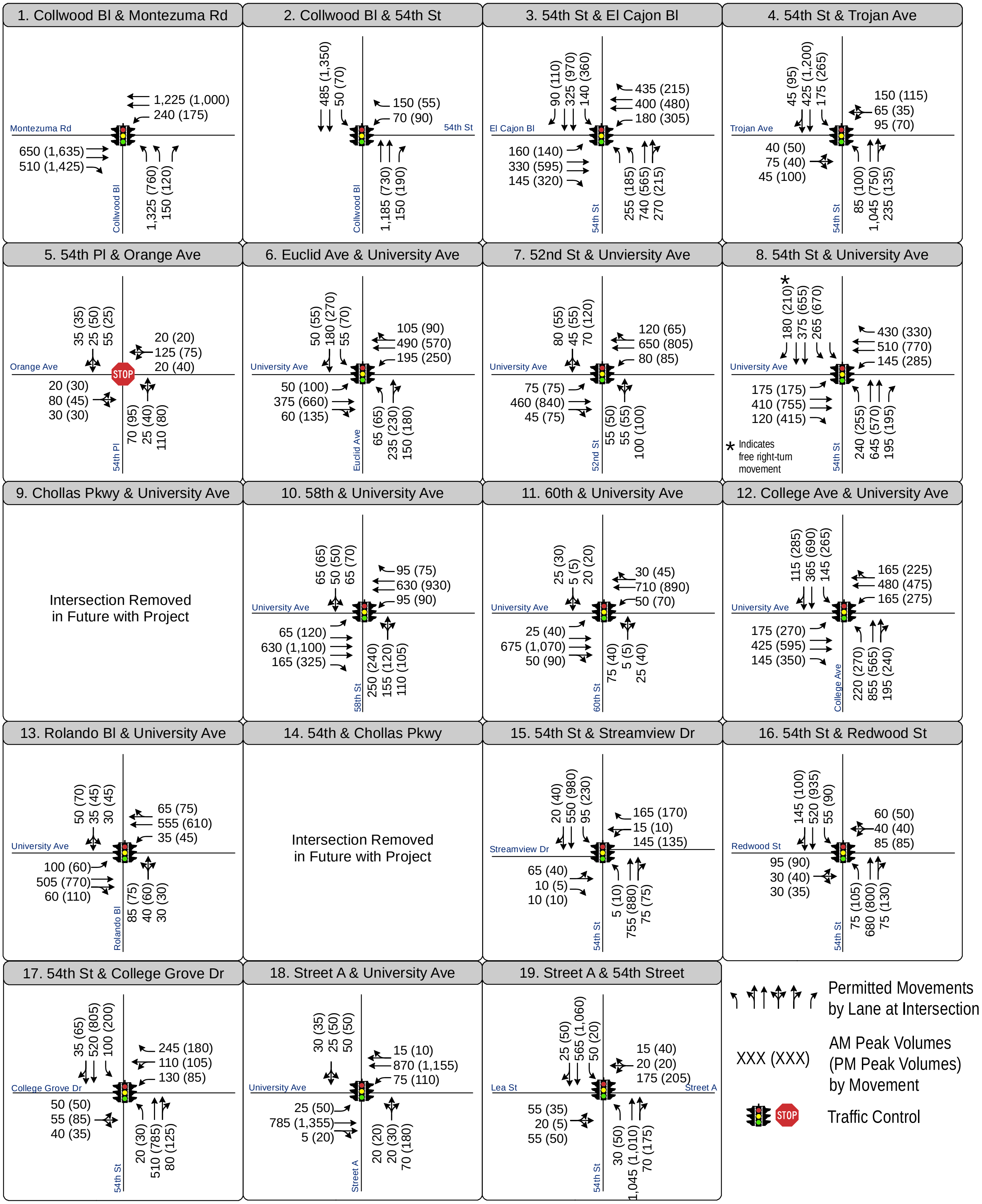
As shown in Table 6.3, all study area roadway segments are projected to operate at LOS D or better under Horizon Year Base Plus Project conditions, with the exception of the following:

1. Montezuma Road between Fairmont Avenue and Collwood Boulevard (LOS F)
2. Collwood Boulevard between Montezuma Road and 54th Street (LOS F)
8. College Avenue between El Cajon Boulevard to University Avenue (LOS E)

Figure 6-2: Roadway Traffic Volumes - Horizon Year Plus Project Conditions

Chollas Triangle Master Plan Traffic Impact Study

Date: 11/6/2012
Source: Fehr & Peers (2011)
Page 1 of 3



Intersection Geometry and Traffic Volumes - Horizon Year Plus Project Conditions

Chollas Triangle Master Plan Traffic Impact Study

FEHR & PEERS

Date: 11/6/2012
Source: Fehr & Peers (2011)
Page 2 of 3

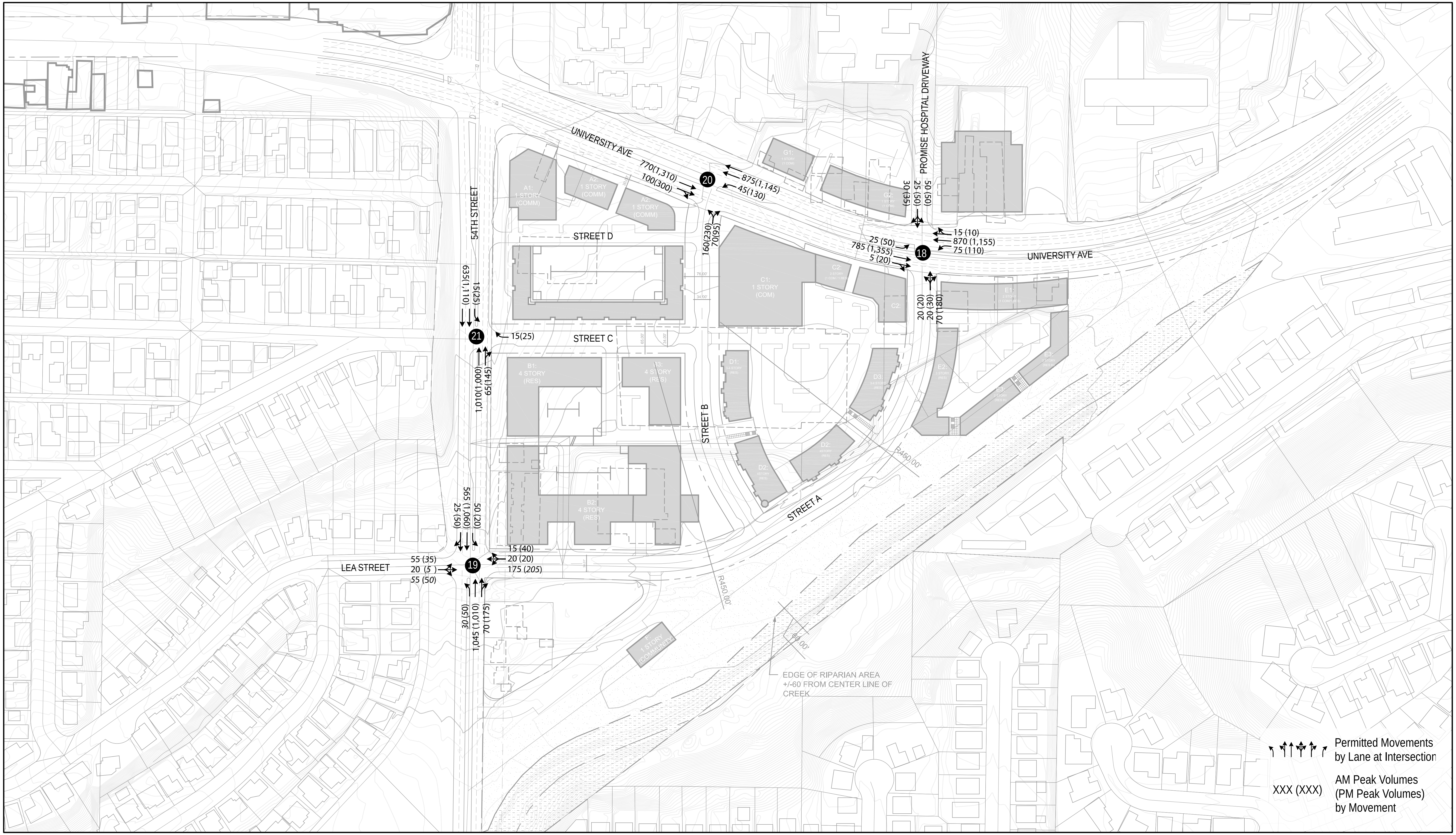


Figure 6-2: Horizon Year Plus Project Estimated Volumes at Access Points

Chollas Triangle Master Plan Traffic Impact Study

Date: 11/6/2012
Source: Civitas
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FEHR & PEERS

TABLE 6.3
ROADWAY SEGMENT LOS RESULTS – HORIZON YEAR BASE PLUS PROJECT CONDITIONS

No.	Street	Segment	Street Classification	ADT[1]	LOS E Threshold	W/ Project		Base V/C	Δ[3]	Sig?[4]
						V/C[2]	LOS			
1	**Montezuma Rd**	**Fairmount Ave to Collwood Blvd**	**4-Lane Major**	**65,900**	**40,000**	**1.648**	**F**	**1.635**	**0.013**	**Y**
2	**Collwood Blvd**	**Montezuma Rd to 54th St**	**2-Lane Collector w/ TWLTL[5]**	**33,000**	**15,000**	**2.200**	**F**	**2.153**	**0.047**	**Y**
3	54th St	El Cajon Blvd to Trojan Ave	4-Lane Major	29,700	40,000	0.743	C	0.710	0.033	N
4		Trojan Ave to University Ave	4-Lane Major	29,400	40,000	0.735	C	0.688	0.047	N
5		University Ave to Lea Street	4-Lane Major	24,900	40,000	0.623	C	0.503	0.120	N
6		Streamview Dr to Redwood St	4-Lane Major	28,200	40,000	0.705	C	0.660	0.043	N
7		College Grove Dr to Euclid Ave	4-Lane Major	19,700	40,000	0.490	B	0.493	0.012	N
8	College Ave	El Cajon Blvd to University Ave	4-Lane Collector	**26,200**	**30,000**	**0.873**	**E**	**0.867**	0.006	N
9		University Ave to Streamview Dr	4-Lane Major	29,200	40,000	0.730	C	0.725	0.005	N
10	University Ave	Euclid Ave to Winona Ave	4-Lane Collector	23,700	30,000	0.790	D	0.753	0.037	N
11		52nd St to 54th St	4-Lane Major	29,000	40,000	0.725	D	0.523	0.040	N
12		**54th St to 58th St**	**4-Lane Collector**	**29,730**	**30,000**	**.991**	**E**	**0.843**	**0.148**	**Y**
13		58th St to 60th St	5-Lane Major	27,400	45,000	0.609	C	0.578	0.031	N
14		College Avenue to Rolando Blvd	Collector (4-Lane w TWLTL[5])	21,500	30,000	0.717	D	0.697	0.020	N
15		Rolando Bl to Aragon Dr	Collector (4-Lane w TWLTL[5])	16,900	30,000	0.563	C	0.550	0.013	N
16	Chollas Pkwy	54th St to University Ave	4-Lane Collector	*Removed Under this Scenario*						*N/A*
17	New Road A	54th St to University Ave	2-Lane Collector	5,000	8,000	0.625	C	N/A	N/A	N

Source: Fehr & Peers, June 2013

Note:

1. ADT = Average daily traffic.
2. V/C = Volume-to-capacity ratio.
3. Δ = Change in V/C
4. Sig? = Is impact significant?
5. TWLTL = Two-way left-turn lane.

Bold letters indicate facilities operating at LOS E or worse

Intersection Analysis

Table 6.4 displays intersection LOS and average vehicle delay results for the key study area intersections under Horizon Year Base Plus Project conditions. All intersections are assumed to be signalized unless otherwise noted. LOS calculation worksheets for Horizon Year Base Plus Project conditions are provided in **Appendix H**

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TABLE 6.4
PEAK HOUR INTERSECTION LOS RESULTS – HORIZON YEAR BASE PLUS PROJECT CONDITIONS

No.	Intersection	AM						PM					
		W/ Project		Base		Δ [c]	Sig? [d]	W/ Project		Base		Δ [c]	Sig? [d]
		Delay (sec)	LOS	Delay (sec)	LOS			Delay (sec)	LOS	Delay (sec)	LOS		
1	Collwood Boulevard & Montezuma Road	36.2	D	35.4	D	0.8	N	52.2	D	47.0	D	5.2	N
2	Collwood Boulevard & 54th Street	16.7	B	16.2	B	0.5	N	12.3	B	11.9	B	0.4	N
3	54th Street & El Cajon Boulevard	49.8	D	49.2	D	0.6	N	**57.2**	**E**	53.9	D	**3.3**	**Y**
4	54th Street & Trojan Avenue	38.4	D	33.7	C	4.7	N	29.6	C	27.4	C	2.2	N
5	54th Street & Orange Avenue [a]	28.5	D	24.3	C	4.2	N	9.3	A	9.1	A	0.2	N
6	Euclid Avenue & University Avenue	22.4	C	22.4	C	0.0	N	27.8	C	27.6	C	0.2	N
7	52nd Street & University Avenue	23.5	C	22.6	C	0.9	N	24.2	C	23.5	C	0.7	N
8	54th Street & University Avenue [e]	27.2	C	25.6	C	1.6	N	52.7	D	38.4	D	14.3	N
9	Chollas Parkway & University Avenue [b]	N/A	N/A	33.5	D	N/A	N/A	N/A	N/A	**>200**	**F**	N/A	N/A
10	58th Street & University Avenue	28.8	C	26.1	C	2.7	N	31.3	C	25.2	C	6.1	N
11	60th Street & University Avenue	10.0	B	9.4	A	0.6	N	14.6	B	10.6	B	4.0	N
12	College Avenue & University Avenue	**66.1**	**E**	**63.9**	**E**	**2.2**	**Y**	**72.2**	**E**	**67.6**	**E**	**4.6**	**Y**
13	Rolando Boulevard & University Avenue	15.2	B	15.2	B	0.0	N	16.3	B	15.8	B	0.5	N
14	54th Street & Chollas Parkway [b]	N/A	N/A	**60.6**	**F**	N/A	N/A	N/A	N/A	**145.7**	**F**	N/A	N/A
15	54th Street & Streamview Drive	26.1	B	23.5	C	2.6	N	23.9	C	26.6	C	-2.7	N
16	54th Street & Redwood Street	18.3	B	18.2	B	0.1	N	18.0	B	14.7	B	3.3	N
17	54th Street & College Grove Drive	26.1	C	25.9	C	0.2	N	30.6	C	29.3	C	1.3	N
18	Lea Street & University Avenue [e]	25.1	C	N/A	N/A	N/A	N/A	40.0	D	N/A	N/A	N/A	N/A
19	54th Street & Lea Street [e]	21.2	C	14.7	B	6.5	N	34.6	C	11.9	B	22.7	N
20	University Avenue & Street B	10.3	B	N/A	N/A	N/A	N/A	24.4	C	N/A	N/A	N/A	N/A
21	54th Street & Street C	10.0	B	N/A	N/A	N/A	N/A	9.5	A	N/A	N/A	N/A	N/A

Source: Fehr & Peers, June 2013

Notes:

[a] Intersection is all-way stop-controlled
[b] Intersection is side-street stop-controlled
[c] ∆: Change in average intersection delay between with project and base conditions
[d] Sig?: Significant impact?
[e] Locations analyzed with driveway project trip generation rates

Bold letters indicate facilities operating at LOS E or worse

As shown, all key study area intersections are projected to operate at LOS D or better under Horizon Year Base Plus Project conditions, with the exception of the following:

3. 54th Street & El Cajon Boulevard (LOS E – PM Peak)
12. College Avenue & University Avenue (LOS E – AM Peak, LOS E PM Peak)

6.5. SITE ACCESS

Driveways and internal circulation facilities will be designed to accommodate for passenger cars and provide truck access.

The proposed project would provide access from two full access driveways located on University Avenue plus one full access driveway, one partial access driveway and one right-turn only driveway on 54th Street. Both of the University Avenue intersections (New Streets A and B) and the driveway opposite Lea Street on 54th Street are proposed to be signalized. The two driveways on 54th Street between Lea Street and University Avenue are proposed to operate with side street stop control only. The southbound left-turn into the site at New Street C would be provided by a median opening and the design would preclude left-turns out from this location as shown in the adjacent photo.

Of the four intersections providing access to the site, Intersection 19 (54th St/Lea St) is currently signalized and Intersections 18 and 20 are proposed to provide full access (i.e., to all allow all turning movements). Intersection 18 includes Promise Hospital driveway and provides a secondary connection to 54th Street from University Avenue. Intersection 20 provides access to the center of the site and will help to distribute traffic amongst the site's internal roadways. Signal warrants were evaluated to determine if both of these locations would meet the required minimum volume threshold during the peak hours under Horizon Base Plus Project conditions. The results of this analysis show that signals are warranted at both locations under this scenario, and the worksheets are included in **Appendix M**.

The intersection of Lea Street & University Avenue is projected to operate at LOS E in the AM peak hour under Horizon Year Plus Project conditions. To achieve an acceptable LOS, it is proposed that the east-west configuration be converted to split phasing. **Table 6.5** summarizes the LOS results for this intersection under Horizon Year Base Plus Project conditions plus improvements. With the suggested improvements the LOS improves to B during both peak hours.

TABLE 6.5
SUMMARY OF PEAK HOUR LOS RESULTS – ACCESS POINTS WITH IMPROVEMENTS

#	Intersection	AM		PM	
		Delay (sec)	LOS	Delay (sec)	LOS
19	54th Street & Lea Street-New Street A (Signal)	16.2	B	18.4	B

Source: Fehr & Peers, June 2013

6.6. PEDESTRIAN, BICYCLE, AND TRANSIT IMPACTS

The project is designed as a transit proximate development that includes increased density, quality pedestrian facilities, bicycle parking and other characteristics to reduce the number of single occupant vehicle trips to and from the site. Each non-automobile travel mode is discussed below.

Pedestrian Impacts

Development of the site is expected to include sidewalks along all sections of 54th Street and University Avenue, as well as on all internal streets. With the project, Chollas Parkway will be removed and replaced with active and passive recreation uses along the adjacent creek. This will eliminate two intersections that are difficult for pedestrians to navigate and will provide a multi-use path linking future trail extensions along the Chollas Creek corridor. Lastly, the project proposes two new signalized intersections of internal site streets on University Avenue: 1) opposite the Promise Hospital driveway (Intersection 18), and 2) between 54th Street and the Promise Hospital driveway (Intersection 20). These locations will provide two new opportunities for pedestrians to cross University Avenue and will greatly improve access to the existing bus stops on University Avenue east of 54th Street.

While the project will likely increase the number of people walking in the area, the accompanying pedestrian improvements will greatly enhance facilities and on-site connectivity. The City may want to consider requiring signalization of the new internal street intersection on 54th Street approximately 540 feet south of University Avenue to further enhance pedestrian, bicycle and transit access. This improvement is not required from a vehicle capacity perspective, but would provide a controlled crossing of 54th Street and could help to link the adjacent neighborhood to the west with the project site.

Bicycle Impacts

The City of San Diego Bicycle Master Plan calls for bicycle lanes on both 54th Street and University Avenue, plus the construction of a multi-use path along the general alignment of Chollas Parkway adjacent to the creek. In addition, the North Park-Mid City Regional Bike Corridors project currently in development by SANDAG calls for bicycle lanes on University Avenue from Winona Street to the west to east of 58th Street. As noted under Existing Conditions, bicycle lanes are provided on sections of 54th Street but are not continuous.

The proposed project land uses could be constructed on the site without changing the current bicycle facilities and by itself would not conflict with the planned improvements. However, to accommodate the planned facilities, redevelopment of the site should include sufficient widening on 54th Street to provide continuous Class II bike lanes on 54th Street including through the University Avenue intersection in both directions. This may require modification of the center raised median on 54th Street north of Lea Street to provide adequate width. Similarly, on-street parking should be eliminated or additional width should be provided on University Avenue to accommodate bike lanes in both directions.

The project should include convenient and secure parking to encourage residents, employees and patrons of local businesses to ride to and from the project site. Bike parking should provide both racks at several locations throughout the site for the commercial and park uses, as well as residential bike parking within the units or incorporated into the on-site vehicle parking areas.

Implementation of the proposed project will benefit bicycle travel on both fronting roadways be reducing the number of driveways and the number of potential conflict points for bicyclist and pedestrians. The eight existing curb cuts on University Avenue would be reduced to two, and the three existing driveways/alleys on 54th Street would be reconfigured. With these changes and the additional width to accommodate bike lanes, plus the addition of a multi-use trail along Chollas Creek and on-site bike parking, the proposed project would greatly benefit bicycle travel in the area, and no bicycle impacts are anticipated.

Transit Impacts

The proposed project is expected to increase the number of transit patrons using the existing routes serving the site. Assuming that up to five percent of trips were made by transit, this could result in a total of 70 transit riders during the PM peak hour (the higher of the two peak periods). However, these riders would travel on three routes with 12- to 15-minute headways and would comprise both inbound and outbound trips. Thus, the average number of riders per bus per hour would be four and would not have a substantial impact on transit service.

With development of the site and potential widening to accommodate planned bicycle facilities, it is possible that the existing bus stops adjacent to the project site could be relocated closer to the University Avenue/54th Street intersection. In addition, it may be desirable to include an additional stop adjacent to the site depending on the final site plan design. The project developer should work with MTS to determine the appropriate stop locations and specific street design to enhance bus interaction with general vehicle traffic. Accordingly, no transit impacts are anticipated with implementation of the proposed project.

6.7. IMPACT SIGNIFICANCE AND MITIGATION

Project-related impacts have been identified at three key study roadway segments and three key study intersections under Horizon Year Base Plus Project conditions, as summarized in the following sections, along with identification of mitigation recommendations.

Roadways

Based on the impact significance criteria presented in Chapter 4, under Horizon Year Base Plus Project conditions, the proposed project would have cumulative traffic related impacts on the following three roadway segments:

1. Montezuma Road between Fairmont Avenue and Collwood Boulevard
2. Collwood Boulevard between Montezuma Road and 54th Street
12. University Avenue between 54th Street & 58th Street

To assess if mitigation measures are required for a significantly impacted segment the following three (3) criteria are utilized:

- Determine if segment is constructed to its ultimate classification.
- Determine if the intersections at both ends of the segment operate at an acceptable LOS (with mitigation, if needed).
- Determine if the segment operates at an acceptable LOS utilizing the peak hour arterial analysis methodology outlined in the HCM.

Montezuma Road between Fairmont Avenue and Collwood Boulevard

1. Based on the existing College Area Community Plan Circulation Element, this segment of Montezuma Road is constructed to its ultimate classification as a Four-Lane Major.

2. As noted in Table 6.4, the Collwood Boulevard/Montezuma Road intersection, which is the eastern end of this segment, is projected to operate at LOS D during the PM peak hour. Therefore, no mitigation is required based on the projected operations at this controlling intersection. The westerly intersection of Montezuma Road & Fairmount Avenue is grade separated and would not have an impact on the operations of this segment.

3. The peak hour HCM arterial analysis indicates that this segment is projected to operate at LOS C or better, in both directions, during both the AM and PM peak hours (peak hour arterial analysis worksheets are provided in **Appendix J**).

   This segment is impacted, but mitigation measures are not required based on the three criteria outlined above. This impact would therefore remain significant and unmitigated.

Collwood Boulevard between Montezuma Road and 54th Street

1. As noted in the existing College Area Community Plan, Collwood Boulevard is classified as a Four-Lane Major, but is currently constructed and operated as a Two-Lane Collector. Therefore the proposed project should pay a fair-share contribution to any future capacity-enhancing improvements on this segment of Collwood Boulevard, which would potentially alleviate the cumulative traffic-related impacts associated with the proposed project. It is important to note that without additional right-of-way acquisition or the removal of on-street parking, modification of the

street to include four vehicle lanes could have secondary impacts to bicycle travel by precluding or affecting implementation of the proposed bicycle facilities in the City of San Diego's Bicycle Master Plan by reducing the amount of available right of way for these facilities. The project would be responsible for an eight percent (8%) fair-share contribution toward the segment mitigation of Collwood Boulevard between Montezuma Road and 54th Street. Appendix I contains an explanation of the determination of the project's fair-share contribution for this improvement. Based on this assessment, this impact is considered significant and unmitigated.

***University Avenue between 54th Street* and 58th Street**

1. As noted in the existing Mid City Community Plan, This segment of University Avenue is classified as a Four-Lane Major, but is currently constructed and operated as a Four-Lane Collector due to the lack of a continuous raised median. Based on the proposed site access locations and to accommodate left-turns at future intersections along University Avenue, the proposed project should install a continuous median along this segment along the project frontage. With the median installation, the proposed project would provide future capacity-enhancing improvements on this segment of University Avenue by changing the street classification and increasing the corresponding segment capacity. This would mitigate the cumulative traffic-related impacts associated with the proposed project. It is important to note that without additional right-of-way acquisition or the removal of on-street parking, modification of the street to include a continuous median could have secondary impacts to bicycle travel by precluding or affecting implementation of the proposed bicycle facilities in the City of San Diego's Bicycle Master Plan by reducing the amount of available right of way for these facilities. The project would be responsible for a sixty-seven percent (67%) fair-share contribution toward the segment mitigation. **Appendix I** contains an explanation of the determination of the project's fair-share contribution for this improvement. Based on this assessment, this impact is considered mitigated.

Intersections

Based on the impact significance criteria presented in Section 4.2, under Horizon Year Base Plus Project conditions, the proposed project would have cumulative traffic related impacts at the following two intersections:

3. *54th Street & El Cajon Boulevard* – This cumulative impact is due to a lack of overall capacity at the intersection during the PM peak hour under Horizon Year with Project conditions. The proposed project would contribute a total of 150 additional trips to the intersection during the PM peak hour causing the intersection LOS to degrade from LOS D to E under with project conditions.
12. *College Avenue & University Avenue* - This cumulative impact is due to increased volumes at the intersection during the both the AM & PM peak hours under Horizon Year conditions. The proposed project would contribute a total of 70 and 120 additional trips to the intersection during the peak hours, respectively, causing the intersection operations to degrade (worse LOS E in the AM peak hour, and LOS E to F in the PM peak hour) further under with project conditions.

The following measures would be necessary to mitigate the identified cumulative impacts:

54th Street & El Cajon Boulevard

Restripe the southbound 54th Street approach to remove the existing right-turn lane and include a second southbound left-turn lane. This recommended lane configuration could fit in the existing 42' approach right-of-way by providing two 11' through lanes (consistent with what is currently in place) and two 10' left-turn lanes. However, based on the existing alignment of the receiving lanes the center-median may need to be shifted a few feet to the east. No impact to on-street parking or transit stops would occur with implementation of this improvement. It is important to note that without additional right-of-way acquisition or the removal of on-street parking, modification of the street to accommodate this improvement could have secondary impacts to bicycle travel by precluding or affecting implementation of the proposed bicycle facilities in the City of San Diego's Bicycle Master Plan by reducing the amount of available right of way for these facilities, thereby potentially impacting bicyclist safety at this location. A conceptual diagram of the proposed mitigation is included in **Figure 6-3**. The operational analysis of the recommended improvements show the impact is fully mitigated.

College Avenue & University Avenue

Restripe both the northbound and southbound approaches to include a second left-turn lane. The lane configuration at both approaches will include 18' outside lane (curb lane), 10' inside lane, and dual 10' left turn lanes. However, based on the existing alignment of the receiving lanes the center-median may need to be shifted a few feet to the east for the southbound approach and to the west for the northbound approach. There would be no impact to on-street parking or transit stops due to this recommended improvement. It is important to note that without additional right-of-way acquisition or the removal of on-street parking, modification of the street to accommodate this improvement could have secondary impacts to bicycle travel by precluding or affecting implementation of the proposed bicycle facilities in the City of San Diego's Bicycle Master Plan by reducing the amount of available right of way for these facilities, thereby potentially impacting bicyclist safety at this location. A conceptual diagram of the proposed mitigation is included in **Figure 6-4**. The operational analysis of this improvement shows that the recommended, reduces delay to less than pre-project conditions. Therefore the impact is fully mitigated.

Table 6.6 demonstrates that with implementation of the identified mitigation measures, the impacted intersections would operate at acceptable or at better than pre-development conditions. LOS calculation worksheets for Horizon Year Base Plus Project mitigated conditions are provided in **Appendix K.**

TABLE 6.6
PEAK HOUR INTERSECTION LOS RESULTS – HORIZON YEAR 2030 PLUS PROJECT WITH MITIGATION

No.	Intersection	AM					PM				
		W/ Mitigation		Base		Δ	W/ Mitigation		Base		Δ
		Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
3	54th Street & El Cajon Boulevard	47.7	D	49.2	D	-1.5	53.3	D	53.9	D	-0.6
12	College Avenue & University Avenue	40.7	D	63.9	E	-23.2	56.5	E	76.1	E	-19.6

Source: Fehr & Peers, June 2013

Notes:
Bold indicates substandard LOS
Δ = Change in intersection delay

As noted above, no bicycle, pedestrian or transit impacts are anticipated provided the project incorporates adequate widening to accommodate planned bicycle facilities and potential transit stop modifications. Thus, multi-modal impacts of the proposed project are expected to be less than significant.

Summary of Operational Improvements

Aside from overall intersection impacts, two intersections were identified that included one or more approaches projected to operate at LOS F under Horizon Plus Project conditions. Per direction from City staff, operational improvements were tested that would reduce delay to pre-project condition levels or better. Operational improvements include the optimization of intersection signal timing splits, offsets, and cycle lengths. The following improvements, which reduced delay to pre-project conditions or better, were applied at the following intersections and the LOS worksheets are available in **Appendix L**. Results of the following operational improvements, which result in no approaches operating at LOS F under Horizon Plus Project conditions, are shown in Table 6.7:

cycle lengths. The following improvements, which reduced delay to pre-project conditions or better, were applied at the following intersections and the LOS worksheets are available in **Appendix L**. Results of the following operational improvements, which result in no approaches operating at LOS F under Horizon Plus Project conditions, are shown in Table 6.7:

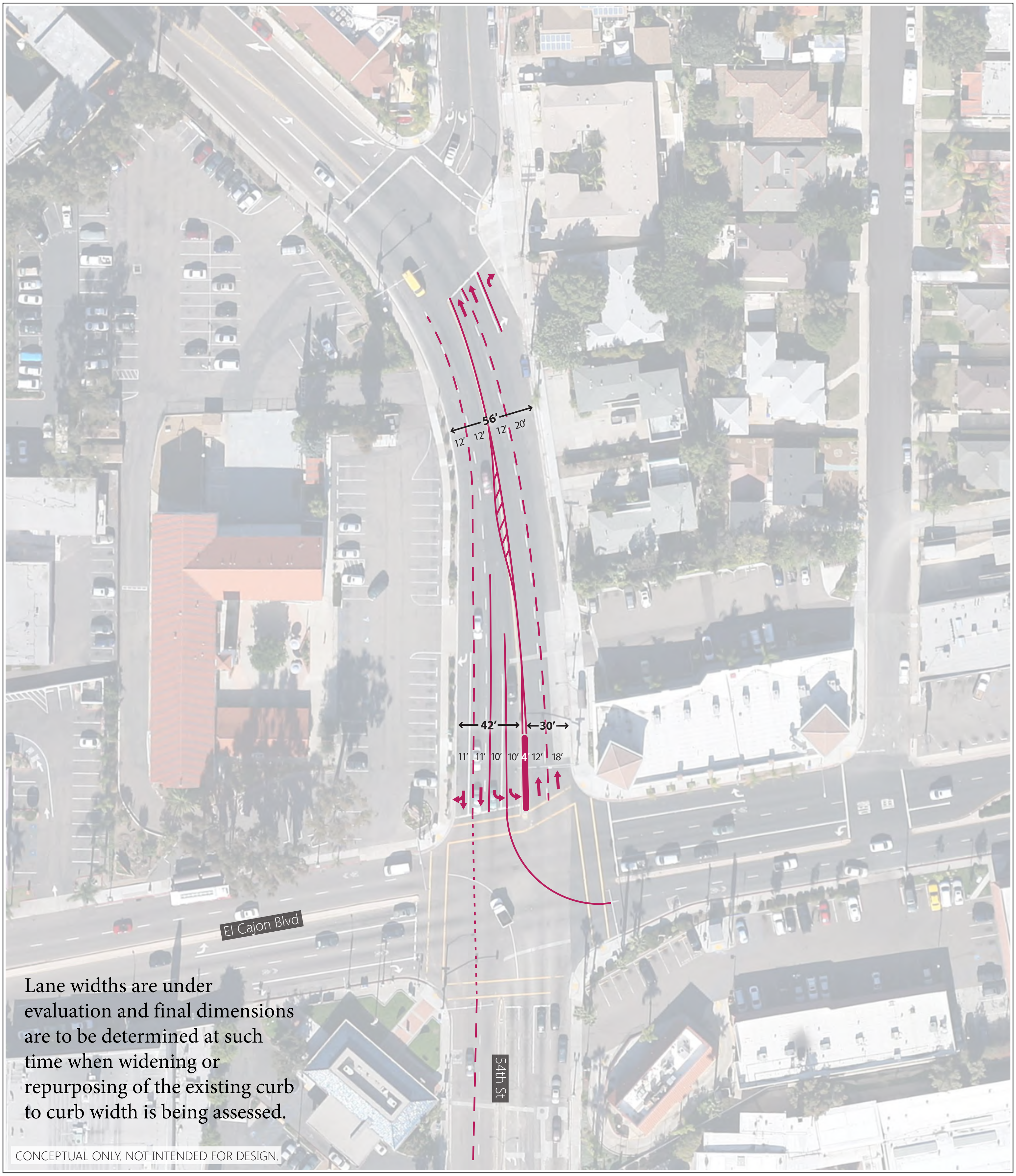
18. University Avenue & Site Driveway/Promise Hospital Driveway: AM peak hour and PM peak hour: optimization of signal timing splits, cycle length, and offsets
19. 54th Street & Lea Street: AM peak hour and PM peak hour: optimization of signal timing splits, cycle length, and offsets

TABLE 6.7
PEAK HOUR INTERSECTION LOS RESULTS – HORIZON YEAR 2030 PLUS PROJECT
WITH OPERATIONAL IMPROVEMENTS

No.	Intersection	AM					PM				
		W/ Op Imp		HY w/ Proj		Δ	W/ Op Imp		HY w/ Proj		Δ
		Delay (sec)	LOS	Delay (sec)	LOS		Delay (sec)	LOS	Delay (sec)	LOS	
18	Lea Street & University Avenue [e]	18.6	B	25.1	C	-6.5	33.5	C	40.0	D	-6.5
19	54th Street & Lea Street [e]	15.9	B	21.2	C	-5.3	14.8	B	34.6	**C**	-19.8

Source: Fehr & Peers, June 2013

Notes:
Bold indicates substandard LOS
Δ = Change in intersection delay



Lane widths are under evaluation and final dimensions are to be determined at such time when widening or repurposing of the existing curb to curb width is being assessed.

CONCEPTUAL ONLY. NOT INTENDED FOR DESIGN.

N

Not to Scale

54th STREET & EL CAJON BOULEVARD MITIGATION CONCEPTUAL DIAGRAM

FEHR & PEERS

FIGURE 6-3

Lane widths are under evaluation and final dimensions are to be determined at such time when widening or repurposing of the existing curb to curb width is being assessed.

CONCEPTUAL ONLY. NOT INTENDED FOR DESIGN.

N

Not to Scale

COLLEGE AVE & UNIVERSITY AVE MITIGATION CONCEPTUAL DIAGRAM

FEHR & PEERS

FIGURE 6-4

7. FINDINGS AND RECOMMENDATIONS

This chapter provides a summary of the key findings and study recommendations, including the LOS results for each scenario analyzed. Specific recommendations related to mitigation of proposed project traffic impacts on the roadway network are listed.

7.1. SUMMARY OF TRAFFIC OPERATIONS

Table 7.1 summarizes the roadway segment LOS results for each of the analyzed scenarios.

TABLE 7.1
SUMMARY OF ROADWAY SEGMENT LOS RESULTS

No.	Street	Segment	Existing	Horizon Year Base	Horizon Year Base Plus Project	Significantly Impacted?
1	Montezuma Rd	Fairmount Ave to Collwood Blvd	**F**	**F**	**F**	**Y**
2	Collwood Blvd	Montezuma Rd to 54th St	**F**	**F**	**F**	**Y**
3	54th St	El Cajon Blvd to Trojan Ave	C	C	C	N
4		Trojan Ave to University Ave	C	C	C	N
5		University Ave to Chollas Prkwy	B	B	C	N
6		Streamview Dr to Redwood St	B	C	C	N
7		College Grove Dr to Euclid Ave	B	B	B	N
8	College Ave	El Cajon Blvd to University Ave	D	**E**	**E**	N
9		University Ave to Streamview Dr	C	C	C	N
10	University Ave	Euclid Ave to Winona Ave	C	D	D	N
11		52nd St to 54th St	C	B	D	N
12		54th St to 58th St	**C**	**E**	**E**	**Y**
13		58th St to 60th St	B	C	C	N
14		College Avenue to Rolando Blvd	C	D	D	N
15		Rolando Bl to Aragon Dr	C	C	C	N
16	Chollas Pkwy	54th St to University Ave	B	A	N/A	N
17	New Street A	54th St to University Ave	N/A	N/A	C	N

Source: Fehr & Peers, June 2013

Note:
Bold letters indicate facilities operating at LOS E or F

The following key points summarize the roadway segment analyses:

Existing Conditions – all key study area roadway segments are currently operating at LOS D or better with the exception of the following segments:

1. Montezuma Road between Fairmount Avenue and Collwood Boulevard (LOS F)
2. Collwood Boulevard between Montezuma Road and 54th Street (LOS F)

Horizon Year Base Conditions - all study area roadway segments are projected to operate at LOS D or better under Horizon Year Base conditions, with the exception of the following:

1. Montezuma Road between Fairmont Avenue and Collwood Boulevard (LOS F)
2. Collwood Boulevard between Montezuma Road and 54th Street (LOS F)
8. College Avenue between El Cajon Boulevard and University Avenue (LOS E)
12. University Avenue between 54th Street and 58th Street (LOS E)

Horizon Year Base Plus Project Conditions - all study area roadway segments are projected to operate at LOS D or better under Horizon Year Base Plus Project conditions, with the exception of the following:

1. Montezuma Road between Fairmont Avenue and Collwood Boulevard (LOS F)
2. Collwood Boulevard between Montezuma Road and 54th Street (LOS F)
8. College Avenue between El Cajon Boulevard and University Avenue (LOS E)
12. University Avenue between 54th Street and 58th Street (LOS E)

Table 7.2 summarizes the intersection LOS results for each of the analyzed scenarios.

TABLE 7.2
SUMMARY OF INTERSECTION PEAK HOUR LOS RESULTS

No.	Intersection	Existing		Horizon Year Base		Horizon Year Plus Project		Significantly Impacted?
		AM	PM	AM	PM	AM	PM	
1	Collwood Boulevard & Montezuma Road	C	C	D	D	D	D	N
2	Collwood Boulevard & 54th Street	B	B	B	B	B	B	N
3	54th Street & El Cajon Boulevard	D	D	D	D	D/D*	**E/D***	**Y**
4	54th Street & Trojan Avenue	C	B	C	C	D	C	N
5	54th Street & Orange Avenue [a]	B	A	D	A	D	A	N
6	Euclid Avenue & University Avenue	C	C	C	C	C	C	N
7	52nd Street & University Avenue	C	C	C	C	C	C	N
8	54th Street & University Avenue	C	C	C	D	D	D	N
9	Chollas Parkway & University Avenue [b]	D	**F**	D	**F**	N/A	N/A	N
10	58th Street & University Avenue	C	C	C	C	C	C	N
11	60th Street & University Avenue	A	A	A	B	B	B	N
12	College Avenue & University Avenue	D	**E**	**E**	**E**	**E/D***	**E/E***	**Y**
13	Rolando Boulevard & University Avenue	B	B	B	B	B	B	N
14	54th Street & Chollas Parkway [b]	**E**	**F**	**F**	**F**	N/A	N/A	N
15	54th Street & Streamview Drive	B	B	C	C	C	C	N
16	54th Street & Redwood Street	B	B	B	B	B	B	N
17	54th Street & College Grove Drive	C	C	C	C	C	C	N
18	Lea Street & University Avenue	N/A	N/A	N/A	N/A	C	D	N
19	54th Street & Lea Street	N/A	N/A	N/A	N/A	**E**	C	N
20	University Avenue & Street B	N/A	N/A	N/A	N/A	B	C	N
21	54th Street & Street C	N/A	N/A	N/A	N/A	B	A	N

Source: Fehr & Peers, June 2013

Notes:
[a] Intersection is stop-controlled
[b] Intersection is side-street stop-controlled
Bold letters indicate facilities operating at LOS E or worse
*LOS/LOS indicates Horizon LOS/Horizon LOS with Mitigation

The following key points summarize the intersection analyses:

Existing Conditions – all key study area intersections are currently operating at LOS D or better with the exception of the following:

9. Chollas Parkway & University Avenue (LOS F - PM Peak)
12. College Avenue & University Avenue (LOS E - PM Peak)
14. 54th Street & Chollas Parkway (LOS E – AM Peak, LOS F – PM Peak)

Horizon Year Base Conditions - all key study area intersections are projected to operate at LOS D or better under Horizon Year Base conditions, with the exception of the following:

9. Chollas Parkway & University Avenue (LOS F – AM Peak)
12. College Avenue & University Avenue (LOS E – AM & PM Peaks)
14. 54th Street & Chollas Parkway (LOS F – AM & PM Peaks)

Horizon Year Base Plus Project Conditions - all key study area intersections are projected to operate at LOS D or better under Horizon Year Base Plus Project conditions, with the exception of the following:

3. 54th Street & El Cajon Boulevard (LOS E – PM Peak)
12. College Avenue & University Avenue (LOS E – AM Peak, LOS E PM Peak)

Summary of Impacts and Mitigation Measures

Project-related impacts have been identified at three key study roadway segments and four key study intersections under Horizon Year Base Plus Project conditions, as summarized in the following sections, along with identification of mitigation recommendations.

Roadways

Based on the impact significance criteria presented in Section 4.1, under Horizon Year Base Plus Project conditions, the proposed project would have cumulative traffic related impacts on the following three roadway segments:

Montezuma Road between Fairmont Avenue and Collwood Boulevard

1. Based on the existing College Area Community Plan Circulation Element, this segment of Montezuma Road is constructed to its ultimate classification as a Four-Lane Major.

2. As noted in Table 6.4, the intersection of Collwood Boulevard & Montezuma Road, which binds the northern end of this segment, is projected to operate at LOS D during the PM peak hour. Therefore, no mitigation is required based on the projected operations at this controlling intersection. The westerly intersection of Montezuma Road & Fairmount Avenue is grade separated and would not have an impact on the operations of this segment.

3. The peak hour HCM arterial analysis indicates that this segment is projected to operate at LOS C or better, in both directions, during both the AM and PM peak hours (peak hour arterial analysis worksheets are provided in **Appendix J**)

This segment is impacted, but mitigation measures are not required based on the three criteria outlined above. This impact would therefore remain significant and unmitigated.

Collwood Boulevard between Montezuma Road and 54th Street

1. As noted in the Circulation Element of the existing College Area Community Plan, Collwood Boulevard is classified as a Four-Lane Collector. As noted in Section 6.0 of this report, Collwood Boulevard is currently constructed as a Two-Lane Collector.

Based on the City's criteria, the proposed project should pay a fair-share contribution to any future capacity enhancing improvements on this segment of Collwood Boulevard, which could alleviate the traffic-related impacts associated with the proposed project. An intersection improvement is discussed in the following section; however, the feasibility of the recommended improvement is undetermined. Therefore the impact is significant and unmitigated.

University Avenue between 54th Street and 58th Street

1. As noted in the Circulation Element of the existing Mid City Community Plan, University Avenue is classified as a Four-Lane Major. As noted in Section 6.0 of this report, Collwood Boulevard is currently constructed as a Four-Lane Collector.

Based on the City's criteria, the proposed project should pay a fair-share contribution to any future capacity enhancing improvements on this segment of University Avenue, which could alleviate the traffic-related impacts associated with the proposed project. A segment improvement is discussed in Chapter 6 that could mitigate the significant impact at this location.

Intersections

54th Street & El Cajon Boulevard

Restripe the southbound 54th Street approach to remove the existing right-turn lane and include a second southbound left-turn lane. This recommended lane configuration could fit in the existing 42' approach right-of-way by providing two 11' through lanes (consistent with what is currently in place) and two 10' left-turn lanes. However, based on the existing alignment of the receiving lanes the center-median may need to be sifted a few feet to the east. There would be no impact to on-street parking or transit stops due to this recommended improvement. The impact is fully mitigated.

College Avenue & University Avenue

Restripe both the northbound and southbound approaches to include a second left-turn lane. The lane configuration at both approaches will include 18' outside lane (curb lane), 10' inside lane, and dual 10' left turn lanes. However, based on the existing alignment of the receiving lanes the center-median may need to be shifted a few feet to the east for the southbound approach and to the west for the northbound approach. There would be no impact to on-street parking or transit stops due to this recommended improvement. The impact is fully mitigated.

7.2. ROPOSED PARKING SUPPLY

The final site plan of the project will be designed to City standards with adequate parking supply for typical operations demand per the City of San Diego Municipal Code parking requirements. The current site plan is conceptual only, does not include a detailed parking program, and will be refined once a project developer is selected.

APPENDIX A

TRAFFIC COUNT WORKSHEETS

Prepared by NDS/ATD

VOLUME

Montezuma Rd between Collwood Blvd & Fairmount Ave

Day: Tuesday
Date: 5/24/2011

City: San Diego
Project #: CA11_4148_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	20,546	21,000	41,546

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			81		42		123		12:00			260		273		533	
00:15			54		38		92		12:15			243		243		486	
00:30			46		31		77		12:30			260		283		543	
00:45			49	230	35	146	84	376	12:45			285	1048	285	1084	570	2132
01:00			33		25		58		13:00			292		291		583	
01:15			45		10		55		13:15			272		277		549	
01:30			33		15		48		13:30			290		286		576	
01:45			29	140	12	62	41	202	13:45			319	1173	305	1159	624	2332
02:00			27		16		43		14:00			335		368		703	
02:15			22		9		31		14:15			314		265		579	
02:30			27		15		42		14:30			388		297		685	
02:45			23	99	10	50	33	149	14:45			385	1422	302	1232	687	2654
03:00			13		13		26		15:00			395		344		739	
03:15			14		10		24		15:15			442		387		829	
03:30			17		17		34		15:30			435		425		860	
03:45			13	57	27	67	40	124	15:45			455	1727	311	1467	766	3194
04:00			9		18		27		16:00			428		328		756	
04:15			10		28		38		16:15			524		318		842	
04:30			9		34		43		16:30			449		330		779	
04:45			12	40	48	128	60	168	16:45			465	1866	347	1323	812	3189
05:00			11		72		83		17:00			550		340		890	
05:15			33		86		119		17:15			578		347		925	
05:30			38		167		205		17:30			527		371		898	
05:45			47	129	136	461	183	590	17:45			559	2214	336	1394	895	3608
06:00			64		158		222		18:00			489		309		798	
06:15			91		226		317		18:15			463		272		735	
06:30			107		362		469		18:30			387		299		686	
06:45			154	416	396	1142	550	1558	18:45			317	1656	343	1223	660	2879
07:00			141		471		612		19:00			313		267		580	
07:15			172		530		702		19:15			298		215		513	
07:30			205		565		770		19:30			290		189		479	
07:45			221	739	523	2089	744	2828	19:45			271	1172	197	868	468	2040
08:00			218		414		632		20:00			238		206		444	
08:15			220		399		619		20:15			265		204		469	
08:30			215		456		671		20:30			239		198		437	
08:45			209	862	367	1636	576	2498	20:45			259	1001	220	828	479	1829
09:00			191		327		518		21:00			255		176		431	
09:15			170		325		495		21:15			243		193		436	
09:30			221		332		553		21:30			220		204		424	
09:45			204	786	270	1254	474	2040	21:45			203	921	153	726	356	1647
10:00			185		218		403		22:00			182		118		300	
10:15			213		242		455		22:15			202		106		308	
10:30			209		251		460		22:30			163		94		257	
10:45			219	826	324	1035	543	1861	22:45			160	707	69	387	229	1094
11:00			187		268		455		23:00			120		74		194	
11:15			215		279		494		23:15			120		61		181	
11:30			226		251		477		23:30			85		46		131	
11:45			261	889	227	1025	488	1914	23:45			101	426	33	214	134	640
TOTALS				5213		9095		**14308**	**TOTALS**				15333		11905		**27238**
SPLIT %				36.4%		63.6%		**34.4%**	**SPLIT %**				56.3%		43.7%		**65.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	20,546	21,000	41,546

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour			11:45	07:00	**07:15**	**PM Peak Hour**			17:00	15:00	**17:00**
AM Pk Volume			1024	2089	**2848**	**PM Pk Volume**			2214	1467	**3608**
Pk Hr Factor			0.981	0.924	**0.925**	**Pk Hr Factor**			0.958	0.863	**0.975**
7 - 9 Volume	0	0	1601	3725	**5326**	**4 - 6 Volume**	0	0	4080	2717	**6797**
7 - 9 Peak Hour			07:45	07:00	**07:15**	**4 - 6 Peak Hour**			17:00	16:45	**17:00**
7 - 9 Pk Volume	0	0	874	2089	**2848**	**4 - 6 Pk Volume**	0	0	2214	1405	**3608**
Pk Hr Factor	0.000	0.000	0.989	0.924	**0.925**	**Pk Hr Factor**	0.000	0.000	0.958	0.947	**0.975**

Prepared by NDS/ATD

VOLUME

Montezuma Rd between Fairmont Ave & Collwood Blvd

Day: Wednesday
Date: 9/19/2012

City: San Diego
Project #: CA12_4329_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	23,777	25,797	49,574

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			78		41		119		**12:00**			275		391		666	
00:15			52		37		89		**12:15**			298		316		614	
00:30			49		31		80		**12:30**			320		305		625	
00:45			48	227	22	131	70	358	**12:45**			276	1169	311	1323	587	2492
01:00			33		18		51		**13:00**			310		422		732	
01:15			31		12		43		**13:15**			391		325		716	
01:30			29		16		45		**13:30**			369		329		698	
01:45			28	121	15	61	43	182	**13:45**			317	1387	351	1427	668	2814
02:00			24		16		40		**14:00**			315		456		771	
02:15			14		6		20		**14:15**			359		342		701	
02:30			21		18		39		**14:30**			366		340		706	
02:45			14	73	10	50	24	123	**14:45**			392	1432	304	1442	696	2874
03:00			16		14		30		**15:00**			454		377		831	
03:15			8		22		30		**15:15**			532		456		988	
03:30			6		24		30		**15:30**			555		549		1104	
03:45			10	40	15	75	25	115	**15:45**			513	2054	457	1839	970	3893
04:00			9		17		26		**16:00**			517		477		994	
04:15			13		29		42		**16:15**			526		358		884	
04:30			10		45		55		**16:30**			472		445		917	
04:45			18	50	63	154	81	204	**16:45**			612	2127	474	1754	1086	3881
05:00			17		81		98		**17:00**			589		493		1082	
05:15			27		99		126		**17:15**			599		445		1044	
05:30			39		159		198		**17:30**			641		457		1098	
05:45			55	138	193	532	248	670	**17:45**			633	2462	428	1823	1061	4285
06:00			77		211		288		**18:00**			624		423		1047	
06:15			93		257		350		**18:15**			559		411		970	
06:30			132		384		516		**18:30**			462		409		871	
06:45			156	458	471	1323	627	1781	**18:45**			427	2072	498	1741	925	3813
07:00			173		528		701		**19:00**			318		427		745	
07:15			229		607		836		**19:15**			386		271		657	
07:30			321		769		1090		**19:30**			309		232		541	
07:45			314	1037	707	2611	1021	3648	**19:45**			326	1339	199	1129	525	2468
08:00			286		718		1004		**20:00**			265		209		474	
08:15			365		552		917		**20:15**			285		231		516	
08:30			408		521		929		**20:30**			265		171		436	
08:45			303	1362	481	2272	784	3634	**20:45**			237	1052	183	794	420	1846
09:00			244		394		638		**21:00**			217		162		379	
09:15			272		307		579		**21:15**			258		167		425	
09:30			350		306		656		**21:30**			226		215		441	
09:45			271	1137	335	1342	606	2479	**21:45**			198	899	260	804	458	1703
10:00			238		321		559		**22:00**			196		154		350	
10:15			263		290		553		**22:15**			174		101		275	
10:30			256		317		573		**22:30**			158		115		273	
10:45			242	999	302	1230	544	2229	**22:45**			117	645	71	441	188	1086
11:00			238		321		559		**23:00**			115		76		191	
11:15			263		287		550		**23:15**			90		58		148	
11:30			284		294		578		**23:30**			89		53		142	
11:45			327	1112	369	1271	696	2383	**23:45**			91	385	41	228	132	613
TOTALS				6754		11052		**17806**	**TOTALS**				17023		14745		**31768**
SPLIT %				37.9%		62.1%		**35.9%**	**SPLIT %**				53.6%		46.4%		**64.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	23,777	25,797	49,574

AM Peak Hour			07:45	07:15	**07:30**	**PM Peak Hour**			17:15	15:15	**16:45**
AM Pk Volume			1373	2801	**4032**	**PM Pk Volume**			2497	1939	**4310**
Pk Hr Factor			0.841	0.911	**0.925**	**Pk Hr Factor**			0.974	0.883	**0.981**
7 - 9 Volume	0	0	2399	4883	**7282**	**4 - 6 Volume**	0	0	4589	3577	**8166**
7 - 9 Peak Hour			07:45	07:15	**07:30**	**4 - 6 Peak Hour**			17:00	16:45	**16:45**
7 - 9 Pk Volume	0	0	1373	2801	**4032**	**4 - 6 Pk Volume**	0	0	2462	1869	**4310**
Pk Hr Factor	0.000	0.000	0.841	0.911	**0.925**	**Pk Hr Factor**	0.000	0.000	0.960	0.948	**0.981**

Prepared by NDS/ATD

VOLUME

Collwood Blvd between Montezuma Rd & 54th St

Day: Tuesday
Date: 5/24/2011

City: San Diego
Project #: CA11_4148_002

DAILY TOTALS	NB	SB	EB	WB	Total
	10,327	11,113	0	0	21,440

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	18		42				60		**12:00**	121		153				274	
00:15	14		40				54		**12:15**	158		129				287	
00:30	12		20				32		**12:30**	135		142				277	
00:45	16	60	24	126			40	186	**12:45**	136	550	135	559			271	1109
01:00	6		19				25		**13:00**	122		145				267	
01:15	9		27				36		**13:15**	133		150				283	
01:30	17		16				33		**13:30**	150		149				299	
01:45	17	49	21	83			38	132	**13:45**	153	558	148	592			301	1150
02:00	15		18				33		**14:00**	176		171				347	
02:15	6		14				20		**14:15**	169		200				369	
02:30	8		17				25		**14:30**	145		245				390	
02:45	3	32	12	61			15	93	**14:45**	184	674	225	841			409	1515
03:00	4		11				15		**15:00**	168		210				378	
03:15	8		10				18		**15:15**	152		260				412	
03:30	15		7				22		**15:30**	178		236				414	
03:45	17	44	6	34			23	78	**15:45**	130	628	257	963			387	1591
04:00	15		4				19		**16:00**	143		248				391	
04:15	22		3				25		**16:15**	129		284				413	
04:30	42		5				47		**16:30**	165		259				424	
04:45	39	118	7	19			46	137	**16:45**	161	598	256	1047			417	1645
05:00	42		4				46		**17:00**	141		262				403	
05:15	71		13				84		**17:15**	176		305				481	
05:30	129		21				150		**17:30**	166		277				443	
05:45	100	342	34	72			134	414	**17:45**	138	621	279	1123			417	1744
06:00	145		40				185		**18:00**	155		284				439	
06:15	165		58				223		**18:15**	129		236				365	
06:30	251		68				319		**18:30**	148		232				380	
06:45	223	784	99	265			322	1049	**18:45**	116	548	154	906			270	1454
07:00	259		92				351		**19:00**	113		159				272	
07:15	274		103				377		**19:15**	85		193				278	
07:30	301		99				400		**19:30**	108		157				265	
07:45	257	1091	111	405			368	1496	**19:45**	92	398	161	670			253	1068
08:00	224		116				340		**20:00**	88		141				229	
08:15	198		111				309		**20:15**	75		121				196	
08:30	210		102				312		**20:30**	76		143				219	
08:45	210	842	111	440			321	1282	**20:45**	74	313	120	525			194	838
09:00	143		109				252		**21:00**	83		128				211	
09:15	159		89				248		**21:15**	62		123				185	
09:30	130		123				253		**21:30**	66		106				172	
09:45	150	582	105	426			255	1008	**21:45**	59	270	97	454			156	724
10:00	127		125				252		**22:00**	47		109				156	
10:15	116		98				214		**22:15**	36		109				145	
10:30	121		100				221		**22:30**	40		70				110	
10:45	130	494	113	436			243	930	**22:45**	40	163	74	362			114	525
11:00	126		101				227		**23:00**	35		62				97	
11:15	105		104				209		**23:15**	22		61				83	
11:30	124		126				250		**23:30**	27		53				80	
11:45	113	468	129	460			242	928	**23:45**	16	100	68	244			84	344
TOTALS	4906		2827					**7733**	**TOTALS**	5421		8286					**13707**
SPLIT %	63.4%		36.6%					**36.1%**	**SPLIT %**	39.5%		60.5%					**63.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	10,327	11,113	0	0	21,440

AM Peak Hour	07:00	11:45			**07:00**	**PM Peak Hour**	14:45	17:15			**17:15**
AM Pk Volume	1091	553			**1496**	**PM Pk Volume**	682	1145			**1780**
Pk Hr Factor	0.906	0.904			**0.935**	**Pk Hr Factor**	0.927	0.939			**0.925**
7 - 9 Volume	1933	845	0	0	**2778**	**4 - 6 Volume**	1219	2170	0	0	**3389**
7 - 9 Peak Hour	07:00	07:45			**07:00**	**4 - 6 Peak Hour**	16:45	17:00			**16:45**
7 - 9 Pk Volume	1091	440	0	0	**1496**	**4 - 6 Pk Volume**	644	1123	0	0	**1744**
Pk Hr Factor	0.906	0.948	0.000	0.000	**0.935**	**Pk Hr Factor**	0.915	0.920	0.000	0.000	**0.906**

Prepared by NDS/ATD

VOLUME

Collwood Blvd between Montezuma Rd & 54th St

Day: Wednesday
Date: 9/19/2012

City: San Diego
Project #: CA12_4329_002

DAILY TOTALS	NB	SB	EB	WB	Total
	11,189	12,989	0	0	24,178

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	24		62				86		**12:00**	132		195				327	
00:15	24		56				80		**12:15**	118		186				304	
00:30	18		30				48		**12:30**	158		196				354	
00:45	20	86	46	194			66	280	**12:45**	138	546	146	723			284	1269
01:00	7		32				39		**13:00**	165		153				318	
01:15	9		25				34		**13:15**	170		177				347	
01:30	8		28				36		**13:30**	157		160				317	
01:45	8	32	18	103			26	135	**13:45**	153	645	183	673			336	1318
02:00	9		13				22		**14:00**	148		189				337	
02:15	3		15				18		**14:15**	157		201				358	
02:30	9		22				31		**14:30**	150		207				357	
02:45	8	29	16	66			24	95	**14:45**	153	608	252	849			405	1457
03:00	11		11				22		**15:00**	141		251				392	
03:15	11		6				17		**15:15**	174		233				407	
03:30	18		2				20		**15:30**	185		276				461	
03:45	10	50	7	26			17	76	**15:45**	152	652	316	1076			468	1728
04:00	12		6				18		**16:00**	158		296				454	
04:15	27		7				34		**16:15**	135		270				405	
04:30	31		5				36		**16:30**	155		245				400	
04:45	41	111	18	36			59	147	**16:45**	155	603	285	1096			440	1699
05:00	49		15				64		**17:00**	145		264				409	
05:15	72		18				90		**17:15**	161		308				469	
05:30	140		18				158		**17:30**	167		303				470	
05:45	141	402	26	77			167	479	**17:45**	168	641	286	1161			454	1802
06:00	136		38				174		**18:00**	136		331				467	
06:15	181		50				231		**18:15**	151		315				466	
06:30	267		100				367		**18:30**	116		247				363	
06:45	287	871	118	306			405	1177	**18:45**	120	523	263	1156			383	1679
07:00	305		98				403		**19:00**	104		226				330	
07:15	321		126				447		**19:15**	91		233				324	
07:30	319		123				442		**19:30**	90		193				283	
07:45	304	1249	163	510			467	1759	**19:45**	97	382	207	859			304	1241
08:00	295		138				433		**20:00**	77		198				275	
08:15	295		129				424		**20:15**	90		185				275	
08:30	277		154				431		**20:30**	58		144				202	
08:45	255	1122	133	554			388	1676	**20:45**	62	287	147	674			209	961
09:00	173		117				290		**21:00**	74		121				195	
09:15	163		111				274		**21:15**	55		164				219	
09:30	178		133				311		**21:30**	69		146				215	
09:45	170	684	133	494			303	1178	**21:45**	59	257	136	567			195	824
10:00	145		127				272		**22:00**	53		120				173	
10:15	134		138				272		**22:15**	32		95				127	
10:30	169		145				314		**22:30**	51		79				130	
10:45	143	591	131	541			274	1132	**22:45**	37	173	72	366			109	539
11:00	112		132				244		**23:00**	33		80				113	
11:15	152		138				290		**23:15**	27		66				93	
11:30	134		165				299		**23:30**	31		58				89	
11:45	137	535	172	607			309	1142	**23:45**	19	110	71	275			90	385
TOTALS		5762		3514				**9276**	**TOTALS**		5427		9475				**14902**
SPLIT %		62.1%		37.9%				**38.4%**	**SPLIT %**		36.4%		63.6%				**61.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	11,189	12,989	0	0	24,178

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	07:00	11:45			**07:15**	**PM Peak Hour**	15:15	17:30			**17:15**
AM Pk Volume	1249	749			**1789**	**PM Pk Volume**	669	1235			**1860**
Pk Hr Factor	0.973	0.955			**0.958**	**Pk Hr Factor**	0.904	0.933			**0.989**
7 - 9 Volume	2371	1064	0	0	**3435**	**4 - 6 Volume**	1244	2257	0	0	**3501**
7 - 9 Peak Hour	07:00	07:45			**07:15**	**4 - 6 Peak Hour**	17:00	17:00			**17:00**
7 - 9 Pk Volume	1249	584	0	0	**1789**	**4 - 6 Pk Volume**	641	1161	0	0	**1802**
Pk Hr Factor	0.973	0.896	0.000	0.000	**0.958**	**Pk Hr Factor**	0.954	0.942	0.000	0.000	**0.959**

Prepared by NDS/ATD

VOLUME

54th St between El Cajon Blvd & Trojan Ave

Day: Tuesday
Date: 5/24/2011

City: San Diego
Project #: CA11_4148_003

DAILY TOTALS	NB	SB	EB	WB	Total
	10,831	11,384	0	0	22,215

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	11		37				48		**12:00**	140		173				313	
00:15	6		34				40		**12:15**	172		174				346	
00:30	14		16				30		**12:30**	164		167				331	
00:45	15	46	22	109			37	155	**12:45**	162	638	149	663			311	1301
01:00	8		17				25		**13:00**	179		140				319	
01:15	7		13				20		**13:15**	162		147				309	
01:30	5		10				15		**13:30**	155		164				319	
01:45	8	28	19	59			27	87	**13:45**	166	662	179	630			345	1292
02:00	12		26				38		**14:00**	183		199				382	
02:15	7		15				22		**14:15**	208		188				396	
02:30	4		14				18		**14:30**	168		242				410	
02:45	4	27	12	67			16	94	**14:45**	201	760	233	862			434	1622
03:00	7		12				19		**15:00**	190		237				427	
03:15	7		6				13		**15:15**	168		239				407	
03:30	12		7				19		**15:30**	199		236				435	
03:45	12	38	7	32			19	70	**15:45**	137	694	270	982			407	1676
04:00	11		2				13		**16:00**	150		250				400	
04:15	16		2				18		**16:15**	143		254				397	
04:30	27		4				31		**16:30**	186		265				451	
04:45	31	85	10	18			41	103	**16:45**	165	644	278	1047			443	1691
05:00	32		9				41		**17:00**	167		276				443	
05:15	61		14				75		**17:15**	164		279				443	
05:30	96		26				122		**17:30**	180		278				458	
05:45	90	279	29	78			119	357	**17:45**	144	655	279	1112			423	1767
06:00	102		44				146		**18:00**	184		261				445	
06:15	129		61				190		**18:15**	158		222				380	
06:30	204		72				276		**18:30**	132		199				331	
06:45	220	655	133	310			353	965	**18:45**	137	611	189	871			326	1482
07:00	270		145				415		**19:00**	132		193				325	
07:15	276		109				385		**19:15**	136		162				298	
07:30	283		106				389		**19:30**	122		180				302	
07:45	235	1064	121	481			356	1545	**19:45**	109	499	143	678			252	1177
08:00	222		165				387		**20:00**	93		129				222	
08:15	186		138				324		**20:15**	96		115				211	
08:30	169		116				285		**20:30**	110		125				235	
08:45	173	750	115	534			288	1284	**20:45**	85	384	132	501			217	885
09:00	148		116				264		**21:00**	74		94				168	
09:15	165		103				268		**21:15**	71		108				179	
09:30	143		128				271		**21:30**	63		92				155	
09:45	141	597	127	474			268	1071	**21:45**	52	260	94	388			146	648
10:00	142		112				254		**22:00**	61		69				130	
10:15	125		123				248		**22:15**	48		76				124	
10:30	162		121				283		**22:30**	42		64				106	
10:45	166	595	124	480			290	1075	**22:45**	32	183	64	273			96	456
11:00	159		128				287		**23:00**	26		64				90	
11:15	130		133				263		**23:15**	16		43				59	
11:30	167		126				293		**23:30**	20		42				62	
11:45	141	597	150	537			291	1134	**23:45**	18	80	49	198			67	278
TOTALS		4761		3179				**7940**	**TOTALS**		6070		8205				**14275**
SPLIT %		60.0%		40.0%				**35.7%**	**SPLIT %**		42.5%		57.5%				**64.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	10,831	11,384	0	0	22,215

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	07:00	11:45			**07:00**	**PM Peak Hour**	14:15	17:00			**16:45**
AM Pk Volume	1064	664			**1545**	**PM Pk Volume**	767	1112			**1787**
Pk Hr Factor	0.940	0.954			**0.931**	**Pk Hr Factor**	0.922	0.996			**0.975**
7 - 9 Volume	1814	1015	0	0	**2829**	**4 - 6 Volume**	1299	2159	0	0	**3458**
7 - 9 Peak Hour	07:00	07:45			**07:00**	**4 - 6 Peak Hour**	16:30	17:00			**16:45**
7 - 9 Pk Volume	1064	540	0	0	**1545**	**4 - 6 Pk Volume**	682	1112	0	0	**1787**
Pk Hr Factor	0.940	0.818	0.000	0.000	**0.931**	**Pk Hr Factor**	0.917	0.996	0.000	0.000	**0.975**

Prepared by NDS/ATD

VOLUME

University Ave between 52nd St & Euclid Ave

Day:	Tuesday	**City:**	San Diego
Date:	5/24/2011	**Project #:**	CA11_4148_004

	NB	SB	EB	WB	Total
DAILY TOTALS	0	0	9,219	9,686	18,905

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			22		28		50		**12:00**			136		178		314	
00:15			26		15		41		**12:15**			161		127		288	
00:30			27		18		45		**12:30**			160		153		313	
00:45			7	82	7	68	14	150	**12:45**			138	595	182	640	320	1235
01:00			7		16		23		**13:00**			147		162		309	
01:15			4		9		13		**13:15**			151		139		290	
01:30			7		7		14		**13:30**			157		149		306	
01:45			10	28	9	41	19	69	**13:45**			152	607	140	590	292	1197
02:00			12		6		18		**14:00**			147		156		303	
02:15			10		8		18		**14:15**			157		155		312	
02:30			10		15		25		**14:30**			160		158		318	
02:45			7	39	9	38	16	77	**14:45**			176	640	164	633	340	1273
03:00			10		9		19		**15:00**			218		150		368	
03:15			9		7		16		**15:15**			179		197		376	
03:30			8		3		11		**15:30**			173		174		347	
03:45			6	33	6	25	12	58	**15:45**			167	737	187	708	354	1445
04:00			9		8		17		**16:00**			177		157		334	
04:15			9		10		19		**16:15**			179		188		367	
04:30			8		10		18		**16:30**			191		158		349	
04:45			11	37	27	55	38	92	**16:45**			157	704	172	675	329	1379
05:00			15		15		30		**17:00**			190		176		366	
05:15			22		20		42		**17:15**			206		174		380	
05:30			12		35		47		**17:30**			152		181		333	
05:45			32	81	39	109	71	190	**17:45**			204	752	154	685	358	1437
06:00			32		51		83		**18:00**			175		174		349	
06:15			58		67		125		**18:15**			166		168		334	
06:30			62		82		144		**18:30**			148		146		294	
06:45			102	254	111	311	213	565	**18:45**			135	624	158	646	293	1270
07:00			109		132		241		**19:00**			129		139		268	
07:15			84		167		251		**19:15**			129		135		264	
07:30			102		132		234		**19:30**			122		139		261	
07:45			113	408	153	584	266	992	**19:45**			116	496	153	566	269	1062
08:00			137		137		274		**20:00**			110		127		237	
08:15			102		155		257		**20:15**			112		118		230	
08:30			124		150		274		**20:30**			122		122		244	
08:45			108	471	134	576	242	1047	**20:45**			118	462	125	492	243	954
09:00			116		119		235		**21:00**			131		130		261	
09:15			107		100		207		**21:15**			96		104		200	
09:30			109		130		239		**21:30**			54		99		153	
09:45			114	446	109	458	223	904	**21:45**			80	361	70	403	150	764
10:00			114		116		230		**22:00**			56		57		113	
10:15			133		112		245		**22:15**			56		47		103	
10:30			156		137		293		**22:30**			42		53		95	
10:45			131	534	130	495	261	1029	**22:45**			44	198	37	194	81	392
11:00			113		144		257		**23:00**			38		29		67	
11:15			121		151		272		**23:15**			27		37		64	
11:30			137		135		272		**23:30**			32		21		53	
11:45			140	511	157	587	297	1098	**23:45**			22	119	20	107	42	226
TOTALS				2924		3347		**6271**	**TOTALS**				6295		6339		**12634**
SPLIT %				46.6%		53.4%		**33.2%**	**SPLIT %**				49.8%		50.2%		**66.8%**

	NB	SB	EB	WB	Total
DAILY TOTALS	0	0	9,219	9,686	18,905

AM Peak Hour			11:45	11:15	**11:45**	**PM Peak Hour**			17:00	15:15	**15:00**
AM Pk Volume			597	621	**1212**	**PM Pk Volume**			752	715	**1445**
Pk Hr Factor			0.927	0.872	**0.965**	**Pk Hr Factor**			0.913	0.907	**0.961**
7 - 9 Volume	0	0	879	1160	**2039**	**4 - 6 Volume**	0	0	1456	1360	**2816**
7 - 9 Peak Hour			07:45	07:45	**07:45**	**4 - 6 Peak Hour**			17:00	16:45	**17:00**
7 - 9 Pk Volume	0	0	476	595	**1071**	**4 - 6 Pk Volume**	0	0	752	703	**1437**
Pk Hr Factor	0.000	0.000	0.869	0.960	**0.977**	**Pk Hr Factor**	0.000	0.000	0.913	0.971	**0.945**

Prepared by NDS/ATD

VOLUME

54th St between Streamview Dr & Redwood St

Day: Tuesday
Date: 5/24/2011

City: San Diego
Project #: CA11_4148_005

DAILY TOTALS	NB	SB	EB	WB	Total
	9,848	9,634	0	0	19,482

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	12		23				35		12:00	168		136				304	
00:15	17		20				37		12:15	115		136				251	
00:30	18		10				28		12:30	135		139				274	
00:45	8	55	6	59			14	114	12:45	138	556	163	574			301	1130
01:00	13		10				23		13:00	167		143				310	
01:15	10		8				18		13:15	156		166				322	
01:30	12		6				18		13:30	125		133				258	
01:45	14	49	9	33			23	82	13:45	130	578	151	593			281	1171
02:00	6		8				14		14:00	161		157				318	
02:15	7		8				15		14:15	162		188				350	
02:30	12		9				21		14:30	174		192				366	
02:45	7	32	7	32			14	64	14:45	190	687	174	711			364	1398
03:00	8		11				19		15:00	154		206				360	
03:15	5		4				9		15:15	176		169				345	
03:30	8		6				14		15:30	180		198				378	
03:45	7	28	3	24			10	52	15:45	176	686	206	779			382	1465
04:00	6		9				15		16:00	160		206				366	
04:15	7		5				12		16:15	172		201				373	
04:30	12		8				20		16:30	169		194				363	
04:45	11	36	21	43			32	79	16:45	208	709	232	833			440	1542
05:00	17		32				49		17:00	166		212				378	
05:15	33		18				51		17:15	209		198				407	
05:30	31		45				76		17:30	159		198				357	
05:45	46	127	52	147			98	274	17:45	172	706	206	814			378	1520
06:00	47		54				101		18:00	145		202				347	
06:15	82		76				158		18:15	164		180				344	
06:30	124		79				203		18:30	146		178				324	
06:45	173	426	106	315			279	741	18:45	141	596	161	721			302	1317
07:00	175		115				290		19:00	147		129				276	
07:15	184		120				304		19:15	106		170				276	
07:30	184		139				323		19:30	142		152				294	
07:45	181	724	118	492			299	1216	19:45	127	522	125	576			252	1098
08:00	194		117				311		20:00	109		105				214	
08:15	135		138				273		20:15	95		106				201	
08:30	142		132				274		20:30	111		100				211	
08:45	160	631	126	513			286	1144	20:45	112	427	93	404			205	831
09:00	125		105				230		21:00	98		81				179	
09:15	114		98				212		21:15	84		85				169	
09:30	129		113				242		21:30	79		63				142	
09:45	140	508	99	415			239	923	21:45	67	328	71	300			138	628
10:00	136		103				239		22:00	66		54				120	
10:15	120		100				220		22:15	61		47				108	
10:30	119		118				237		22:30	45		55				100	
10:45	139	514	103	424			242	938	22:45	53	225	40	196			93	421
11:00	143		127				270		23:00	30		45				75	
11:15	150		130				280		23:15	46		42				88	
11:30	148		118				266		23:30	29		28				57	
11:45	130	571	116	491			246	1062	23:45	22	127	30	145			52	272
TOTALS		3701		2988				6689	TOTALS		6147		6646				12793
SPLIT %		55.3%		44.7%				34.3%	SPLIT %		48.0%		52.0%				65.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	9,848	9,634	0	0	19,482

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	07:15	11:45			07:15	PM Peak Hour	16:30	16:45			16:30
AM Pk Volume	743	527			1237	PM Pk Volume	752	840			1588
Pk Hr Factor	0.957	0.948			0.957	Pk Hr Factor	0.900	0.905			0.902
7 - 9 Volume	1355	1005	0	0	2360	4 - 6 Volume	1415	1647	0	0	3062
7 - 9 Peak Hour	07:15	08:00			07:15	4 - 6 Peak Hour	16:30	16:45			16:30
7 - 9 Pk Volume	743	513	0	0	1237	4 - 6 Pk Volume	752	840	0	0	1588
Pk Hr Factor	0.957	0.929	0.000	0.000	0.957	Pk Hr Factor	0.900	0.905	0.000	0.000	0.902

Prepared by NDS/ATD

VOLUME

54th St between College Grove Dr & Euclid Ave

Day: Tuesday
Date: 5/24/2011

City: San Diego
Project #: CA11_4148_006

DAILY TOTALS	NB	SB	EB	WB	Total
	9,249	9,893	0	0	19,142

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	10		19				29		**12:00**	143		125				268	
00:15	13		18				31		**12:15**	122		150				272	
00:30	16		10				26		**12:30**	140		136				276	
00:45	9	48	9	56			18	104	**12:45**	158	563	156	567			314	1130
01:00	5		8				13		**13:00**	168		155				323	
01:15	6		8				14		**13:15**	144		160				304	
01:30	12		7				19		**13:30**	118		126				244	
01:45	13	36	9	32			22	68	**13:45**	144	574	144	585			288	1159
02:00	3		12				15		**14:00**	143		160				303	
02:15	4		8				12		**14:15**	165		148				313	
02:30	8		10				18		**14:30**	193		191				384	
02:45	6	21	5	35			11	56	**14:45**	190	691	206	705			396	1396
03:00	6		6				12		**15:00**	170		203				373	
03:15	3		5				8		**15:15**	154		180				334	
03:30	9		7				16		**15:30**	162		200				362	
03:45	8	26	5	23			13	49	**15:45**	181	667	199	782			380	1449
04:00	8		9				17		**16:00**	172		191				363	
04:15	8		6				14		**16:15**	191		187				378	
04:30	9		20				29		**16:30**	176		197				373	
04:45	12	37	19	54			31	91	**16:45**	188	727	206	781			394	1508
05:00	17		45				62		**17:00**	175		213				388	
05:15	31		31				62		**17:15**	172		180				352	
05:30	35		63				98		**17:30**	185		181				366	
05:45	58	141	63	202			121	343	**17:45**	174	706	197	771			371	1477
06:00	53		71				124		**18:00**	135		188				323	
06:15	106		104				210		**18:15**	160		148				308	
06:30	158		106				264		**18:30**	133		151				284	
06:45	193	510	125	406			318	916	**18:45**	126	554	154	641			280	1195
07:00	126		116				242		**19:00**	123		147				270	
07:15	119		140				259		**19:15**	91		163				254	
07:30	144		154				298		**19:30**	110		147				257	
07:45	130	519	149	559			279	1078	**19:45**	123	447	129	586			252	1033
08:00	134		127				261		**20:00**	82		96				178	
08:15	115		145				260		**20:15**	114		102				216	
08:30	147		146				293		**20:30**	82		106				188	
08:45	147	543	157	575			304	1118	**20:45**	109	387	102	406			211	793
09:00	119		138				257		**21:00**	82		75				157	
09:15	100		137				237		**21:15**	74		83				157	
09:30	103		135				238		**21:30**	78		72				150	
09:45	123	445	131	541			254	986	**21:45**	67	301	69	299			136	600
10:00	134		111				245		**22:00**	55		47				102	
10:15	107		107				214		**22:15**	56		50				106	
10:30	102		116				218		**22:30**	52		70				122	
10:45	109	452	105	439			214	891	**22:45**	54	217	41	208			95	425
11:00	123		120				243		**23:00**	33		36				69	
11:15	131		144				275		**23:15**	37		43				80	
11:30	134		119				253		**23:30**	22		28				50	
11:45	134	522	124	507			258	1029	**23:45**	23	115	26	133			49	248
TOTALS		3300		3429				**6729**	**TOTALS**		5949		6464				**12413**
SPLIT %		49.0%		51.0%				**35.2%**	**SPLIT %**		47.9%		52.1%				**64.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	9,249	9,893	0	0	19,142

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	06:30	08:15			**08:00**	**PM Peak Hour**	16:15	16:15			**16:15**
AM Pk Volume	596	586			**1118**	**PM Pk Volume**	730	803			**1533**
Pk Hr Factor	0.772	0.933			**0.919**	**Pk Hr Factor**	0.955	0.942			**0.973**
7 - 9 Volume	1062	1134	0	0	**2196**	**4 - 6 Volume**	1433	1552	0	0	**2985**
7 - 9 Peak Hour	08:00	07:30			**08:00**	**4 - 6 Peak Hour**	16:15	16:15			**16:15**
7 - 9 Pk Volume	543	575	0	0	**1118**	**4 - 6 Pk Volume**	730	803	0	0	**1533**
Pk Hr Factor	0.923	0.933	0.000	0.000	**0.919**	**Pk Hr Factor**	0.955	0.942	0.000	0.000	**0.973**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-001

54TH N-O UNIVERSITY

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	20		30					12:00	169		210				
00:15	22		22					12:15	146		263				
00:30	16		29					12:30	138		269				
00:45	11	69	31	112			181	12:45	167	620	257	999			1619
01:00	5		26					13:00	145		266				
01:15	8		22					13:15	163		300				
01:30	9		15					13:30	170		269				
01:45	5	27	10	73			100	13:45	166	644	317	1152			1796
02:00	4		8					14:00	165		294				
02:15	7		8					14:15	192		297				
02:30	8		10					14:30	199		324				
02:45	10	29	11	37			66	14:45	166	722	292	1207			1929
03:00	12		5					15:00	183		303				
03:15	18		4					15:15	199		290				
03:30	22		8					15:30	200		302				
03:45	16	68	4	21			89	15:45	214	796	315	1210			2006
04:00	12		4					16:00	164		288				
04:15	20		6					16:15	195		318				
04:30	18		8					16:30	204		288				
04:45	29	79	9	27			106	16:45	224	787	312	1206			1993
05:00	33		15					17:00	174		316				
05:15	31		22					17:15	193		345				
05:30	68		16					17:30	180		312				
05:45	95	227	26	79			306	17:45	181	728	288	1261			1989
06:00	84		33					18:00	141		251				
06:15	121		35					18:15	143		233				
06:30	144		44					18:30	143		202				
06:45	226	575	77	189			764	18:45	127	554	218	904			1458
07:00	288		126					19:00	155		235				
07:15	326		195					19:15	122		215				
07:30	277		166					19:30	116		200				
07:45	303	1194	138	625			1819	19:45	103	496	184	834			1330
08:00	262		149					20:00	108		121				
08:15	235		133					20:15	79		101				
08:30	233		161					20:30	88		90				
08:45	202	932	151	594			1526	20:45	80	355	88	400			755
09:00	215		125					21:00	77		60				
09:15	211		123					21:15	76		95				
09:30	184		129					21:30	73		101				
09:45	133	743	126	503			1246	21:45	77	303	88	344			647
10:00	121		114					22:00	48		70				
10:15	118		128					22:15	38		92				
10:30	126		145					22:30	41		80				
10:45	135	500	146	533			1033	22:45	40	167	51	293			460
11:00	162		161					23:00	33		66				
11:15	177		162					23:15	30		48				
11:30	184		162					23:30	26		44				
11:45	151	674	169	654			1328	23:45	14	103	35	193			296
Total Vol.		5117		3447			**8564**			6275		10003			**16278**

Daily Totals

NB	SB	EB	WB	**Combined**
11392	13450			**24842**

	AM			**PM**		
Split %	59.8%	40.2%	**34.5%**	38.5%	61.5%	**65.5%**
Peak Hour	07:00	11:45	**07:00**	16:15	16:45	**16:30**
Volume	1194	911	**1819**	797	1285	**2056**
P.H.F.	0.92	0.85	**0.87**	0.95	0.93	**0.96**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-002

54TH S-O UNIVERSITY

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	20		20					12:00	143		115				
00:15	22		19					12:15	115		139				
00:30	19		26					12:30	97		127				
00:45	11	72	20	85			157	12:45	107	462	131	512			974
01:00	10		18					13:00	115		139				
01:15	19		15					13:15	135		115				
01:30	15		26					13:30	104		126				
01:45	12	56	12	71			127	13:45	138	492	129	509			1001
02:00	11		18					14:00	116		130				
02:15	9		10					14:15	138		141				
02:30	5		9					14:30	134		188				
02:45	8	33	5	42			75	14:45	139	527	169	628			1155
03:00	12		8					15:00	157		193				
03:15	8		4					15:15	141		187				
03:30	9		8					15:30	168		197				
03:45	12	41	10	30			71	15:45	164	630	200	777			1407
04:00	18		5					16:00	145		200				
04:15	10		4					16:15	128		209				
04:30	19		8					16:30	131		215				
04:45	22	69	15	32			101	16:45	157	561	211	835			1396
05:00	26		12					17:00	156		209				
05:15	20		15					17:15	146		229				
05:30	33		10					17:30	146		228				
05:45	48	127	22	59			186	17:45	124	572	214	880			1452
06:00	55		26					18:00	132		195				
06:15	68		30					18:15	102		171				
06:30	75		44					18:30	110		184				
06:45	108	306	51	151			457	18:45	125	469	168	718			1187
07:00	121		88					19:00	104		141				
07:15	195		115					19:15	104		131				
07:30	211		121					19:30	92		125				
07:45	249	776	107	431			1207	19:45	76	376	105	502			878
08:00	207		83					20:00	78		110				
08:15	165		84					20:15	59		93				
08:30	174		100					20:30	69		92				
08:45	142	688	108	375			1063	20:45	57	263	86	381			644
09:00	184		97					21:00	67		85				
09:15	129		75					21:15	54		94				
09:30	113		91					21:30	61		86				
09:45	130	556	102	365			921	21:45	61	243	80	345			588
10:00	132		98					22:00	34		47				
10:15	102		84					22:15	35		55				
10:30	100		99					22:30	34		45				
10:45	120	454	114	395			849	22:45	33	136	53	200			336
11:00	125		93					23:00	26		37				
11:15	119		93					23:15	35		43				
11:30	141		105					23:30	16		34				
11:45	105	490	132	423			913	23:45	17	94	34	148			242
Total Vol.		3668		2459			**6127**			4825		6435			**11260**

Daily Totals

NB	SB	EB	WB	**Combined**
8493	8894			**17387**

	AM			PM		
Split %	59.9%	40.1%	**35.2%**	42.9%	57.1%	**64.8%**
Peak Hour	07:15	11:45	**07:15**	15:00	17:00	**16:45**
Volume	862	513	**1288**	630	880	**1482**
P.H.F.	0.87	0.92	**0.90**	0.94	0.96	**0.99**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-003

UNIVERSITY W-O 54TH

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			30		28			12:00			185		329		
00:15			33		20			12:15			186		290		
00:30			26		35			12:30			164		270		
00:45			20	109	44	127	236	12:45			193	728	240	1129	1857
01:00			18		26			13:00			206		243		
01:15			15		18			13:15			171		270		
01:30			11		20			13:30			167		277		
01:45			9	53	16	80	133	13:45			193	737	278	1068	1805
02:00			5		11			14:00			181		285		
02:15			15		8			14:15			177		246		
02:30			10		9			14:30			188		281		
02:45			9	39	15	43	82	14:45			178	724	296	1108	1832
03:00			5		18			15:00			220		288		
03:15			10		9			15:15			244		314		
03:30			15		5			15:30			251		305		
03:45			9	39	4	36	75	15:45			252	967	284	1191	2158
04:00			8		15			16:00			240		333		
04:15			5		22			16:15			232		300		
04:30			12		26			16:30			244		297		
04:45			20	45	18	81	126	16:45			255	971	314	1244	2215
05:00			16		26			17:00			273		313		
05:15			18		35			17:15			275		323		
05:30			22		33			17:30			246		334		
05:45			35	91	51	145	236	17:45			218	1012	295	1265	2277
06:00			35		48			18:00			211		313		
06:15			44		66			18:15			190		252		
06:30			66		95			18:30			178		273		
06:45			95	240	135	344	584	18:45			193	772	233	1071	1843
07:00			168		141			19:00			173		218		
07:15			166		218			19:15			136		196		
07:30			135		226			19:30			150		221		
07:45			148	617	268	853	1470	19:45			131	590	216	851	1441
08:00			165		275			20:00			119		190		
08:15			139		284			20:15			102		192		
08:30			129		262			20:30			99		172		
08:45			158	591	218	1039	1630	20:45			106	426	140	694	1120
09:00			147		212			21:00			88		113		
09:15			154		198			21:15			97		160		
09:30			118		179			21:30			90		115		
09:45			133	552	219	808	1360	21:45			70	345	146	534	879
10:00			131		210			22:00			57		97		
10:15			164		197			22:15			69		92		
10:30			153		213			22:30			59		75		
10:45			145	593	192	812	1405	22:45			47	232	78	342	574
11:00			143		213			23:00			39		64		
11:15			150		232			23:15			32		89		
11:30			183		269			23:30			40		55		
11:45			181	657	254	968	1625	23:45			37	148	42	250	398
Total Vol.				3626		5336	**8962**					7652		10747	**18399**

Daily Totals

NB	SB	EB	WB	**Combined**
		11278	16083	**27361**

	AM			PM		
Split %	40.5%	59.5%	**32.8%**	41.6%	58.4%	**67.2%**
Peak Hour	11:30	11:45	**11:30**	16:45	16:45	**16:45**
Volume	735	1143	**1877**	1049	1284	**2333**
P.H.F.	0.99	0.87	**0.91**	0.95	0.96	**0.98**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-004

UNIVERSITY E-O 54TH

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			25		20			12:00			184		209		
00:15			20		18			12:15			171		164		
00:30			18		26			12:30			160		189		
00:45			26	89	22	86	175	12:45			185	700	205	767	1467
01:00			15		18			13:00			179		186		
01:15			10		21			13:15			187		202		
01:30			12		15			13:30			182		209		
01:45			9	46	10	64	110	13:45			186	734	192	789	1523
02:00			11		13			14:00			177		191		
02:15			9		10			14:15			181		183		
02:30			8		19			14:30			190		204		
02:45			7	35	22	64	99	14:45			187	735	201	779	1514
03:00			10		16			15:00			208		215		
03:15			5		11			15:15			214		226		
03:30			9		9			15:30			247		218		
03:45			5	29	5	41	70	15:45			284	953	235	894	1847
04:00			15		7			16:00			262		241		
04:15			10		26			16:15			245		223		
04:30			9		21			16:30			262		237		
04:45			12	46	26	80	126	16:45			284	1053	231	932	1985
05:00			18		28			17:00			292		217		
05:15			22		30			17:15			263		235		
05:30			26		33			17:30			257		196		
05:45			25	91	62	153	244	17:45			236	1048	225	873	1921
06:00			30		77			18:00			236		235		
06:15			35		84			18:15			235		226		
06:30			51		80			18:30			218		205		
06:45			66	182	135	376	558	18:45			204	893	218	884	1777
07:00			98		151			19:00			159		191		
07:15			105		140			19:15			140		162		
07:30			102		162			19:30			153		131		
07:45			121	426	226	679	1105	19:45			149	601	148	632	1233
08:00			135		235			20:00			112		140		
08:15			151		218			20:15			105		128		
08:30			144		177			20:30			115		128		
08:45			135	565	195	825	1390	20:45			104	436	119	515	951
09:00			122		151			21:00			94		81		
09:15			162		142			21:15			94		112		
09:30			142		146			21:30			89		88		
09:45			130	556	135	574	1130	21:45			70	347	92	373	720
10:00			119		156			22:00			80		74		
10:15			141		141			22:15			71		55		
10:30			162		126			22:30			73		61		
10:45			121	543	132	555	1098	22:45			45	269	54	244	513
11:00			135		148			23:00			43		41		
11:15			140		162			23:15			39		57		
11:30			162		170			23:30			42		39		
11:45			144	581	178	658	1239	23:45			34	158	36	173	331
Total Vol.				3189		4155	**7344**					7927		7855	**15782**

Daily Totals

NB	SB	EB	WB	**Combined**
		11116	12010	**23126**

	AM			PM		
Split %	43.4%	56.6%	**31.8%**	50.2%	49.8%	**68.2%**
Peak Hour	11:30	07:45	**07:45**	16:30	15:45	**16:30**
Volume	661	856	**1407**	1101	936	**2021**
P.H.F.	0.90	0.91	**0.95**	0.94	0.97	**0.98**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-005

UNIVERSITY BTN 58TH & UNIVERSITY SQUARE DWY

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			20		28			12:00			209		170		
00:15			17		26			12:15			166		182		
00:30			19		20			12:30			171		173		
00:45			20	76	19	93	169	12:45			173	719	187	712	1431
01:00			16		22			13:00			179		164		
01:15			11		15			13:15			186		180		
01:30			10		18			13:30			186		167		
01:45			15	52	10	65	117	13:45			195	746	168	679	1425
02:00			12		16			14:00			175		189		
02:15			8		20			14:15			164		159		
02:30			9		16			14:30			199		174		
02:45			5	34	11	63	97	14:45			179	717	206	728	1445
03:00			12		9			15:00			182		213		
03:15			10		5			15:15			231		206		
03:30			12		4			15:30			234		181		
03:45			19	53	10	28	81	15:45			240	887	210	810	1697
04:00			10		15			16:00			231		191		
04:15			5		18			16:15			239		200		
04:30			7		20			16:30			238		218		
04:45			9	31	16	69	100	16:45			246	954	211	820	1774
05:00			19		11			17:00			281		197		
05:15			20		9			17:15			253		227		
05:30			16		18			17:30			226		193		
05:45			35	90	22	60	150	17:45			231	991	212	829	1820
06:00			33		35			18:00			215		195		
06:15			48		30			18:15			210		185		
06:30			68		45			18:30			197		183		
06:45			89	238	78	188	426	18:45			198	820	145	708	1528
07:00			97		95			19:00			138		159		
07:15			135		126			19:15			131		149		
07:30			141		154			19:30			165		139		
07:45			162	535	162	537	1072	19:45			144	578	145	592	1170
08:00			145		184			20:00			123		134		
08:15			150		182			20:15			107		114		
08:30			149		132			20:30			121		119		
08:45			165	609	121	619	1228	20:45			93	444	102	469	913
09:00			170		135			21:00			88		91		
09:15			187		141			21:15			103		117		
09:30			132		121			21:30			92		93		
09:45			151	640	134	531	1171	21:45			79	362	96	397	759
10:00			116		126			22:00			70		77		
10:15			147		109			22:15			67		50		
10:30			146		144			22:30			55		50		
10:45			179	588	137	516	1104	22:45			38	230	42	219	449
11:00			156		137			23:00			36		42		
11:15			151		142			23:15			35		42		
11:30			164		155			23:30			28		44		
11:45			181	652	171	605	1257	23:45			40	139	25	153	292
Total Vol.				3598		3374	**6972**					7587		7116	**14703**

Daily Totals

NB	SB	EB	WB	**Combined**
		11185	10490	**21675**

		AM				PM	
Split %		51.6%	48.4%	**32.2%**	51.6%	48.4%	**67.8%**
Peak Hour		11:45	11:45	**11:45**	16:30	16:30	**16:30**
Volume		727	696	**1423**	1018	853	**1871**
P.H.F.		0.87	0.96	**0.94**	0.91	0.94	**0.97**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-007

UNIVERSITY BTN COLLEGE & CARTAGENA

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			10		20			12:00			150		130		
00:15			8		18			12:15			122		128		
00:30			9		10			12:30			151		121		
00:45			15	42	9	57	99	12:45			166	589	135	514	1103
01:00			8		5			13:00			146		148		
01:15			9		8			13:15			149		168		
01:30			15		10			13:30			164		166		
01:45			10	42	6	29	71	13:45			151	610	154	636	1246
02:00			18		4			14:00			145		128		
02:15			16		4			14:15			159		130		
02:30			11		5			14:30			159		119		
02:45			15	60	6	19	79	14:45			160	623	151	528	1151
03:00			9		8			15:00			187		140		
03:15			5		6			15:15			212		168		
03:30			4		5			15:30			172		188		
03:45			10	28	8	27	55	15:45			212	783	195	691	1474
04:00			6		10			16:00			213		164		
04:15			8		15			16:15			191		155		
04:30			5		18			16:30			185		141		
04:45			10	29	22	65	94	16:45			253	842	132	592	1434
05:00			15		10			17:00			217		151		
05:15			16		15			17:15			223		142		
05:30			20		20			17:30			205		135		
05:45			15	66	19	64	130	17:45			185	830	142	570	1400
06:00			22		33			18:00			198		150		
06:15			26		38			18:15			184		138		
06:30			54		42			18:30			151		122		
06:45			45	147	77	190	337	18:45			155	688	108	518	1206
07:00			55		84			19:00			139		105		
07:15			68		121			19:15			118		121		
07:30			121		116			19:30			109		126		
07:45			195	439	126	447	886	19:45			104	470	115	467	937
08:00			168		168			20:00			101		90		
08:15			141		149			20:15			87		88		
08:30			135		166			20:30			77		80		
08:45			142	586	148	631	1217	20:45			78	343	75	333	676
09:00			121		156			21:00			69		52		
09:15			108		142			21:15			86		40		
09:30			115		118			21:30			68		35		
09:45			126	470	126	542	1012	21:45			56	279	22	149	428
10:00			113		108			22:00			56		28		
10:15			104		122			22:15			42		41		
10:30			123		104			22:30			35		30		
10:45			110	450	114	448	898	22:45			31	164	20	119	283
11:00			128		127			23:00			30		20		
11:15			130		116			23:15			21		26		
11:30			117		126			23:30			37		27		
11:45			133	508	112	481	989	23:45			21	109	23	96	205
Total Vol.				2867		3000	**5867**					6330		5213	**11543**

Daily Totals

NB	SB	EB	WB	**Combined**
		9197	8213	**17410**

		AM				**PM**	
Split %	48.9%	51.1%	**33.7%**		54.8%	45.2%	**66.3%**
Peak Hour	07:45	08:00	**07:45**		16:45	15:15	**15:15**
Volume	639	631	**1248**		898	715	**1524**
P.H.F.	0.82	0.94	**0.93**		0.89	0.92	**0.94**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-009

UNIVERSITY BTN ROLANDO & ARAGON

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			12		19			12:00			134		105		
00:15			18		18			12:15			135		137		
00:30			20		15			12:30			142		113		
00:45			16	66	11	63	129	12:45			151	562	118	473	1035
01:00			11		8			13:00			124		121		
01:15			9		9			13:15			147		113		
01:30			5		5			13:30			157		119		
01:45			8	33	4	26	59	13:45			148	576	110	463	1039
02:00			8		5			14:00			145		101		
02:15			5		11			14:15			163		112		
02:30			4		2			14:30			155		107		
02:45			6	23	6	24	47	14:45			149	612	125	445	1057
03:00			9		8			15:00			188		140		
03:15			12		9			15:15			185		142		
03:30			20		5			15:30			179		157		
03:45			15	56	4	26	82	15:45			184	736	114	553	1289
04:00			11		5			16:00			224		138		
04:15			15		6			16:15			179		144		
04:30			8		10			16:30			202		149		
04:45			9	43	5	26	69	16:45			190	795	155	586	1381
05:00			12		8			17:00			215		134		
05:15			18		9			17:15			199		134		
05:30			22		15			17:30			188		133		
05:45			26	78	20	52	130	17:45			172	774	142	543	1317
06:00			35		33			18:00			187		116		
06:15			33		48			18:15			154		118		
06:30			42		88			18:30			133		91		
06:45			51	161	70	239	400	18:45			132	606	101	426	1032
07:00			99		92			19:00			111		74		
07:15			104		104			19:15			98		100		
07:30			111		102			19:30			99		77		
07:45			121	435	121	419	854	19:45			94	402	90	341	743
08:00			130		135			20:00			94		68		
08:15			126		141			20:15			71		72		
08:30			162		144			20:30			66		68		
08:45			122	540	119	539	1079	20:45			74	305	64	272	577
09:00			121		105			21:00			60		54		
09:15			108		80			21:15			75		48		
09:30			98		99			21:30			65		39		
09:45			118	445	90	374	819	21:45			44	244	44	185	429
10:00			94		98			22:00			45		41		
10:15			90		104			22:15			31		32		
10:30			104		126			22:30			38		24		
10:45			112	400	105	433	833	22:45			17	131	18	115	246
11:00			115		99			23:00			22		21		
11:15			114		91			23:15			24		22		
11:30			100		117			23:30			24		17		
11:45			118	447	126	433	880	23:45			20	90	13	73	163
Total Vol.				2727		2654	**5381**					5833		4475	**10308**

Daily Totals

NB	SB	EB	WB	**Combined**
		8560	7129	**15689**

	AM			**PM**		
Split %	50.7%	49.3%	**34.3%**	56.6%	43.4%	**65.7%**
Peak Hour	08:00	07:45	**07:45**	16:30	16:00	**16:00**
Volume	540	541	**1080**	806	586	**1381**
P.H.F.	0.83	0.94	**0.88**	0.94	0.95	**0.95**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-010

COLLEGE N-O UNIVERSITY

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	28		30					12:00	175		152				
00:15	20		28					12:15	227		161				
00:30	33		44					12:30	204		161				
00:45	25	106	26	128			234	12:45	202	808	180	654			1462
01:00	19		20					13:00	182		173				
01:15	12		19					13:15	189		150				
01:30	18		20					13:30	194		160				
01:45	20	69	18	77			146	13:45	216	781	134	617			1398
02:00	16		20					14:00	176		186				
02:15	11		16					14:15	185		204				
02:30	9		21					14:30	159		210				
02:45	5	41	15	72			113	14:45	195	715	195	795			1510
03:00	12		5					15:00	210		246				
03:15	9		9					15:15	230		208				
03:30	5		5					15:30	237		201				
03:45	12	38	10	29			67	15:45	220	897	260	915			1812
04:00	8		8					16:00	210		248				
04:15	7		7					16:15	205		247				
04:30	10		6					16:30	194		228				
04:45	8	33	8	29			62	16:45	207	816	198	921			1737
05:00	26		7					17:00	240		208				
05:15	22		20					17:15	224		273				
05:30	28		18					17:30	204		268				
05:45	33	109	22	67			176	17:45	246	914	263	1012			1926
06:00	41		26					18:00	216		222				
06:15	68		35					18:15	199		205				
06:30	66		44					18:30	174		180				
06:45	121	296	60	165			461	18:45	166	755	167	774			1529
07:00	180		77					19:00	174		170				
07:15	215		70					19:15	122		173				
07:30	235		98					19:30	130		120				
07:45	268	898	121	366			1264	19:45	135	561	109	572			1133
08:00	299		135					20:00	124		112				
08:15	289		122					20:15	108		101				
08:30	215		108					20:30	122		93				
08:45	220	1023	90	455			1478	20:45	93	447	92	398			845
09:00	235		116					21:00	110		95				
09:15	223		126					21:15	108		89				
09:30	235		131					21:30	107		104				
09:45	188	881	104	477			1358	21:45	67	392	83	371			763
10:00	150		114					22:00	90		72				
10:15	142		113					22:15	86		86				
10:30	191		107					22:30	61		53				
10:45	214	697	108	442			1139	22:45	55	292	62	273			565
11:00	178		125					23:00	52		51				
11:15	135		177					23:15	0		40				
11:30	133		144					23:30	0		48				
11:45	192	638	124	570			1208	23:45	0	52	27	166			218
Total Vol.		4829		2877			**7706**			7430		7468			**14898**

Daily Totals

NB	SB	EB	WB	Combined
12259	10345			**22604**

	AM			PM		
Split %	62.7%	37.3%	**34.1%**	49.9%	50.1%	**65.9%**
Peak Hour	07:30	11:45	**07:30**	17:00	17:15	**17:00**
Volume	1091	598	**1567**	914	1026	**1926**
P.H.F.	0.91	0.93	**0.90**	0.91	0.94	**0.95**

Prepared by NDS/ATD

VOLUME

College Av between El Cajon Blvd & University Ave

Day: Wednesday
Date: 9/19/2012

City: San Diego
Project #: CA12_4329_003

DAILY TOTALS	NB	SB	EB	WB	Total
	11,900	11,872	0	0	23,772

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	27		33				60		**12:00**	142		184				326	
00:15	25		24				49		**12:15**	161		178				339	
00:30	18		19				37		**12:30**	178		178				356	
00:45	15	85	21	97			36	182	**12:45**	134	615	196	736			330	1351
01:00	20		21				41		**13:00**	172		203				375	
01:15	10		22				32		**13:15**	152		181				333	
01:30	9		11				20		**13:30**	173		171				344	
01:45	14	53	18	72			32	125	**13:45**	183	680	165	720			348	1400
02:00	10		12				22		**14:00**	145		193				338	
02:15	12		6				18		**14:15**	153		189				342	
02:30	8		12				20		**14:30**	154		211				365	
02:45	10	40	6	36			16	76	**14:45**	174	626	180	773			354	1399
03:00	7		6				13		**15:00**	199		224				423	
03:15	5		7				12		**15:15**	240		204				444	
03:30	7		8				15		**15:30**	207		286				493	
03:45	9	28	9	30			18	58	**15:45**	209	855	284	998			493	1853
04:00	6		5				11		**16:00**	157		265				422	
04:15	8		12				20		**16:15**	180		247				427	
04:30	13		15				28		**16:30**	161		256				417	
04:45	26	53	18	50			44	103	**16:45**	204	702	277	1045			481	1747
05:00	26		20				46		**17:00**	192		281				473	
05:15	27		35				62		**17:15**	197		276				473	
05:30	37		35				72		**17:30**	186		258				444	
05:45	46	136	34	124			80	260	**17:45**	205	780	242	1057			447	1837
06:00	44		50				94		**18:00**	180		233				413	
06:15	72		45				117		**18:15**	194		229				423	
06:30	132		78				210		**18:30**	198		202				400	
06:45	188	436	80	253			268	689	**18:45**	173	745	225	889			398	1634
07:00	252		87				339		**19:00**	159		227				386	
07:15	291		113				404		**19:15**	137		182				319	
07:30	318		128				446		**19:30**	129		160				289	
07:45	292	1153	130	458			422	1611	**19:45**	145	570	129	698			274	1268
08:00	240		135				375		**20:00**	127		156				283	
08:15	283		108				391		**20:15**	135		174				309	
08:30	337		135				472		**20:30**	133		154				287	
08:45	233	1093	170	548			403	1641	**20:45**	108	503	127	611			235	1114
09:00	172		150				322		**21:00**	97		120				217	
09:15	155		111				266		**21:15**	122		116				238	
09:30	176		110				286		**21:30**	88		156				244	
09:45	152	655	125	496			277	1151	**21:45**	80	387	134	526			214	913
10:00	143		136				279		**22:00**	87		107				194	
10:15	137		129				266		**22:15**	58		78				136	
10:30	191		108				299		**22:30**	59		55				114	
10:45	165	636	144	517			309	1153	**22:45**	47	251	58	298			105	549
11:00	163		154				317		**23:00**	55		63				118	
11:15	143		171				314		**23:15**	38		44				82	
11:30	173		174				347		**23:30**	39		40				79	
11:45	175	654	153	652			328	1306	**23:45**	32	164	41	188			73	352
TOTALS	5022		3333				**8355**		**TOTALS**	6878		8539				**15417**	
SPLIT %	60.1%		39.9%				**35.1%**		**SPLIT %**	44.6%		55.4%				**64.9%**	

DAILY TOTALS	NB	SB	EB	WB	Total
	11,900	11,872	0	0	23,772

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour	07:00	11:45			**07:45**	**PM Peak Hour**	15:00	16:45			**16:45**
AM Pk Volume	1153	693			**1660**	**PM Pk Volume**	855	1092			**1871**
Pk Hr Factor	0.906	0.942			**0.879**	**Pk Hr Factor**	0.891	0.972			**0.972**
7 - 9 Volume	2246	1006	0	0	**3252**	**4 - 6 Volume**	1482	2102	0	0	**3584**
7 - 9 Peak Hour	07:00	08:00			**07:45**	**4 - 6 Peak Hour**	17:00	16:45			**16:45**
7 - 9 Pk Volume	1153	548	0	0	**1660**	**4 - 6 Pk Volume**	780	1092	0	0	**1871**
Pk Hr Factor	0.906	0.806	0.000	0.000	**0.879**	**Pk Hr Factor**	0.951	0.972	0.000	0.000	**0.972**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-011

COLLEGE S-O UNIVERSITY

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	28		33					12:00	156		167				
00:15	30		42					12:15	180		208				
00:30	33		29					12:30	185		199				
00:45	26	117	29	133			250	12:45	162	683	221	795			1478
01:00	19		30					13:00	145		194				
01:15	18		20					13:15	169		194				
01:30	20		15					13:30	201		169				
01:45	10	67	18	83			150	13:45	193	708	204	761			1469
02:00	9		22					14:00	153		233				
02:15	5		15					14:15	172		223				
02:30	8		11					14:30	177		245				
02:45	12	34	19	67			101	14:45	186	688	238	939			1627
03:00	15		9					15:00	199		214				
03:15	9		5					15:15	197		226				
03:30	5		8					15:30	214		268				
03:45	8	37	12	34			71	15:45	173	783	279	987			1770
04:00	12		19					16:00	187		254				
04:15	10		18					16:15	199		254				
04:30	9		26					16:30	218		287				
04:45	15	46	16	79			125	16:45	170	774	257	1052			1826
05:00	20		22					17:00	209		270				
05:15	22		32					17:15	240		294				
05:30	19		30					17:30	174		312				
05:45	32	93	42	126			219	17:45	229	852	280	1156			2008
06:00	33		44					18:00	203		277				
06:15	48		60					18:15	190		246				
06:30	68		66					18:30	174		220				
06:45	108	257	78	248			505	18:45	166	733	201	944			1677
07:00	138		99					19:00	144		199				
07:15	168		138					19:15	147		192				
07:30	151		142					19:30	125		154				
07:45	215	672	149	528			1200	19:45	137	553	152	697			1250
08:00	226		177					20:00	129		142				
08:15	208		152					20:15	121		125				
08:30	212		126					20:30	110		110				
08:45	182	828	135	590			1418	20:45	105	465	121	498			963
09:00	192		148					21:00	114		130				
09:15	217		140					21:15	111		103				
09:30	181		133					21:30	97		114				
09:45	142	732	129	550			1282	21:45	89	411	93	440			851
10:00	145		143					22:00	80		86				
10:15	157		151					22:15	56		95				
10:30	186		142					22:30	53		61				
10:45	200	688	141	577			1265	22:45	45	234	56	298			532
11:00	177		174					23:00	28		47				
11:15	141		183					23:15	0		47				
11:30	159		166					23:30	0		45				
11:45	167	644	176	699			1343	23:45	0	28	32	171			199
Total Vol.		4215		3714			**7929**			6912		8738			**15650**

Daily Totals

NB	SB	EB	WB	**Combined**
11127	12452			**23579**

	AM			PM		
Split %	53.2%	46.8%	**33.6%**	44.2%	55.8%	**66.4%**
Peak Hour	07:45	11:45	**07:45**	17:00	17:15	**17:15**
Volume	861	750	**1465**	852	1163	**2009**
P.H.F.	0.95	0.90	**0.91**	0.83	0.93	**0.94**

TUESDAY NOVEMBER 30, 2010 CITY: SAN DIEGO PROJECT: CA10-1203-03-012

CHOLLAS S-O UNIVERSITY

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	6		8					12:00	35		30				
00:15	9		9					12:15	32		29				
00:30	10		5					12:30	44		31				
00:45	5	30	8	30			60	12:45	35	146	37	127			273
01:00	9		4					13:00	35		37				
01:15	5		5					13:15	44		40				
01:30	7		1					13:30	44		32				
01:45	9	30	1	11			41	13:45	48	171	25	134			305
02:00	5		2					14:00	38		44				
02:15	5		2					14:15	27		26				
02:30	4		0					14:30	39		27				
02:45	10	24	4	8			32	14:45	41	145	33	130			275
03:00	5		5					15:00	38		34				
03:15	5		1					15:15	50		50				
03:30	6		2					15:30	52		38				
03:45	5	21	4	12			33	15:45	51	191	45	167			358
04:00	12		2					16:00	51		51				
04:15	5		2					16:15	56		45				
04:30	4		1					16:30	49		32				
04:45	5	26	6	11			37	16:45	54	210	31	159			369
05:00	1		2					17:00	67		52				
05:15	5		1					17:15	46		45				
05:30	9		7					17:30	50		34				
05:45	5	20	12	22			42	17:45	54	217	42	173			390
06:00	10		9					18:00	51		46				
06:15	15		5					18:15	47		40				
06:30	18		15					18:30	42		32				
06:45	26	69	20	49			118	18:45	42	182	30	148			330
07:00	22		26					19:00	27		38				
07:15	30		33					19:15	25		28				
07:30	40		35					19:30	38		30				
07:45	44	136	28	122			258	19:45	30	120	25	121			241
08:00	35		29					20:00	26		24				
08:15	42		33					20:15	16		22				
08:30	44		26					20:30	20		26				
08:45	66	187	28	116			303	20:45	25	87	20	92			179
09:00	58		30					21:00	19		21				
09:15	40		26					21:15	19		19				
09:30	35		21					21:30	15		15				
09:45	42	175	23	100			275	21:45	16	69	9	64			133
10:00	35		33					22:00	8		12				
10:15	31		28					22:15	8		11				
10:30	42		20					22:30	9		7				
10:45	29	137	19	100			237	22:45	3	28	1	31			59
11:00	33		16					23:00	8		7				
11:15	30		22					23:15	7		4				
11:30	28		18					23:30	4		8				
11:45	39	130	26	82			212	23:45	10	29	8	27			56
Total Vol.		985		663			**1648**			1595		1373			**2968**

Daily Totals

NB	SB	EB	WB	**Combined**
2580	2036			**4616**

	AM			**PM**		
Split %	59.8%	40.2%	**35.7%**	53.7%	46.3%	**64.3%**
Peak Hour	08:15	07:15	**08:15**	16:15	15:15	**17:00**
Volume	210	125	**327**	226	184	**390**
P.H.F.	0.80	0.89	**0.87**	0.95	0.90	**0.82**

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

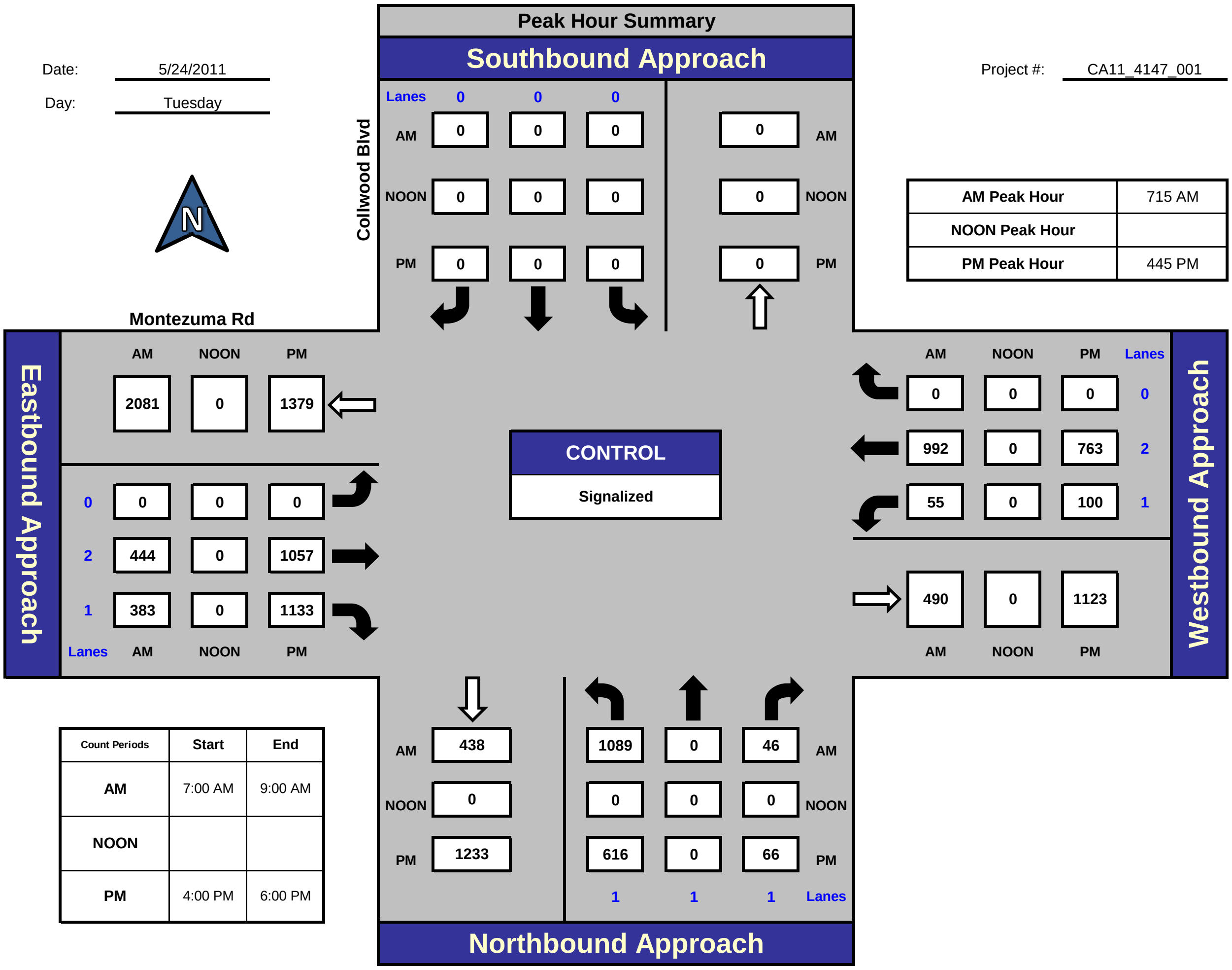
Collwood Blvd and Montezuma Rd , City of San Diego

Date: 5/24/2011

Day: Tuesday

Project #: CA11_4147_001

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM



Peak Hour Summary

Southbound Approach

	↲	↓	↳	⇧
Lanes	0	0	0	
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

Westbound Approach

	AM	NOON	PM	Lanes
↰	0	0	0	0
←	992	0	763	2
↙	55	0	100	1
⇨	490	0	1123	

Eastbound Approach

Lanes		AM	NOON	PM
	⇦	2081	0	1379
0	↱	0	0	0
2	→	444	0	1057
1	↘	383	0	1133

Northbound Approach

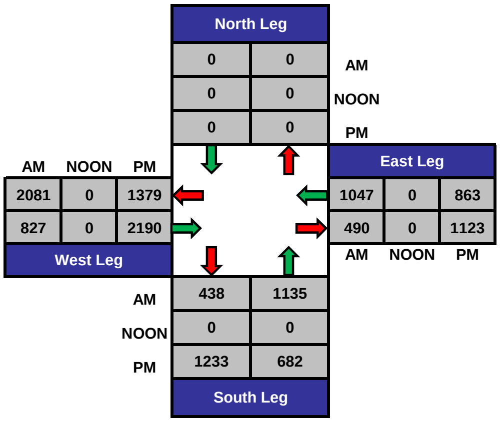
	⇩	↰	↑	↱
AM	438	1089	0	46
NOON	0	0	0	0
PM	1233	616	0	66
Lanes		1	1	1

CONTROL

Signalized

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



North Leg

AM	0	0
NOON	0	0
PM	0	0

East Leg

	AM	NOON	PM
←	1047	0	863
→	490	0	1123

West Leg

	AM	NOON	PM
←	2081	0	1379
→	827	0	2190

South Leg

	↓	↑
AM	438	1135
NOON	0	0
PM	1233	682

Total Volume Per Leg

Leg	AM	NOON	PM
North Leg	0	0	0
East Leg	1537	0	1986
West Leg	2908	0	3569
South Leg	1573	0	1915

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Collwood Blvd and 54th St , City of San Diego

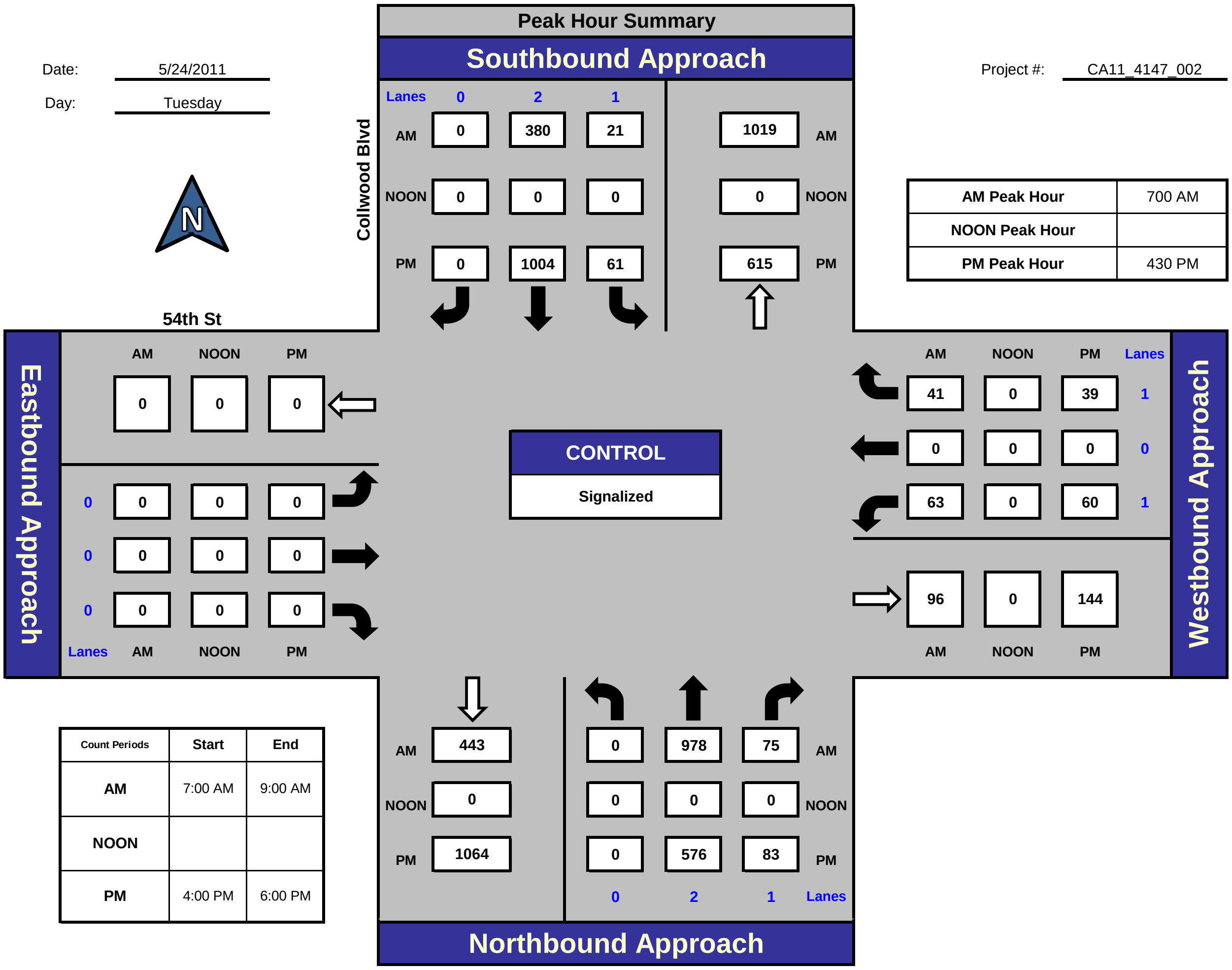
Date: 5/24/2011

Day: Tuesday

Project #: CA11_4147_002

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM



Southbound Approach

	Right	Thru	Left		Exiting
Lanes	0	2	1		
AM	0	380	21	AM	1019
NOON	0	0	0	NOON	0
PM	0	1004	61	PM	615

Eastbound Approach

	Lanes	AM	NOON	PM
Exiting		0	0	0
Left	0	0	0	0
Thru	0	0	0	0
Right	0	0	0	0

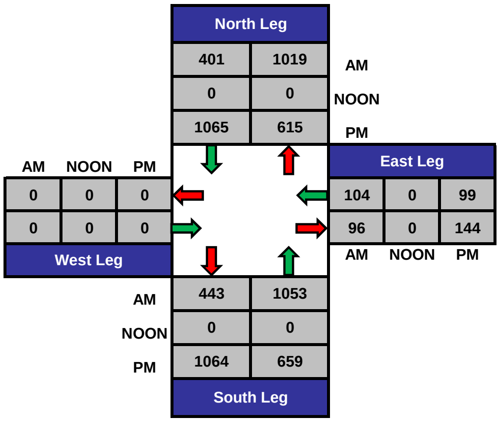
Westbound Approach

	AM	NOON	PM	Lanes
Right	41	0	39	1
Thru	0	0	0	0
Left	63	0	60	1
Exiting	96	0	144	

Northbound Approach

	Exiting	Left	Thru	Right	
AM	443	0	978	75	AM
NOON	0	0	0	0	NOON
PM	1064	0	576	83	PM
		0	2	1	Lanes

Total Ins & Outs



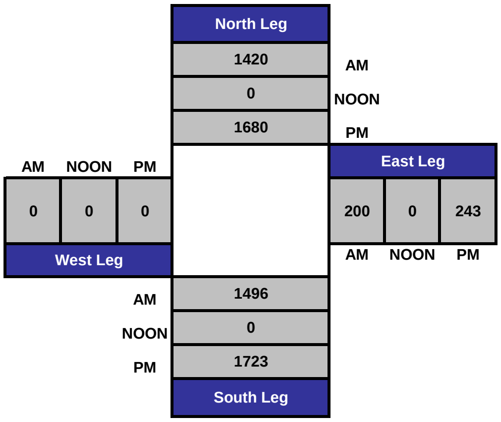
North Leg			
401	1019	AM
0	0	NOON
1065	615	PM

East Leg	AM	NOON	PM
	104	0	99
	96	0	144

West Leg	AM	NOON	PM
	0	0	0
	0	0	0

South Leg		
AM	443	1053
NOON	0	0
PM	1064	659

Total Volume Per Leg



North Leg	
1420	AM
0	NOON
1680	PM

East Leg	AM	NOON	PM
	200	0	243

West Leg	AM	NOON	PM
	0	0	0

South Leg	
AM	1496
NOON	0
PM	1723

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

54th St and El Cajon Blvd , City of San Diego

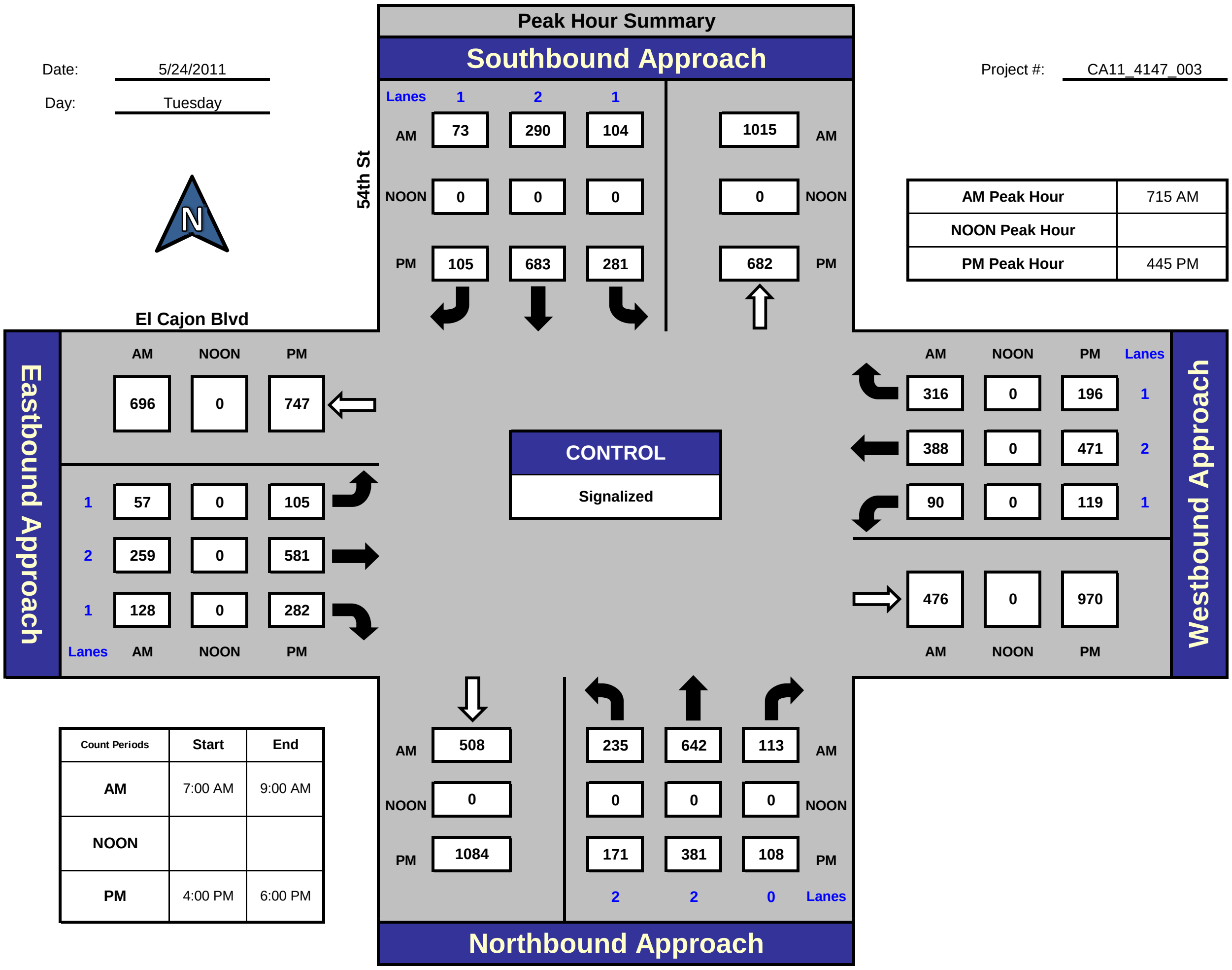
Date: 5/24/2011

Day: Tuesday

Project #: CA11_4147_003

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM



Southbound Approach

Lanes	1	2	1	
AM	73	290	104	1015
NOON	0	0	0	0
PM	105	683	281	682

Eastbound Approach

Lanes	AM	NOON	PM
	696	0	747
1	57	0	105
2	259	0	581
1	128	0	282

Westbound Approach

AM	NOON	PM	Lanes
316	0	196	1
388	0	471	2
90	0	119	1
476	0	970	

Northbound Approach

AM	508	235	642	113
NOON	0	0	0	0
PM	1084	171	381	108
Lanes		2	2	0

Total Ins & Outs

North Leg

467	1015	AM
0	0	NOON
1069	682	PM

West Leg

AM	NOON	PM
696	0	747
444	0	968

East Leg

AM	NOON	PM
794	0	786
476	0	970

South Leg

AM	508	990
NOON	0	0
PM	1084	660

Total Volume Per Leg

	North Leg	West Leg	East Leg	South Leg
AM	1482	1140	1270	1498
NOON	0	0	0	0
PM	1751	1715	1756	1744

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

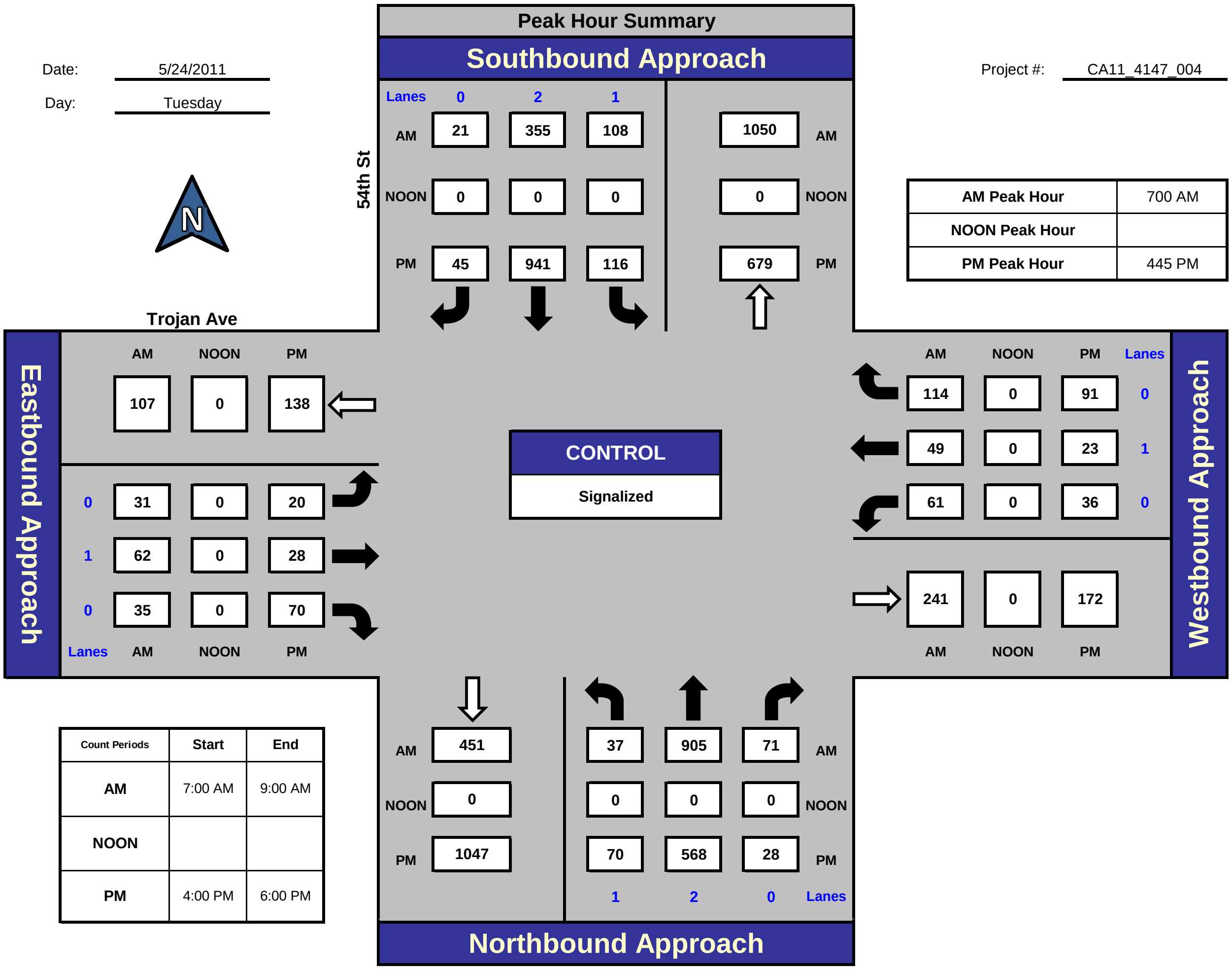
54th St and Trojan Ave , City of San Diego

Date: 5/24/2011

Day: Tuesday

Project #: CA11_4147_004

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	445 PM



Southbound Approach

Lanes	0	2	1		
AM	21	355	108	1050	AM
NOON	0	0	0	0	NOON
PM	45	941	116	679	PM

Eastbound Approach

	AM	NOON	PM
	107	0	138
0	31	0	20
1	62	0	28
0	35	0	70
Lanes	AM	NOON	PM

CONTROL

Signalized

Westbound Approach

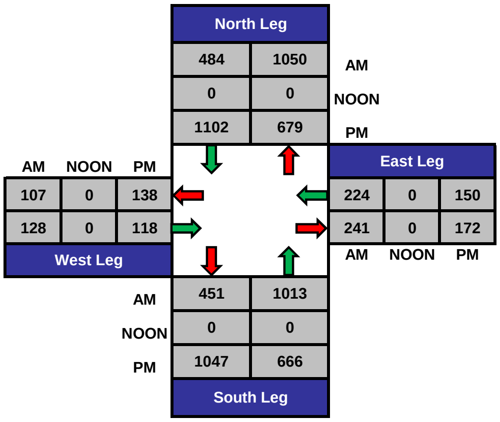
AM	NOON	PM	Lanes
114	0	91	0
49	0	23	1
61	0	36	0
241	0	172	
AM	NOON	PM	

Northbound Approach

AM	451	37	905	71	AM
NOON	0	0	0	0	NOON
PM	1047	70	568	28	PM
		1	2	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



North Leg

484	1050	AM
0	0	NOON
1102	679	PM

East Leg

AM	NOON	PM
224	0	150
241	0	172

West Leg

AM	NOON	PM
107	0	138
128	0	118

South Leg

AM	451	1013
NOON	0	0
PM	1047	666

Total Volume Per Leg

North Leg

1534	AM
0	NOON
1781	PM

East Leg

AM	NOON	PM
465	0	322

West Leg

AM	NOON	PM
235	0	256

South Leg

AM	1464
NOON	0
PM	1713

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

54th Place and Orange Ave , City of San Diego

Date: 5/24/2011

Day: Tuesday

Project #: CA11_4147_005

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Peak Hour Summary

CONTROL: 4-Way Stop

54th Place

Southbound Approach

	↲	↓	↳		⇧
Lanes	0	1	0		
AM	33	12	42	AM	46
NOON	0	0	0	NOON	0
PM	32	37	15	PM	71

Orange Ave

Eastbound Approach

	AM	NOON	PM
⇦	197	0	152

Lanes		AM	NOON	PM
0	↱	15	0	25
1	→	73	0	39
0	↴	4	0	7

Westbound Approach

	AM	NOON	PM	Lanes
↰	15	0	18	0
←	114	0	48	1
↙	8	0	8	0

	AM	NOON	PM
⇨	191	0	99

Northbound Approach

	⇩	↰	↑	↱	
AM	24	50	16	76	AM
NOON	0	0	0	0	NOON
PM	52	72	28	45	PM
		0	1	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

	⇩	⇧
AM	87	46
NOON	0	0
PM	84	71

West Leg

	AM	NOON	PM
⇦	197	0	152
⇨	92	0	71

East Leg

	AM	NOON	PM
⇦	137	0	74
⇨	191	0	99

South Leg

	⇩	⇧
AM	24	142
NOON	0	0
PM	52	145

Total Volume Per Leg

	North Leg	South Leg
AM	133	166
NOON	0	0
PM	155	197

	AM	NOON	PM
West Leg	289	0	223
East Leg	328	0	173

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Euclid Ave and University Ave , City of San Diego

Date: 5/25/2011

Day: Wednesday

Project #: CA11_4147_006

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Euclid Ave

University Ave

Peak Hour Summary

Southbound Approach

Lanes	0	1	1	
AM	38	156	35	303
NOON	0	0	0	0
PM	43	240	39	315
	↲	↓	↳	⇧

Eastbound Approach

	AM	NOON	PM	
	542	0	619	⇦

Lanes	AM	NOON	PM	
1	35	0	74	↱
2	347	0	521	→
0	32	0	87	↴

Westbound Approach

	AM	NOON	PM	Lanes
↰	59	0	39	0
←	459	0	533	2
↙	117	0	158	1

	AM	NOON	PM
⇨	488	0	695

CONTROL

Signalized

Northbound Approach

	⇩	↰	↑	↱
AM	305	45	209	106
NOON	0	0	0	0
PM	485	43	202	135
Lanes		1	1	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

	↓	↑
AM	229	303
NOON	0	0
PM	322	315

West Leg

	AM	NOON	PM
←	542	0	619
→	414	0	682

East Leg

	AM	NOON	PM
←	635	0	730
→	488	0	695

South Leg

	↓	↑
AM	305	360
NOON	0	0
PM	485	380

Total Volume Per Leg

North Leg

AM	532
NOON	0
PM	637

West Leg

AM	NOON	PM
956	0	1301

East Leg

AM	NOON	PM
1123	0	1425

South Leg

AM	665
NOON	0
PM	865

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

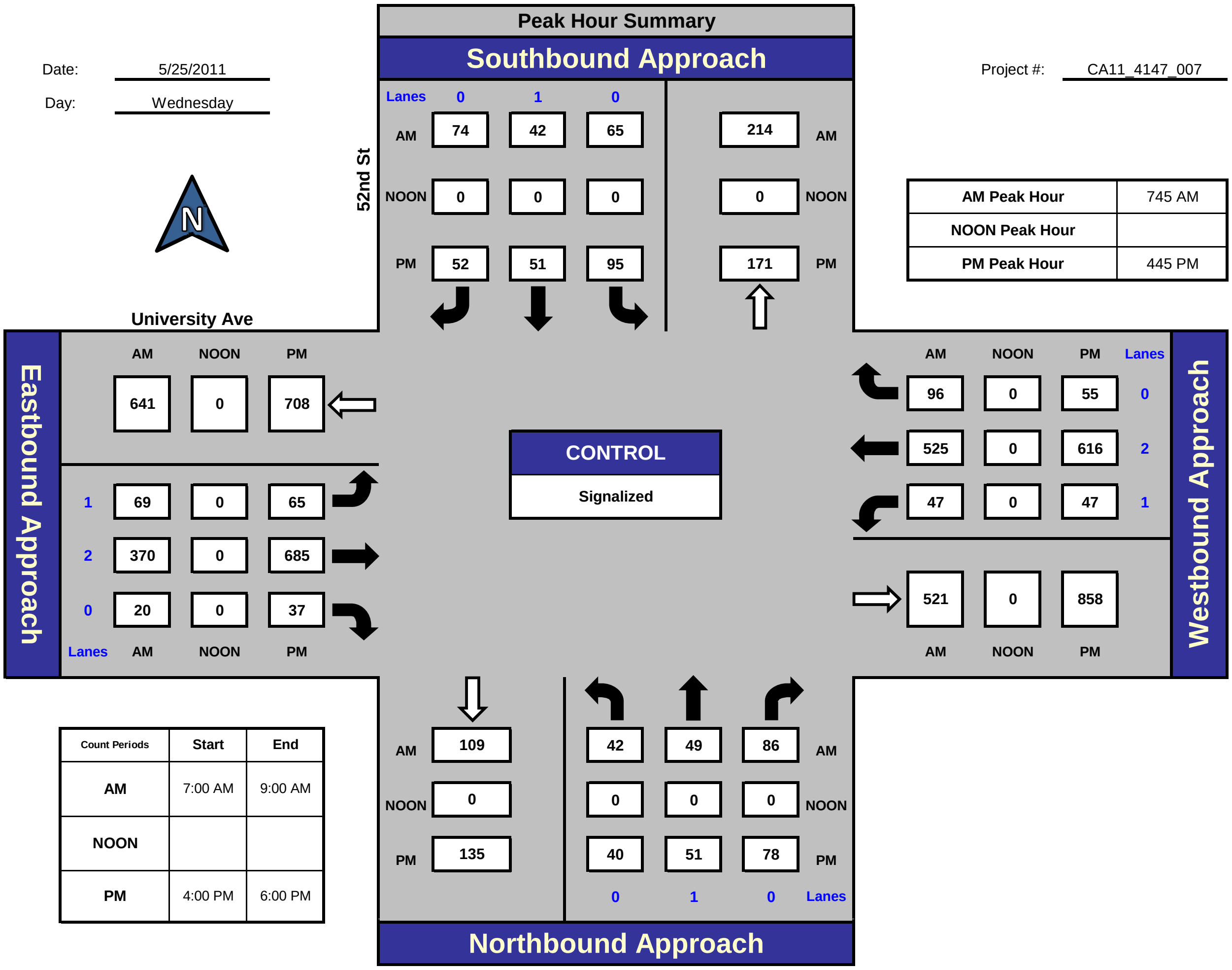
52nd St and University Ave , City of San Diego

Date: 5/25/2011

Day: Wednesday

Project #: CA11_4147_007

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM



Peak Hour Summary

52nd St

University Ave

Southbound Approach

Lanes	0	1	0		
AM	74	42	65	214	AM
NOON	0	0	0	0	NOON
PM	52	51	95	171	PM

Eastbound Approach

	AM	NOON	PM
	641	0	708
1	69	0	65
2	370	0	685
0	20	0	37
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
96	0	55	0
525	0	616	2
47	0	47	1
521	0	858	
AM	NOON	PM	

CONTROL

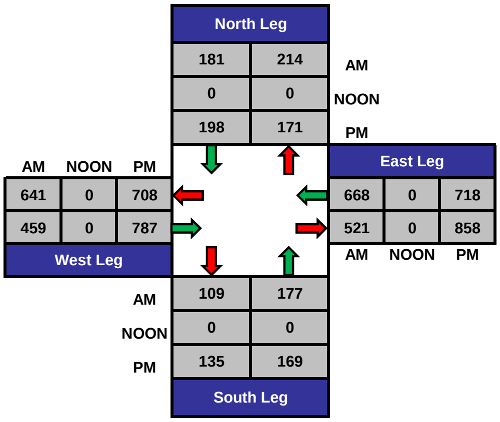
Signalized

Northbound Approach

AM	109	42	49	86	AM
NOON	0	0	0	0	NOON
PM	135	40	51	78	PM
		0	1	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



North Leg

181	214	AM
0	0	NOON
198	171	PM

East Leg

AM	NOON	PM
668	0	718
521	0	858

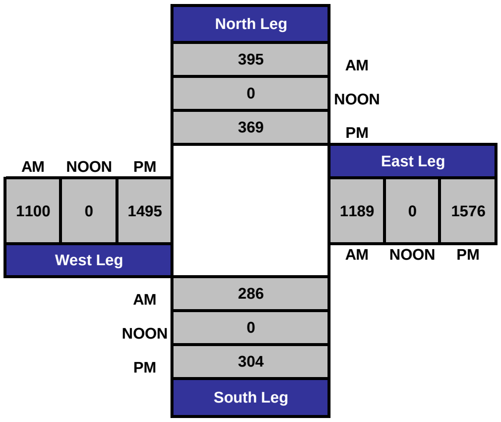
West Leg

AM	NOON	PM
641	0	708
459	0	787

South Leg

AM	109	177
NOON	0	0
PM	135	169

Total Volume Per Leg



North Leg

395	AM
0	NOON
369	PM

East Leg

AM	NOON	PM
1189	0	1576

West Leg

AM	NOON	PM
1100	0	1495

South Leg

AM	286
NOON	0
PM	304

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

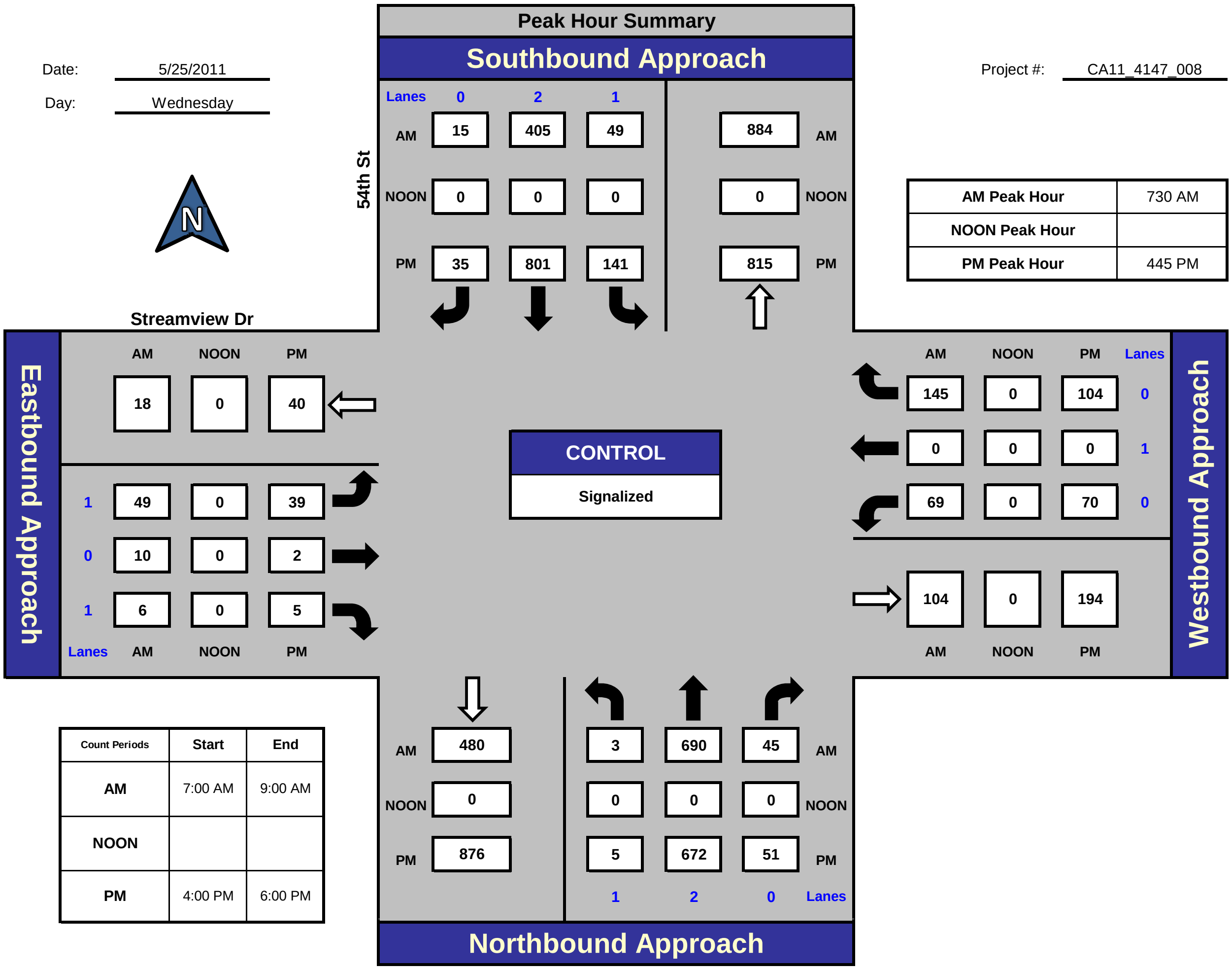
54th St and Streamview Dr , City of San Diego

Date: 5/25/2011

Day: Wednesday

Project #: CA11_4147_008

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM



Southbound Approach

Lanes	0	2	1		
AM	15	405	49	884	AM
NOON	0	0	0	0	NOON
PM	35	801	141	815	PM

Eastbound Approach

	AM	NOON	PM
	18	0	40
1	49	0	39
0	10	0	2
1	6	0	5
Lanes	AM	NOON	PM

CONTROL

Signalized

Westbound Approach

AM	NOON	PM	Lanes
145	0	104	0
0	0	0	1
69	0	70	0
104	0	194	
AM	NOON	PM	

Northbound Approach

AM	480	3	690	45	AM
NOON	0	0	0	0	NOON
PM	876	5	672	51	PM
		1	2	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

469	884	AM
0	0	NOON
977	815	PM

West Leg

AM	NOON	PM
18	0	40
65	0	46

East Leg

AM	NOON	PM
214	0	174
104	0	194

South Leg

AM	480	738
NOON	0	0
PM	876	728

Total Volume Per Leg

North Leg

1353	AM
0	NOON
1792	PM

West Leg

AM	NOON	PM
83	0	86

East Leg

AM	NOON	PM
318	0	368

South Leg

AM	1218
NOON	0
PM	1604

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

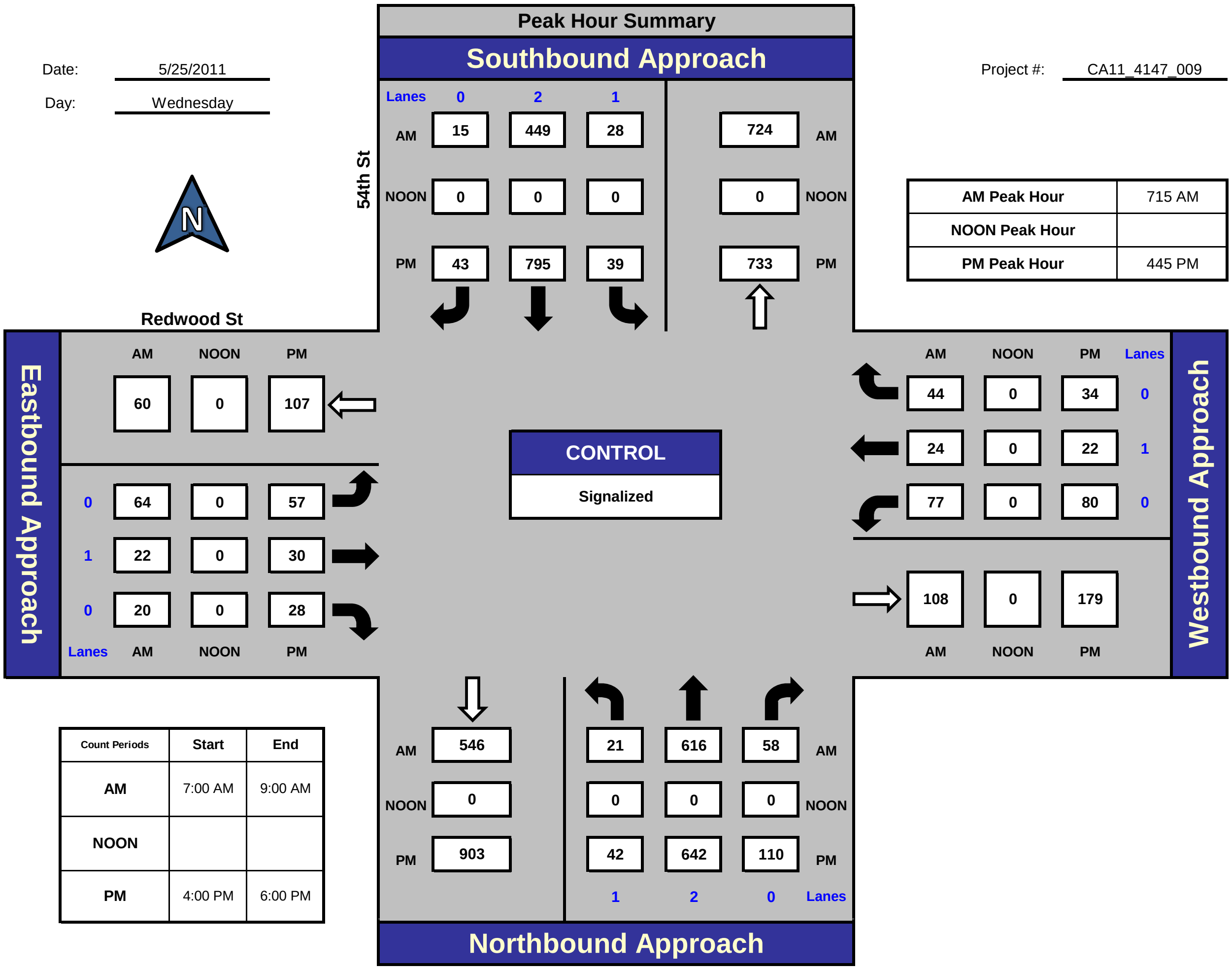
54th St and Redwood St , City of San Diego

Date: 5/25/2011

Day: Wednesday

Project #: CA11_4147_009

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM



Peak Hour Summary

Southbound Approach (54th St)

Lanes	0	2	1	
AM	15	449	28	724
NOON	0	0	0	0
PM	43	795	39	733

Eastbound Approach (Redwood St)

	AM	NOON	PM
	60	0	107
0	64	0	57
1	22	0	30
0	20	0	28

Westbound Approach

AM	NOON	PM	Lanes
44	0	34	0
24	0	22	1
77	0	80	0
108	0	179	

CONTROL

Signalized

Northbound Approach

AM	546	21	616	58
NOON	0	0	0	0
PM	903	42	642	110
		1	2	0

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

492	724	AM
0	0	NOON
877	733	PM

West Leg

AM	NOON	PM
60	0	107
106	0	115

East Leg

AM	NOON	PM
145	0	136
108	0	179

South Leg

AM	546	695
NOON	0	0
PM	903	794

Total Volume Per Leg

North Leg

1216	AM
0	NOON
1610	PM

West Leg

AM	NOON	PM
166	0	222

East Leg

AM	NOON	PM
253	0	315

South Leg

AM	1241
NOON	0
PM	1697

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

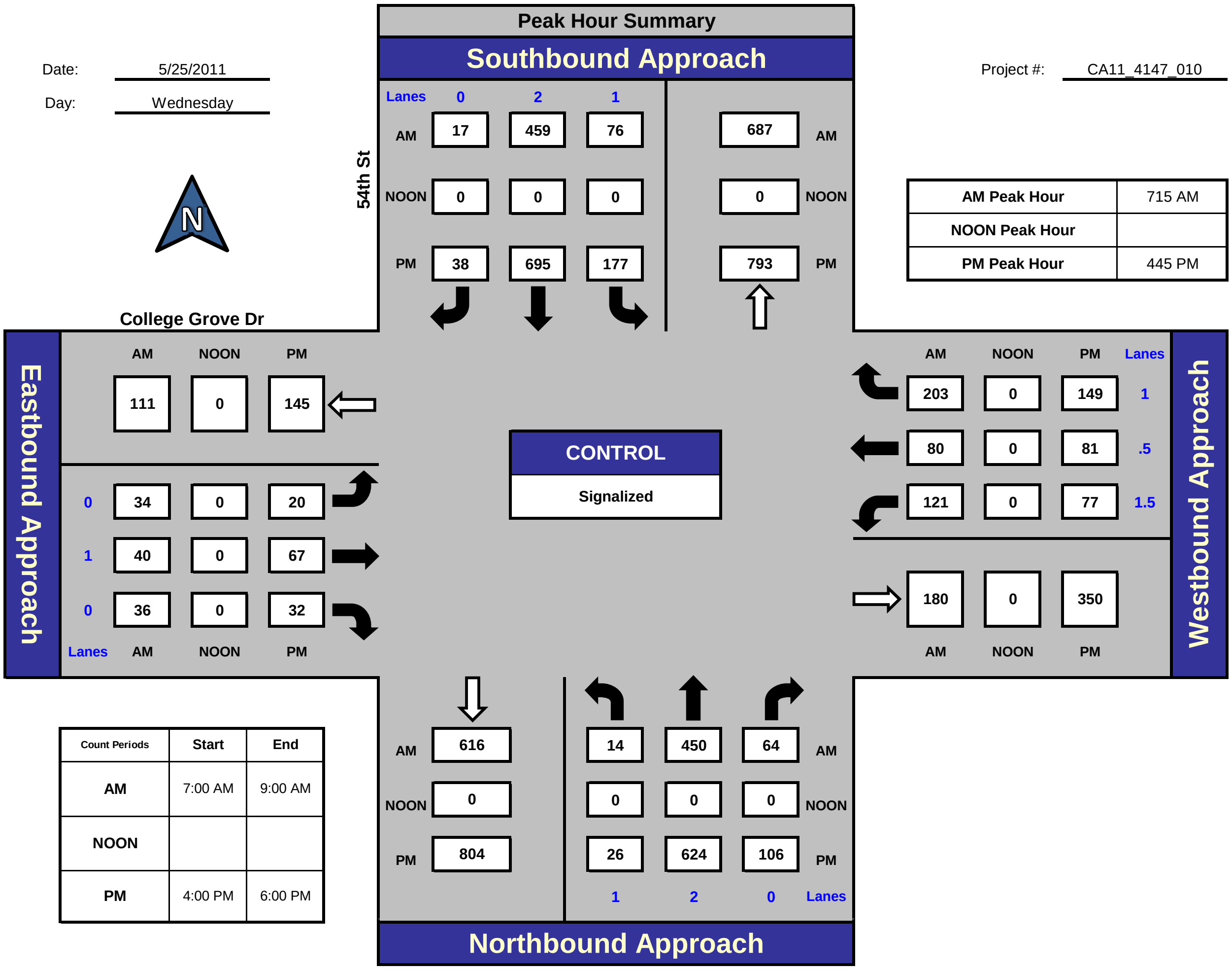
54th St and College Grove Dr , City of San Diego

Date: 5/25/2011

Day: Wednesday

Project #: CA11_4147_010

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM



Peak Hour Summary

Southbound Approach

54th St

Lanes	0	2	1		
AM	17	459	76	687	AM
NOON	0	0	0	0	NOON
PM	38	695	177	793	PM

College Grove Dr

Eastbound Approach

	AM	NOON	PM
	111	0	145
0	34	0	20
1	40	0	67
0	36	0	32
Lanes	AM	NOON	PM

CONTROL

Signalized

Westbound Approach

AM	NOON	PM	Lanes
203	0	149	1
80	0	81	.5
121	0	77	1.5
180	0	350	
AM	NOON	PM	

Northbound Approach

AM	616	14	450	64	AM
NOON	0	0	0	0	NOON
PM	804	26	624	106	PM
		1	2	0	Lanes

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

North Leg

AM	552	687	
NOON	0	0	
PM	910	793	

West Leg

AM	NOON	PM
111	0	145
110	0	119

East Leg

AM	NOON	PM
404	0	307
180	0	350

South Leg

AM	616	528
NOON	0	0
PM	804	756

Total Volume Per Leg

North Leg

AM	1239
NOON	0
PM	1703

West Leg

AM	NOON	PM
221	0	264

East Leg

AM	NOON	PM
584	0	657

South Leg

AM	1144
NOON	0
PM	1560

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

DATE: 12/1/10 WEDNESDAY	LOCATION:	SAN DIEGO	PROJECT #:	CA10-1203-03
	NORTH & SOUTH:	54TH	LOCATION #:	1
	EAST & WEST:	UNIVERSITY	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
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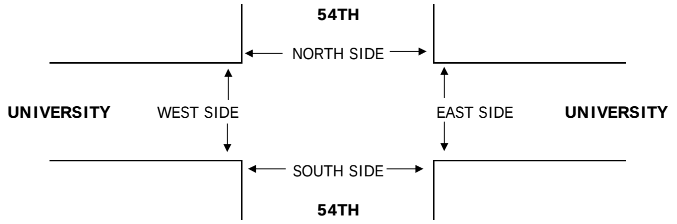
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
		54TH			54TH			UNIVERSITY			UNIVERSITY			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	1	2	3	1	1	2	1	1	2	1	
AM	6:30 AM	25	122	8	23	44	10	34	41	15	8	43	54	427
	6:45 AM	18	124	6	23	46	19	42	53	19	8	44	69	471
	7:00 AM	24	172	7	36	70	59	78	47	26	16	55	86	676
	7:15 AM	29	153	5	38	90	65	39	54	32	12	68	65	650
	7:30 AM	42	194	9	55	88	67	48	50	26	15	104	84	782
	7:45 AM	61	153	7	40	73	31	28	68	18	11	98	93	681
	8:00 AM	35	142	9	48	64	43	29	85	19	7	119	74	674
	8:15 AM	50	104	8	42	74	34	28	101	23	11	98	69	642
	8:30 AM	62	103	5	40	75	26	27	88	34	6	97	84	647
	8:45 AM	58	116	10	52	60	28	32	75	28	8	92	70	629
	VOLUMES	404	1,383	74	397	684	382	385	662	240	102	818	748	6,279
	APPROACH %	22%	74%	4%	27%	47%	26%	30%	51%	19%	6%	49%	45%	
	APP/DEPART	1,861	/	2,516	1,463	/	1,026	1,287	/	1,133	1,668	/	1,604	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	156	672	28	169	321	222	193	219	102	54	325	328	2,789
	APPROACH %	18%	79%	3%	24%	45%	31%	38%	43%	20%	8%	46%	46%	
	PEAK HR FACTOR		0.873			0.848			0.851			0.871		0.892
	APP/DEPART	856	/	1,193	712	/	477	514	/	416	707	/	703	0
PM	3:30 PM	33	72	9	90	118	30	23	126	36	23	110	58	728
	3:45 PM	40	85	18	95	138	28	28	142	42	20	135	69	840
	4:00 PM	42	105	11	111	129	35	26	131	48	28	124	63	853
	4:15 PM	49	126	15	96	148	33	39	155	51	25	121	74	932
	4:30 PM	49	111	10	63	120	55	31	170	66	47	157	80	959
	4:45 PM	61	120	18	140	162	48	28	162	68	33	142	72	1,054
	5:00 PM	58	96	15	141	159	45	29	167	67	26	127	84	1,014
	5:15 PM	55	104	18	133	151	36	38	148	53	22	142	73	973
	5:30 PM	54	105	9	129	165	30	36	148	56	30	103	66	931
	5:45 PM	55	80	12	132	182	33	30	139	50	26	112	70	921
	VOLUMES	496	1,004	135	1,130	1,472	373	308	1,488	537	280	1,273	709	9,205
	APPROACH %	30%	61%	8%	38%	49%	13%	13%	64%	23%	12%	56%	31%	
	APP/DEPART	1,635	/	2,021	2,975	/	2,289	2,333	/	2,753	2,262	/	2,142	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	223	431	61	477	592	184	126	647	254	128	568	309	4,000
	APPROACH %	31%	60%	9%	38%	47%	15%	12%	63%	25%	13%	57%	31%	
	PEAK HR FACTOR		0.898			0.895			0.962			0.885		0.949
	APP/DEPART	715	/	866	1,253	/	974	1,027	/	1,185	1,005	/	975	0

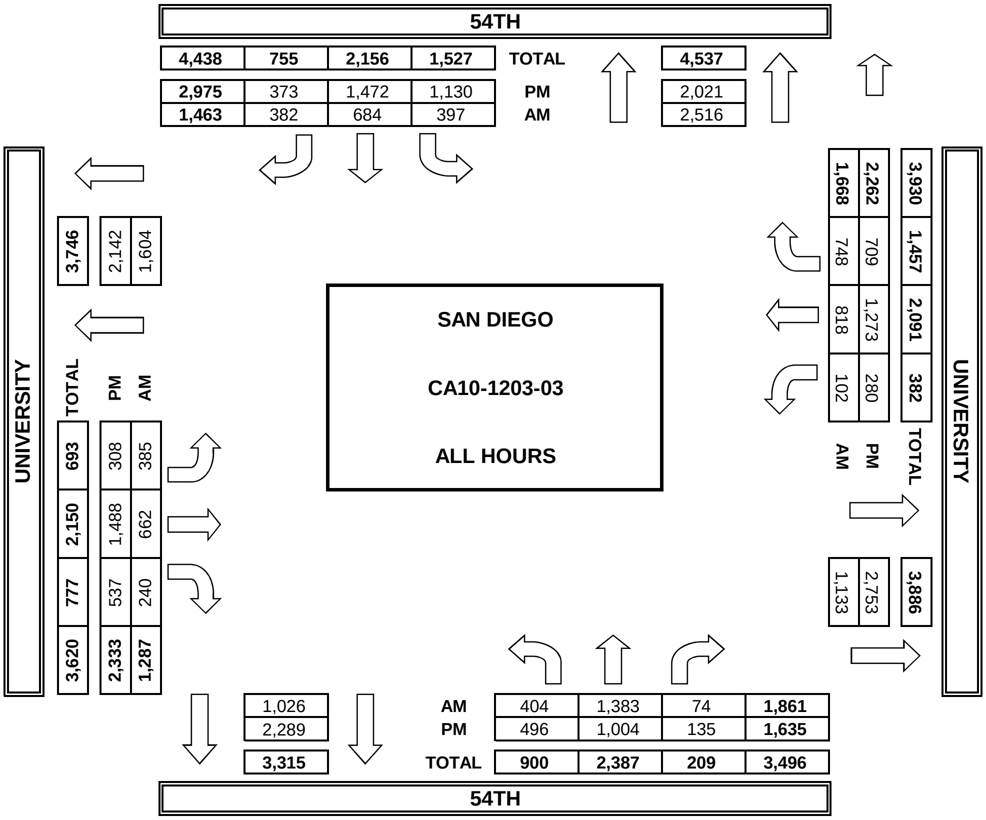
U-TURNS					
	NB	SB	EB	WB	TTL
	X	X	X	X	
6:30 AM					0
6:45 AM					0
7:00 AM					0
7:15 AM					0
7:30 AM					0
7:45 AM					0
8:00 AM					0
8:15 AM					0
8:30 AM					0
8:45 AM					0
VOLUMES	0	0	0	0	0
3:30 PM		4			4
3:45 PM		3			3
4:00 PM		7			7
4:15 PM		10			10
4:30 PM		12			12
4:45 PM		18			18
5:00 PM		9			9
5:15 PM		8			8
5:30 PM		7			7
5:45 PM		8			8
VOLUMES	0	86	0	0	86

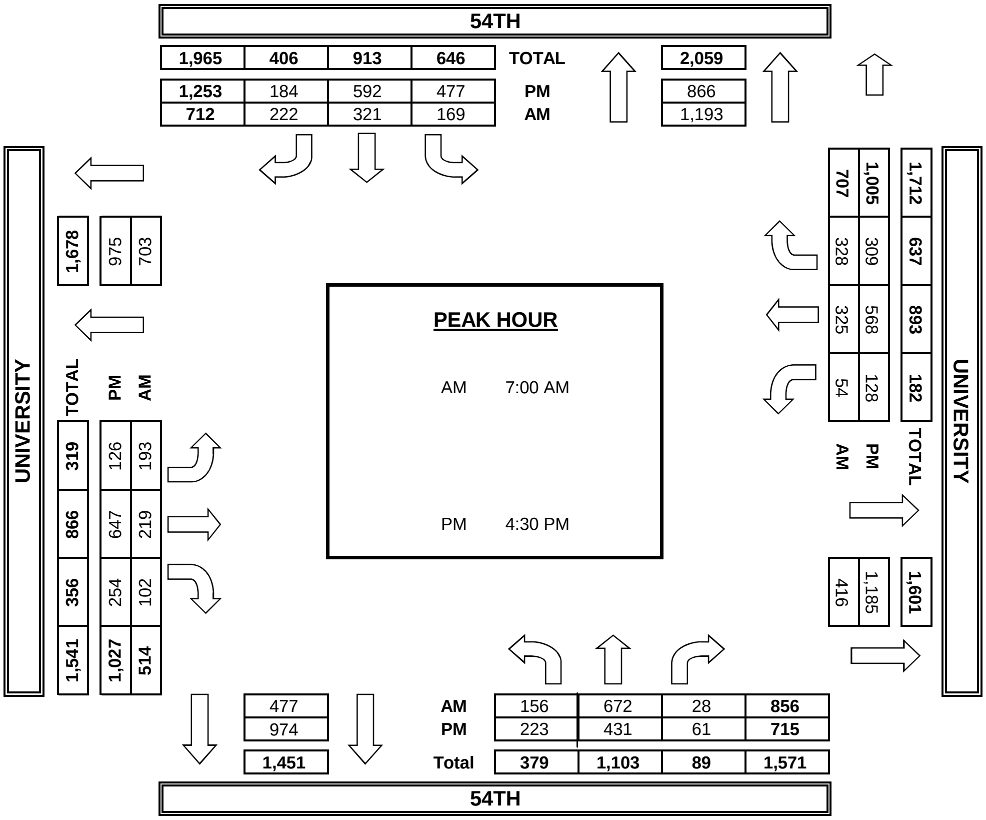


		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	6:30 AM	4	9	8	6	27					0	1	2	0	0	3
	6:45 AM	6	11	16	4	37					0	2	2	2	1	7
	7:00 AM	8	15	22	8	53					0	1	3	3	2	9
	7:15 AM	5	11	18	10	44					0	1	1	1	0	3
	7:30 AM	7	16	16	9	48					0	0	1	0	2	3
	7:45 AM	5	15	19	5	44					0	2	2	2	0	6
	8:00 AM	9	12	15	4	40					0	0	0	1	0	1
	8:15 AM	9	9	11	5	34					0	1	2	3	3	9
	8:30 AM	10	8	9	4	31					0	1	0	4	0	5
	8:45 AM	7	4	5	5	21					0	2	1	1	2	6
	TOTAL	70	110	139	60	379	0	0	0	0	0	11	14	17	10	52
PM	3:30 PM	5	7	3	4	19					0	0	4	5	6	15
	3:45 PM	4	8	6	8	26					0	2	2	4	0	8
	4:00 PM	9	9	5	8	31					0	1	0	1	1	3
	4:15 PM	6	15	5	9	35					0	6	1	1	2	10
	4:30 PM	12	18	4	10	44					0	5	2	0	2	9
	4:45 PM	7	5	9	5	26					0	0	2	5	0	7
	5:00 PM	5	7	6	9	27					0	1	4	1	5	11
	5:15 PM	4	12	8	6	30					0	5	1	0	0	6
	5:30 PM	2	13	4	5	24					0	2	5	2	2	11
	5:45 PM	1	9	5	4	19					0	2	0	3	2	7
	TOTAL	55	103	55	68	281	0	0	0	0	0	24	21	22	20	87

PACIFIC TRAFFIC DATA SERVICES

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

DATE: 12/1/10 WEDNESDAY	LOCATION:	SAN DIEGO	PROJECT #:	CA10-1203-03
	NORTH & SOUTH:	CHOLLAS	LOCATION #:	2
	EAST & WEST:	UNIVERSITY	CONTROL:	SIGNAL

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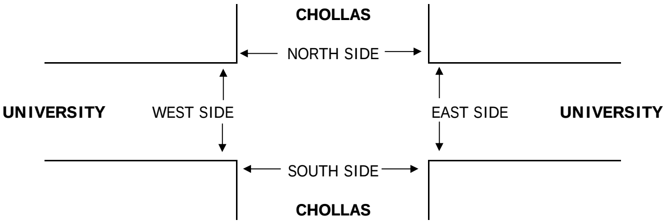
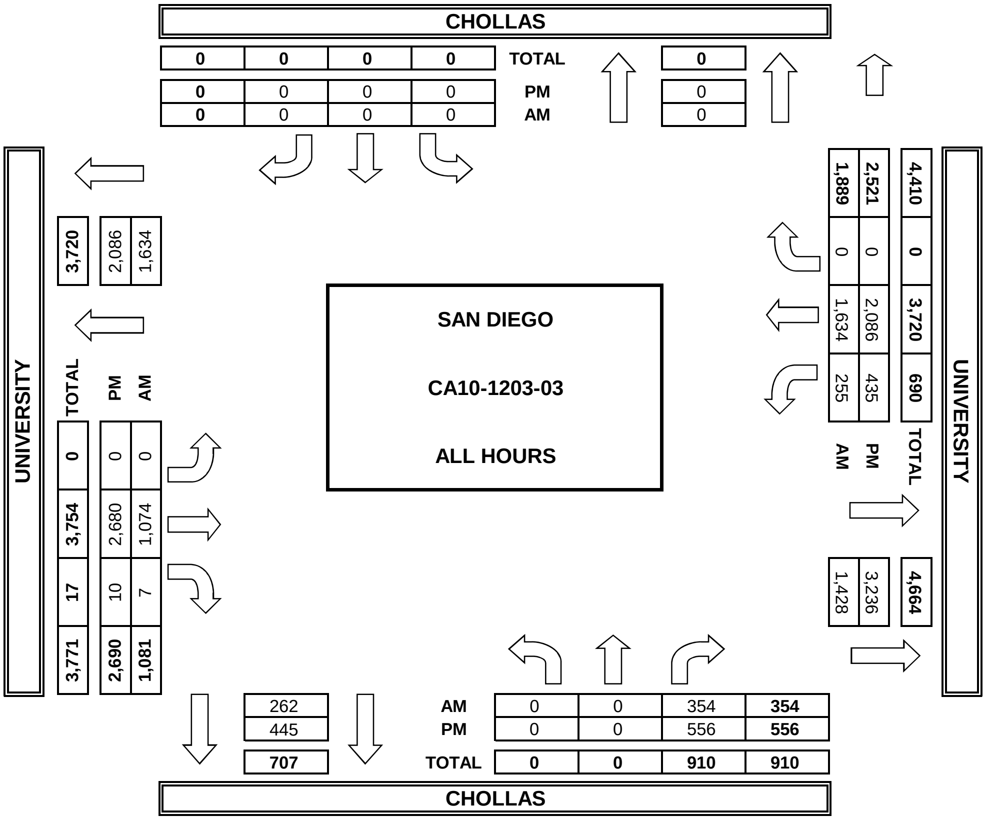
	NORTHBOUND CHOLLAS			SOUTHBOUND CHOLLAS			EASTBOUND UNIVERSITY			WESTBOUND UNIVERSITY				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	X	X	1	X	X	X	X	2	0	1	2	X		X	X	X	X	
AM 6:30 AM			22					58	0	22	121		223					0
6:45 AM			24					67	0	16	134		241					0
7:00 AM			24					87	1	27	169		308					0
7:15 AM			34					80	2	23	144		283					0
7:30 AM			31					105	0	29	180		345					0
7:45 AM			36					77	0	25	169		307					0
8:00 AM			33					136	1	28	216		414					0
8:15 AM			52					143	0	26	186		407					0
8:30 AM			45					167	1	32	165		410					0
8:45 AM			53					154	2	27	150		386					0
VOLUMES	0	0	354	0	0	0	0	1,074	7	255	1,634	0	3,324	0	0	0	0	0
APPROACH %	0%	0%	100%	0%	0%	0%	0%	99%	1%	13%	87%	0%						
APP/DEPART	354	/	0	0	/	262	1,081	/	1,428	1,889	/	1,634	0					
BEGIN PEAK HR		8:00 AM																
VOLUMES	0	0	183	0	0	0	0	600	4	113	717	0	1,617					
APPROACH %	0%	0%	100%	0%	0%	0%	0%	99%	1%	14%	86%	0%						
PEAK HR FACTOR		0.863			0.000			0.899			0.850		0.976					
APP/DEPART	183	/	0	0	/	117	604	/	783	830	/	717	0					
PM 3:30 PM			54					260	0	40	190		544					0
3:45 PM			59					261	0	48	221		589					0
4:00 PM			59					257	1	43	211		571					0
4:15 PM			46					242	2	36	213		539					0
4:30 PM			61					264	1	41	211		578					0
4:45 PM			56					292	3	40	192		583					0
5:00 PM			64					277	0	44	245		630					0
5:15 PM			56					273	1	45	223		598					0
5:30 PM			52					287	2	55	188		584					0
5:45 PM			49					267	0	43	192		551					0
VOLUMES	0	0	556	0	0	0	0	2,680	10	435	2,086	0	5,767	0	0	0	0	0
APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	17%	83%	0%						
APP/DEPART	556	/	0	0	/	445	2,690	/	3,236	2,521	/	2,086	0					
BEGIN PEAK HR		4:45 PM																
VOLUMES	0	0	228	0	0	0	0	1,129	6	184	848	0	2,395					
APPROACH %	0%	0%	100%	0%	0%	0%	0%	99%	1%	18%	82%	0%						
PEAK HR FACTOR		0.891			0.000			0.962			0.893		0.950					
APP/DEPART	228	/	0	0	/	190	1,135	/	1,357	1,032	/	848	0					

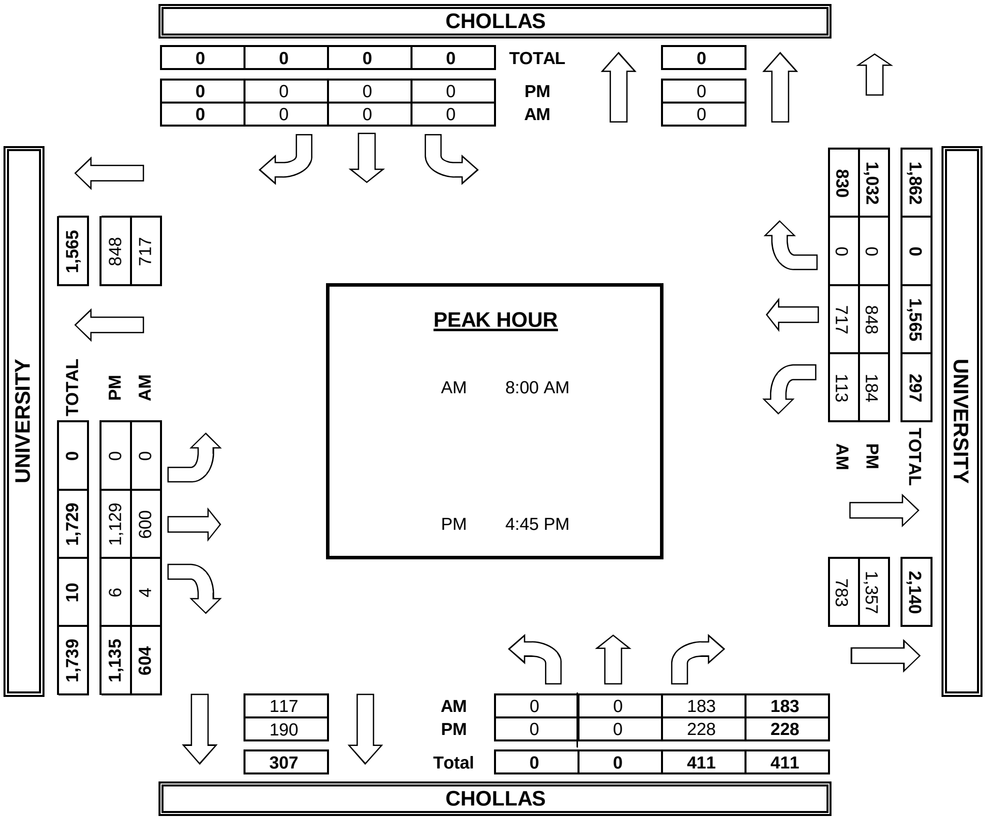


	PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 6:30 AM	0	0	0	1	1					0	0	2	0	0	2
6:45 AM	0	0	0	0	0					0	0	1	0	0	1
7:00 AM	0	0	0	2	2					0	1	0	0	0	1
7:15 AM	0	2	1	0	3					0	2	2	0	0	4
7:30 AM	0	3	0	0	3					0	2	0	0	0	2
7:45 AM	0	4	2	3	9					0	4	2	0	0	6
8:00 AM	0	1	0	2	3					0	1	3	0	0	4
8:15 AM	0	3	1	1	5					0	0	1	0	1	2
8:30 AM	0	5	0	0	5					0	2	1	0	0	3
8:45 AM	0	3	0	0	3					0	4	0	0	0	4
TOTAL	0	21	4	9	34	0	0	0	0	0	16	12	0	1	29
PM 3:30 PM	0	1	2	1	4					0	2	2	0	0	4
3:45 PM	0	3	0	0	3					0	1	1	0	0	2
4:00 PM	0	7	0	0	7					0	3	4	0	0	7
4:15 PM	0	8	3	2	13					0	2	5	0	0	7
4:30 PM	0	14	1	2	17					0	4	3	0	0	7
4:45 PM	0	5	3	4	12					0	5	0	0	0	5
5:00 PM	0	7	3	0	10					0	3	3	0	0	6
5:15 PM	0	5	2	1	8					0	4	4	0	0	8
5:30 PM	0	3	0	1	4					0	2	3	0	0	5
5:45 PM	0	2	0	2	4					0	1	1	0	0	2
TOTAL	0	55	14	13	82	0	0	0	0	0	27	26	0	0	53

PACIFIC TRAFFIC DATA SERVICES

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

DATE: 12/1/10 WEDNESDAY	LOCATION:	SAN DIEGO	PROJECT #:	CA10-1203-03
	NORTH & SOUTH:	58TH	LOCATION #:	3
	EAST & WEST:	UNIVERSITY	CONTROL:	SIGNAL

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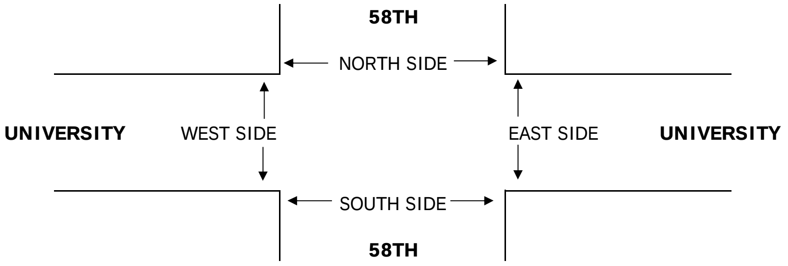
		NORTHBOUND 58TH			SOUTHBOUND 58TH			EASTBOUND UNIVERSITY			WESTBOUND UNIVERSITY			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	1	3	1	1	2	1	
AM	6:30 AM	41	18	16	7	8	12	10	56	18	7	77	12	282
	6:45 AM	45	13	28	5	7	13	9	63	13	3	88	18	305
	7:00 AM	60	26	11	11	18	21	18	72	17	5	117	16	392
	7:15 AM	48	12	18	8	7	16	9	108	16	8	99	9	358
	7:30 AM	67	12	24	4	9	16	4	112	23	13	133	7	424
	7:45 AM	47	9	21	12	2	11	8	95	28	12	146	10	401
	8:00 AM	56	12	26	8	5	18	7	123	33	10	162	12	472
	8:15 AM	62	15	21	9	8	20	9	162	26	13	131	16	492
	8:30 AM	51	22	20	12	9	16	12	158	30	10	128	5	473
	8:45 AM	48	18	16	11	7	19	11	165	25	7	132	12	471
	VOLUMES	525	157	201	87	80	162	97	1,114	229	88	1,213	117	4,070
	APPROACH %	59%	18%	23%	26%	24%	49%	7%	77%	16%	6%	86%	8%	
	APP/DEPART	883	/	371	329	/	397	1,440	/	1,402	1,418	/	1,900	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	217	67	83	40	29	73	39	608	114	40	553	45	1,908
	APPROACH %	59%	18%	23%	28%	20%	51%	5%	80%	15%	6%	87%	7%	
	PEAK HR FACTOR		0.936			0.959			0.947			0.867		0.970
	APP/DEPART	367	/	151	142	/	183	761	/	731	638	/	843	0
PM	3:30 PM	30	4	17	10	4	10	15	238	55	13	181	5	582
	3:45 PM	34	5	22	12	3	8	17	246	50	22	217	9	645
	4:00 PM	36	4	23	14	9	12	19	227	57	19	189	6	615
	4:15 PM	55	3	21	6	6	10	23	223	77	18	202	15	659
	4:30 PM	49	7	20	6	4	12	11	261	58	13	200	13	654
	4:45 PM	46	8	29	9	6	13	22	232	71	12	201	7	656
	5:00 PM	60	7	21	10	5	16	19	256	62	14	189	11	670
	5:15 PM	55	8	18	11	7	12	22	276	56	20	213	12	710
	5:30 PM	39	7	12	6	9	15	15	265	60	22	159	10	619
	5:45 PM	40	6	17	12	9	11	12	245	56	18	176	9	611
	VOLUMES	444	59	200	96	62	119	175	2,469	602	171	1,927	97	6,421
	APPROACH %	63%	8%	28%	35%	22%	43%	5%	76%	19%	8%	88%	4%	
	APP/DEPART	703	/	331	277	/	835	3,246	/	2,765	2,195	/	2,490	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	210	30	88	36	22	53	74	1,025	247	59	803	43	2,690
	APPROACH %	64%	9%	27%	32%	20%	48%	5%	76%	18%	7%	89%	5%	
	PEAK HR FACTOR		0.932			0.895			0.951			0.923		0.947
	APP/DEPART	328	/	147	111	/	328	1,346	/	1,149	905	/	1,066	0

U-TURNS						
		NB	SB	EB	WB	TTL
		X	X	X	X	
AM	6:30 AM					0
	6:45 AM					0
	7:00 AM					0
	7:15 AM					0
	7:30 AM					0
	7:45 AM					0
	8:00 AM					0
	8:15 AM					0
	8:30 AM					0
	8:45 AM					0
	VOLUMES	0	0	0	0	0
PM	3:30 PM					0
	3:45 PM					0
	4:00 PM					0
	4:15 PM					0
	4:30 PM					0
	4:45 PM					0
	5:00 PM					0
	5:15 PM					0
	5:30 PM					0
	5:45 PM					0
	VOLUMES	0	0	0	0	0



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	6:30 AM	1	2	1	2	6					0	0	1	0	0	1
	6:45 AM	0	1	2	2	5					0	0	0	0	0	0
	7:00 AM	1	0	4	2	7					0	0	0	0	0	0
	7:15 AM	2	0	4	2	8					0	1	0	1	1	3
	7:30 AM	1	2	3	3	9					0	2	0	0	0	2
	7:45 AM	4	1	5	4	14					0	0	2	0	0	2
	8:00 AM	1	5	4	3	13					0	2	0	0	0	2
	8:15 AM	5	0	5	1	11					0	1	0	0	1	2
	8:30 AM	2	2	3	1	8					0	3	0	0	0	3
	8:45 AM	2	4	6	2	14					0	2	2	1	0	5
	TOTAL	19	17	37	22	95	0	0	0	0	0	11	5	2	2	20
PM	3:30 PM	6	3	8	2	19					0	0	0	0	0	0
	3:45 PM	2	2	5	1	10					0	1	0	0	1	2
	4:00 PM	5	1	12	3	21					0	1	0	1	0	2
	4:15 PM	7	3	9	1	20					0	0	0	0	0	0
	4:30 PM	7	3	15	4	29					0	0	2	0	2	4
	4:45 PM	4	4	7	3	18					0	0	0	0	0	0
	5:00 PM	4	6	12	2	24					0	2	0	0	1	3
	5:15 PM	2	2	3	1	8					0	0	0	0	0	0
	5:30 PM	2	4	8	4	18					0	2	2	0	0	4
	5:45 PM	5	2	6	3	16					0	1	0	1	2	4
	TOTAL	44	30	85	24	183	0	0	0	0	0	7	4	2	6	19

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

DATE:	LOCATION:	SAN DIEGO	PROJECT #:	CA10-1203-03
12/1/10	NORTH & SOUTH:	60TH	LOCATION #:	5
WEDNESDAY	EAST & WEST:	UNIVERSITY	CONTROL:	SIGNAL

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		NORTHBOUND 60TH			SOUTHBOUND 60TH			EASTBOUND UNIVERSITY			WESTBOUND UNIVERSITY			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	1	3	0	1	2	0	
AM	6:30 AM	6	1	0	3	2	1	0	79	4	2	72	1	171
	6:45 AM	5	0	1	4	2	1	0	84	3	1	98	1	200
	7:00 AM	1	1	3	6	0	2	1	82	3	3	122	1	225
	7:15 AM	8	0	3	4	0	2	0	110	4	2	109	3	245
	7:30 AM	14	0	8	7	3	3	0	122	3	5	152	1	318
	7:45 AM	13	1	5	7	0	2	2	155	4	18	184	2	393
	8:00 AM	15	0	4	5	1	5	0	121	9	5	178	1	344
	8:15 AM	14	0	2	1	1	0	0	140	10	4	139	3	314
	8:30 AM	16	0	9	4	0	2	1	185	5	4	152	2	380
	8:45 AM	13	0	3	2	0	0	1	147	8	3	138	0	315
	VOLUMES	105	3	38	43	9	18	5	1,225	53	47	1,344	15	2,905
	APPROACH %	72%	2%	26%	61%	13%	26%	0%	95%	4%	3%	96%	1%	
	APP/DEPART	146	/	23	70	/	109	1,283	/	1,306	1,406	/	1,467	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	58	1	20	17	2	9	3	601	28	31	653	8	1,431
	APPROACH %	73%	1%	25%	61%	7%	32%	0%	95%	4%	4%	94%	1%	
	PEAK HR FACTOR		0.790			0.636			0.827			0.848		0.910
	APP/DEPART	79	/	12	28	/	61	632	/	638	692	/	720	0
PM	3:30 PM	6	0	10	4	0	2	7	270	14	15	155	4	487
	3:45 PM	10	0	4	4	1	4	3	251	10	11	184	6	488
	4:00 PM	8	1	5	0	0	1	2	224	10	16	219	1	487
	4:15 PM	12	2	12	5	0	4	6	240	10	18	219	5	533
	4:30 PM	11	0	11	6	0	2	3	259	14	5	196	4	511
	4:45 PM	5	0	8	3	1	4	4	231	20	18	187	5	486
	5:00 PM	9	1	10	6	0	4	1	250	14	14	191	4	504
	5:15 PM	9	0	8	2	1	4	2	250	11	8	209	7	511
	5:30 PM	12	0	7	6	1	2	2	251	15	13	184	5	498
	5:45 PM	6	0	5	4	0	0	4	230	11	8	195	4	467
	VOLUMES	88	4	80	40	4	27	34	2,456	129	126	1,939	45	4,972
	APPROACH %	51%	2%	47%	56%	6%	38%	1%	94%	5%	6%	92%	2%	
	APP/DEPART	172	/	83	71	/	259	2,619	/	2,576	2,110	/	2,054	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	37	3	41	20	1	14	14	980	58	55	793	18	2,034
	APPROACH %	46%	4%	51%	57%	3%	40%	1%	93%	6%	6%	92%	2%	
	PEAK HR FACTOR		0.779			0.875			0.953			0.895		0.954
	APP/DEPART	81	/	35	35	/	114	1,052	/	1,041	866	/	844	0

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
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				0
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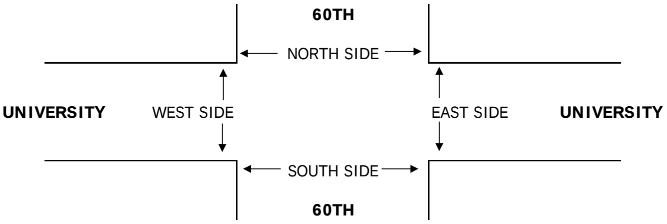
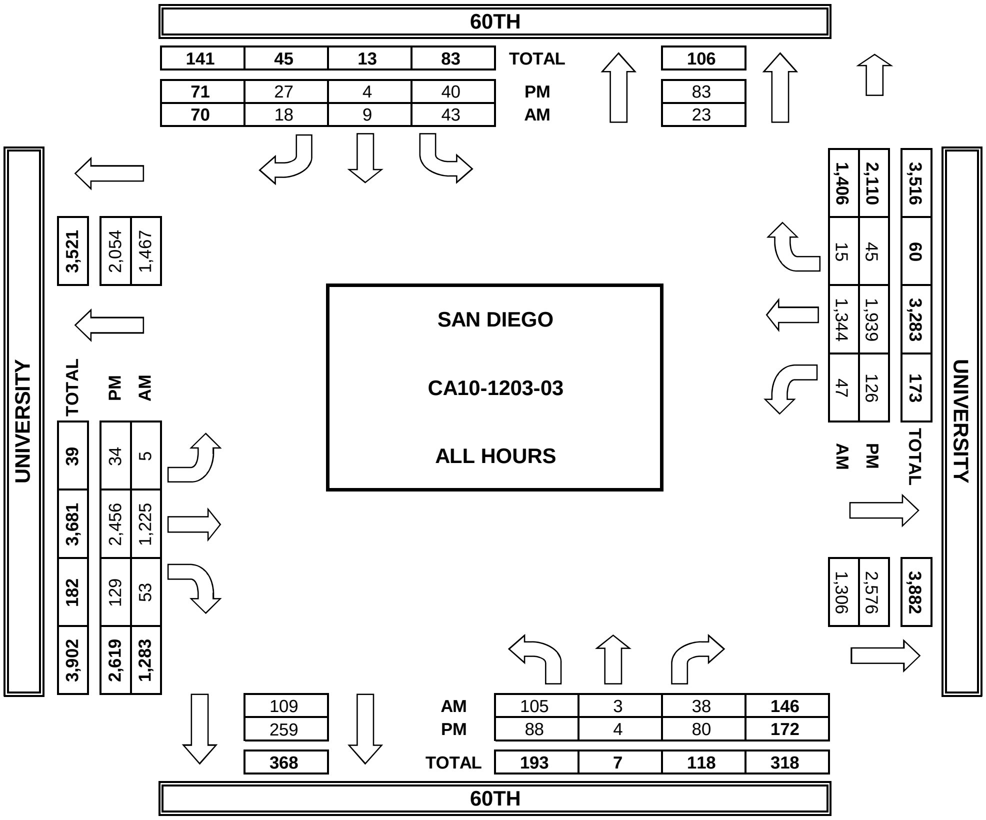
				0
				0
				0
				0
0	0	0	0	0



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	6:30 AM	0	0	0	0	0					0	0	0	0	0	0
	6:45 AM	0	0	3	0	3					0	1	0	0	0	1
	7:00 AM	0	0	1	0	1					0	1	1	0	0	2
	7:15 AM	0	2	2	0	4					0	2	0	0	0	2
	7:30 AM	2	0	4	2	8					0	0	0	0	0	0
	7:45 AM	0	0	6	2	8					0	1	1	0	0	2
	8:00 AM	0	1	2	2	5					0	3	1	0	1	5
	8:15 AM	1	2	3	0	6					0	1	2	1	0	4
	8:30 AM	0	1	2	0	3					0	0	0	0	0	0
	8:45 AM	1	1	2	0	4					0	1	1	0	0	2
	TOTAL	4	7	25	6	42	0	0	0	0	0	10	6	1	1	18
PM	3:30 PM	1	2	4	4	11					0	0	0	0	0	0
	3:45 PM	1	6	3	1	11					0	0	1	0	1	2
	4:00 PM	0	1	3	3	7					0	0	0	0	0	0
	4:15 PM	1	3	3	1	8					0	2	0	0	0	2
	4:30 PM	0	2	5	1	8					0	2	2	0	0	4
	4:45 PM	0	2	5	1	8					0	1	2	0	0	3
	5:00 PM	0	1	1	1	3					0	2	2	1	0	5
	5:15 PM	1	5	2	0	8					0	1	1	0	0	2
	5:30 PM	0	0	5	1	6					0	0	3	0	0	3
	5:45 PM	0	1	13	1	15					0	0	0	0	0	0
	TOTAL	4	23	44	14	85	0	0	0	0	0	8	11	1	1	21

PACIFIC TRAFFIC DATA SERVICES

TURNING MOVEMENT COUNTS



SAN DIEGO

CA10-1203-03

ALL HOURS

60TH

141	45	13	83	TOTAL
71	27	4	40	PM
70	18	9	43	AM

106	
83	
23	

UNIVERSITY

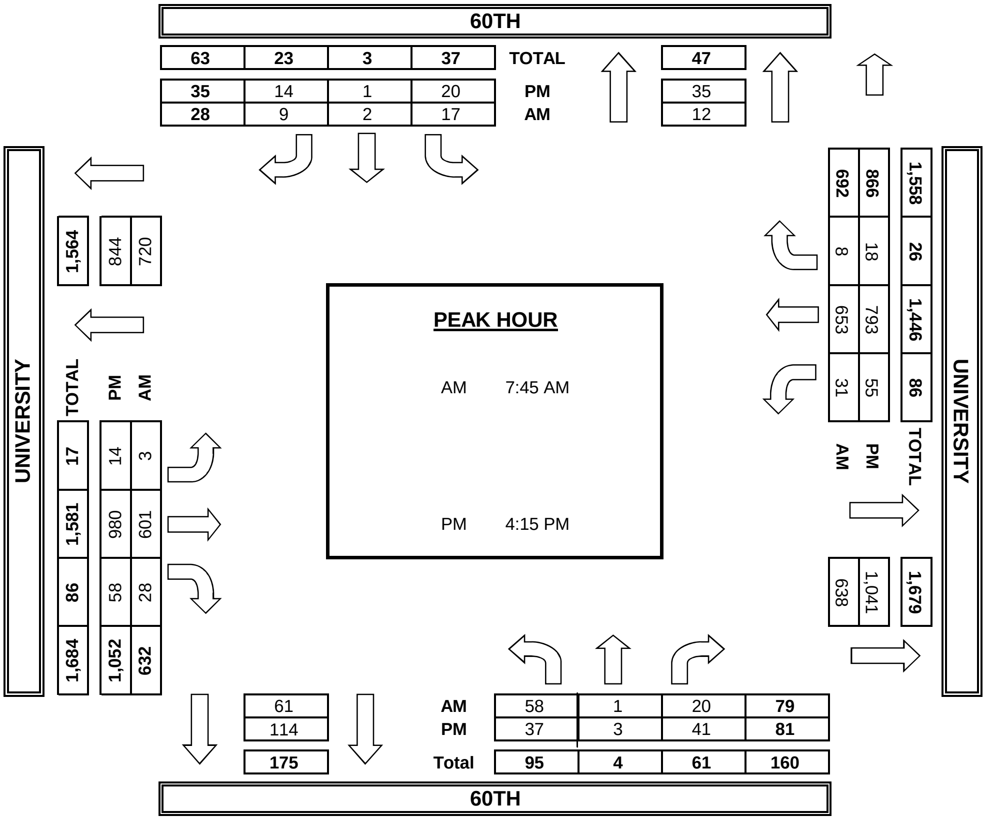
3,521	2,054	1,467
TOTAL	PM	AM
39	34	5
3,681	2,456	1,225
182	129	53
3,902	2,619	1,283

UNIVERSITY

1,406	2,110	3,516
15	45	60
1,344	1,939	3,283
47	126	173
AM	PM	TOTAL
1,306	2,576	3,882

60TH

109	AM	105	3	38	146
259	PM	88	4	80	172
368	TOTAL	193	7	118	318



PEAK HOUR

AM 7:45 AM

PM 4:15 PM

60TH

63	23	3	37	TOTAL
35	14	1	20	PM
28	9	2	17	AM

47	
35	
12	

UNIVERSITY

1,564	844	720
TOTAL	PM	AM
17	14	3
1,581	980	601
86	58	28
1,684	1,052	632

UNIVERSITY

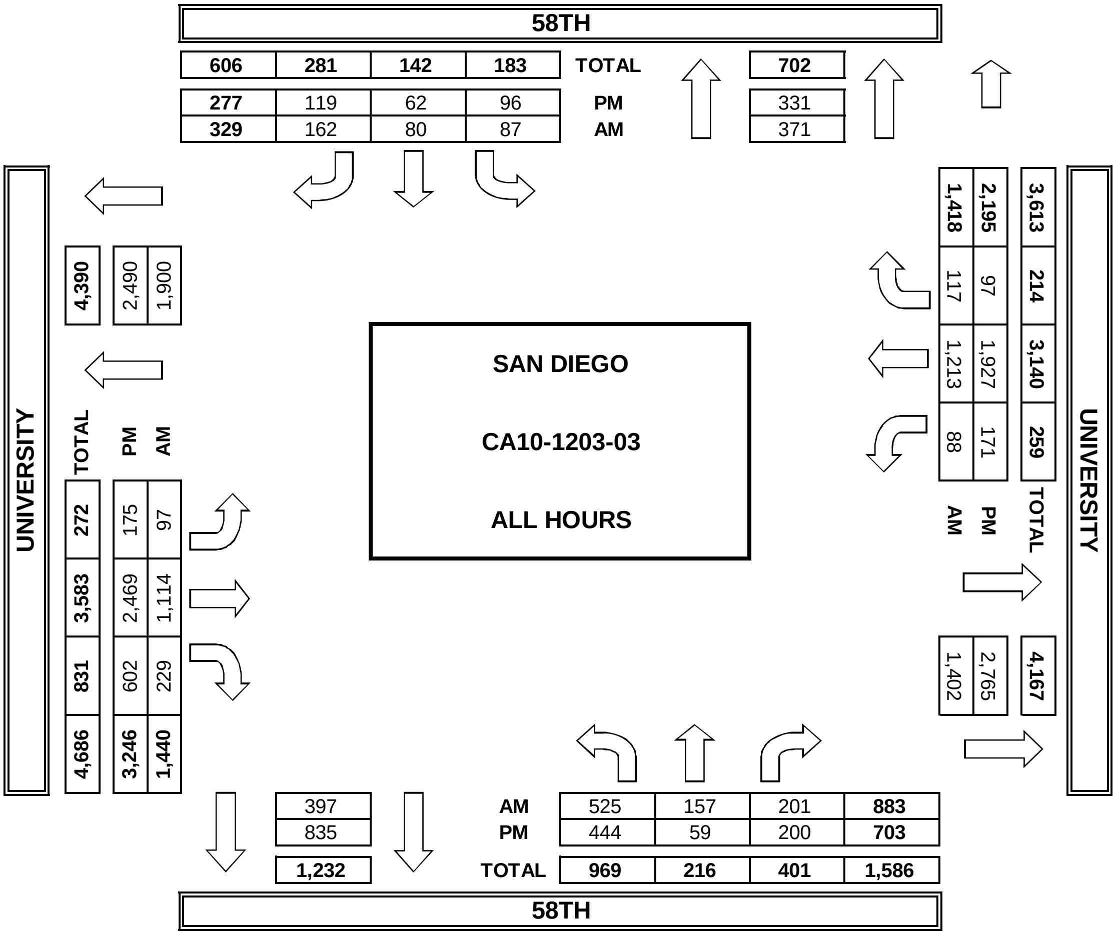
692	866	1,558
8	18	26
653	793	1,446
31	55	86
AM	PM	TOTAL
638	1,041	1,679

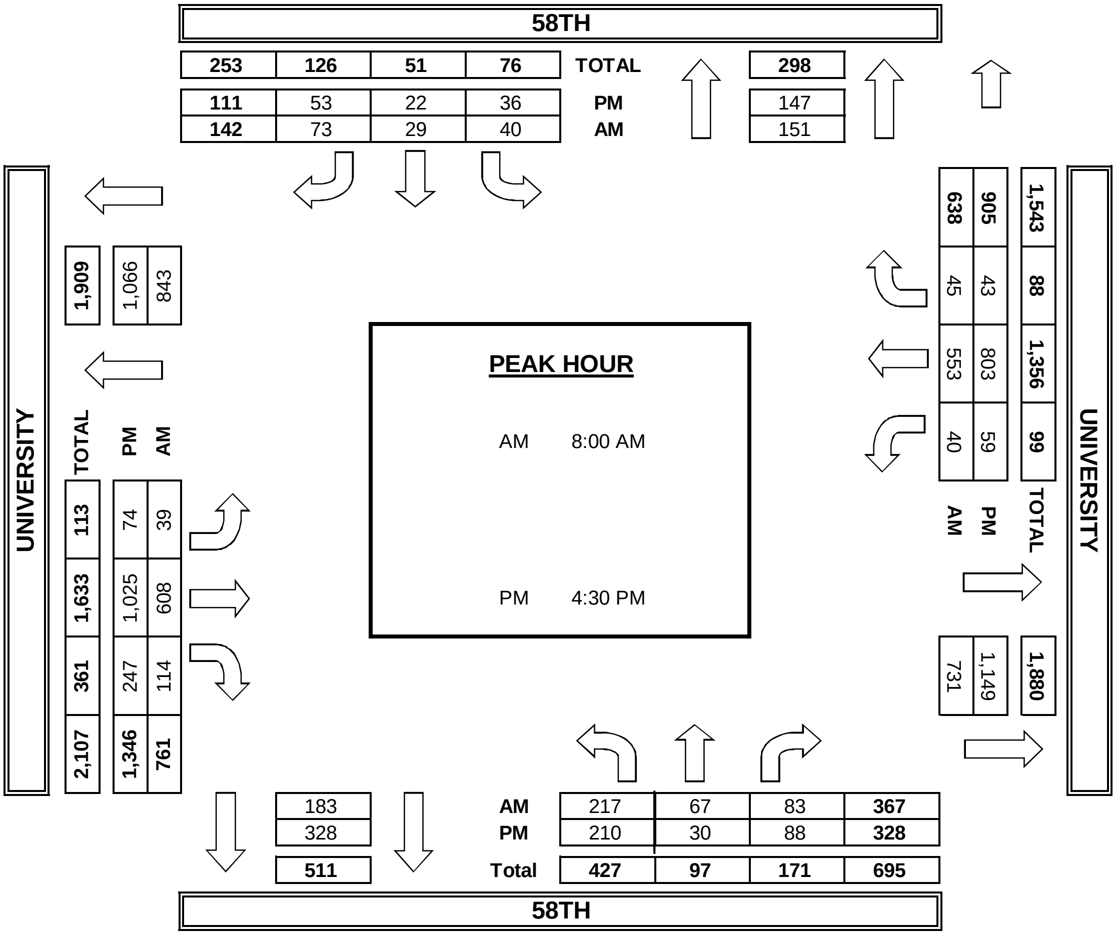
60TH

61	AM	58	1	20	79
114	PM	37	3	41	81
175	Total	95	4	61	160

PACIFIC TRAFFIC DATA SERVICES

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

DATE: 12/1/10 WEDNESDAY	LOCATION:	SAN DIEGO	PROJECT #: CA10-1203-03
	NORTH & SOUTH:	COLLEGE	LOCATION #: 6
	EAST & WEST:	UNIVERSITY	CONTROL: SIGNAL

NOTES:

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		NORTHBOUND COLLEGE			SOUTHBOUND COLLEGE			EASTBOUND UNIVERSITY			WESTBOUND UNIVERSITY			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	1	2	1	1	2	0	
AM	6:30 AM	40	95	10	9	46	18	20	32	22	15	35	22	364
	6:45 AM	44	100	12	11	48	16	22	41	25	20	42	28	409
	7:00 AM	59	151	16	11	57	18	26	50	28	14	55	23	508
	7:15 AM	42	169	19	16	91	22	32	62	35	18	56	38	600
	7:30 AM	55	184	19	32	80	36	30	79	34	20	89	45	703
	7:45 AM	51	231	48	28	96	28	40	88	35	23	87	30	785
	8:00 AM	45	172	39	33	79	19	31	84	22	35	97	32	688
	8:15 AM	40	174	31	30	83	21	34	88	32	39	124	37	733
	8:30 AM	44	238	38	34	87	25	45	95	32	43	111	38	830
	8:45 AM	33	197	44	25	73	26	29	82	35	36	72	40	692
	VOLUMES	453	1,711	276	229	740	229	309	701	300	263	768	333	6,312
	APPROACH %	19%	70%	11%	19%	62%	19%	24%	54%	23%	19%	56%	24%	
	APP/DEPART	2,440	/	2,353	1,198	/	1,303	1,310	/	1,206	1,364	/	1,450	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	180	815	156	125	345	93	150	355	121	140	419	137	3,036
	APPROACH %	16%	71%	14%	22%	61%	17%	24%	57%	19%	20%	60%	20%	
	PEAK HR FACTOR		0.872			0.926			0.910			0.870		0.914
	APP/DEPART	1,151	/	1,102	563	/	606	626	/	636	696	/	692	0
PM	3:30 PM	35	122	47	44	176	46	54	136	68	46	98	43	915
	3:45 PM	42	120	71	45	173	55	54	132	64	62	112	46	976
	4:00 PM	50	129	49	43	156	53	46	106	78	49	111	36	906
	4:15 PM	61	145	47	38	177	60	47	117	68	42	99	44	945
	4:30 PM	55	131	51	49	138	47	73	123	75	56	77	52	927
	4:45 PM	55	141	58	66	162	70	60	138	74	66	121	56	1,067
	5:00 PM	60	123	44	52	184	65	50	162	91	62	126	44	1,063
	5:15 PM	66	133	54	60	168	64	49	132	72	59	96	42	995
	5:30 PM	44	117	49	42	185	56	48	150	91	48	89	27	946
	5:45 PM	51	121	40	52	161	52	40	123	88	45	90	32	895
	VOLUMES	519	1,282	510	491	1,680	568	521	1,319	769	535	1,019	422	9,635
	APPROACH %	22%	55%	22%	18%	61%	21%	20%	51%	29%	27%	52%	21%	
	APP/DEPART	2,311	/	2,225	2,739	/	2,984	2,609	/	2,320	1,976	/	2,106	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	225	514	205	220	699	255	207	582	328	235	432	169	4,071
	APPROACH %	24%	54%	22%	19%	60%	22%	19%	52%	29%	28%	52%	20%	
	PEAK HR FACTOR		0.929			0.975			0.922			0.860		0.954
	APP/DEPART	944	/	890	1,174	/	1,262	1,117	/	1,007	836	/	912	0

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	
				0
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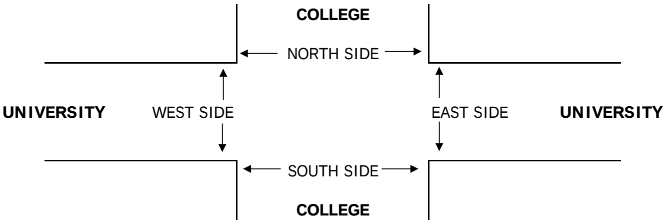
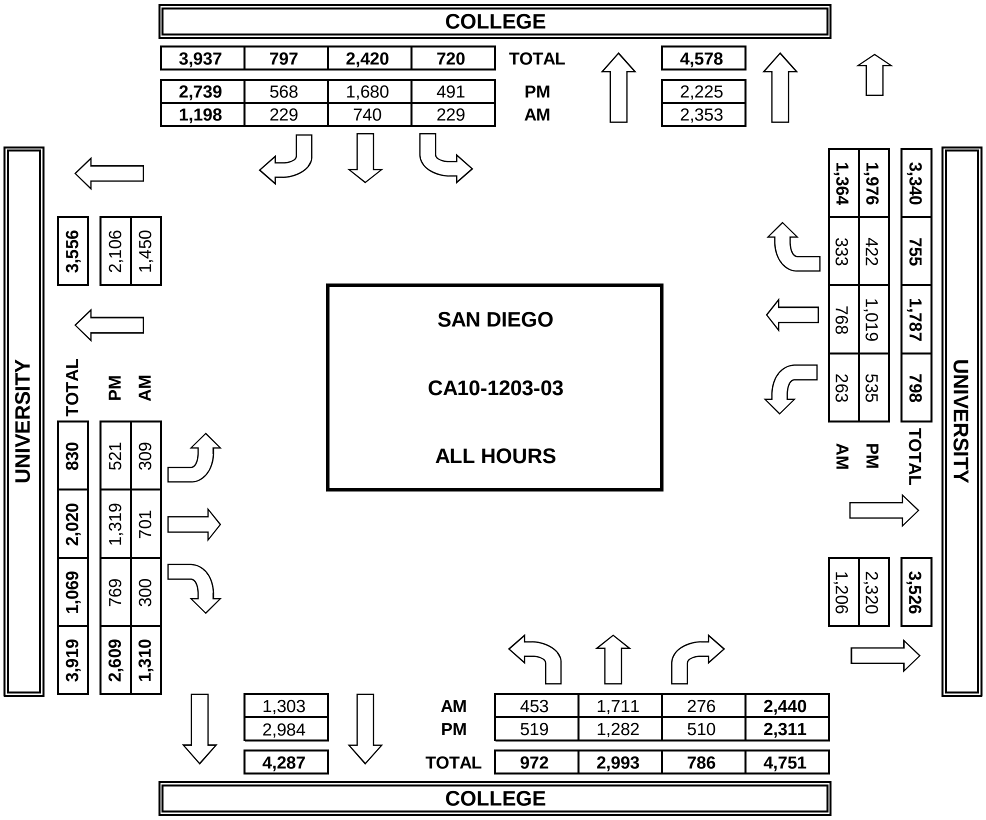
0	0	0	0	0

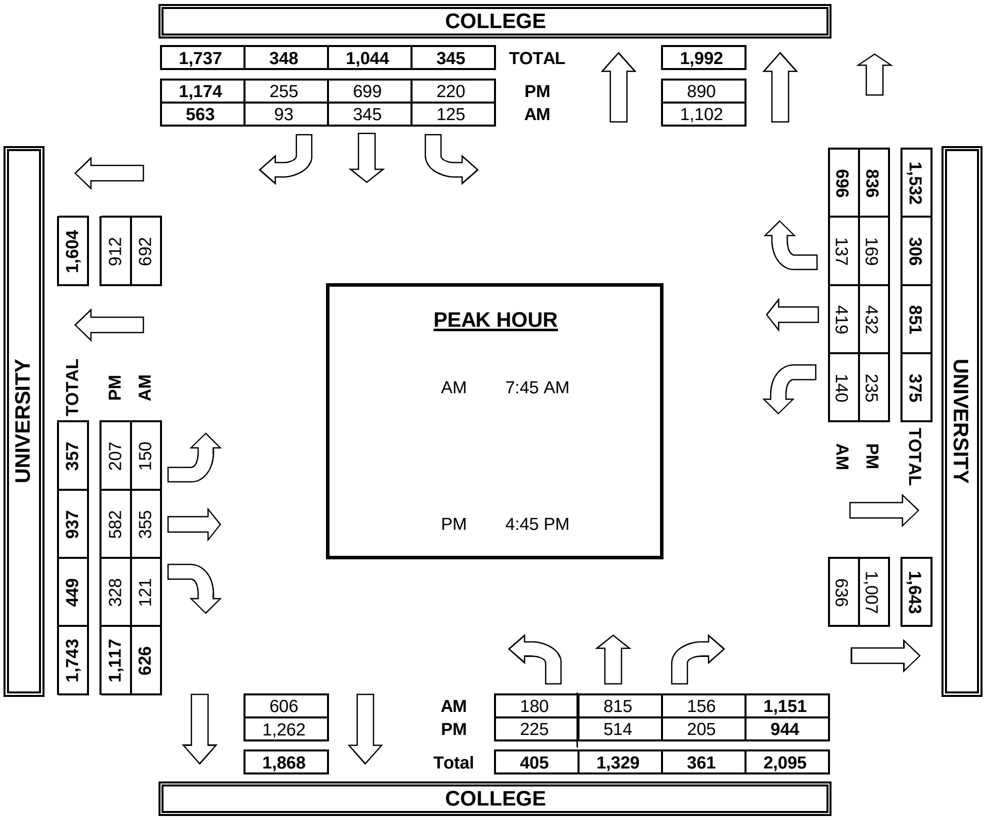


		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	6:30 AM	1	1	2	4	8					0	0	0	0	0	0
	6:45 AM	3	2	1	1	7					0	0	0	0	0	0
	7:00 AM	2	1	3	2	8					0	1	1	0	0	2
	7:15 AM	3	5	1	3	12					0	2	0	0	0	2
	7:30 AM	7	6	4	5	22					0	0	0	0	1	1
	7:45 AM	6	7	4	1	18					0	1	3	1	0	5
	8:00 AM	3	8	3	4	18					0	1	2	0	1	4
	8:15 AM	4	5	6	6	21					0	1	2	0	1	4
	8:30 AM	3	2	7	2	14					0	2	1	0	2	5
	8:45 AM	4	10	4	2	20					0	1	1	0	0	2
	TOTAL	36	47	35	30	148	0	0	0	0	0	9	10	1	5	25
PM	3:30 PM	3	9	9	4	25					0	0	0	0	0	0
	3:45 PM	2	8	5	5	20					0	1	1	0	1	3
	4:00 PM	5	12	8	4	29					0	1	0	0	0	1
	4:15 PM	5	15	5	6	31					0	2	2	0	1	5
	4:30 PM	4	10	10	12	36					0	1	0	0	1	2
	4:45 PM	3	9	4	15	31					0	2	2	1	0	5
	5:00 PM	6	18	5	18	47					0	2	1	1	1	5
	5:15 PM	2	11	5	11	29					0	3	2	0	0	5
	5:30 PM	2	9	5	9	25					0	1	1	1	1	4
	5:45 PM	4	10	7	10	31					0	0	0	0	0	0
	TOTAL	36	111	63	94	304	0	0	0	0	0	13	9	3	5	30

PACIFIC TRAFFIC DATA SERVICES

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

DATE: 12/1/10 WEDNESDAY	LOCATION:	SAN DIEGO	PROJECT #:	CA10-1203-03
	NORTH & SOUTH:	ROLANDO	LOCATION #:	8
	EAST & WEST:	UNIVERSITY	CONTROL:	SIGNAL

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		NORTHBOUND ROLANDO			SOUTHBOUND ROLANDO			EASTBOUND UNIVERSITY			WESTBOUND UNIVERSITY			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	0	1	0	0	1	0	1	2	0	1	2	0	
AM	6:30 AM	20	5	2	3	1	5	4	51	4	3	50	3	151
	6:45 AM	21	3	2	4	3	8	2	42	4	2	65	3	159
	7:00 AM	16	3	6	3	1	5	6	75	5	3	73	2	198
	7:15 AM	22	4	1	5	1	4	5	99	5	7	88	0	241
	7:30 AM	20	4	1	5	1	3	6	123	4	5	105	1	278
	7:45 AM	20	4	7	2	6	9	6	127	6	1	132	3	323
	8:00 AM	16	9	3	11	4	10	7	120	4	6	145	5	340
	8:15 AM	17	9	6	2	5	6	4	112	12	5	123	5	306
	8:30 AM	22	8	6	10	11	12	3	115	10	5	114	6	322
	8:45 AM	14	8	6	6	3	12	7	75	13	3	114	11	272
	VOLUMES	188	57	40	51	36	74	50	939	67	40	1,009	39	2,590
	APPROACH %	66%	20%	14%	32%	22%	46%	5%	89%	6%	4%	93%	4%	
	APP/DEPART	285	/	146	161	/	143	1,056	/	1,030	1,088	/	1,271	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	75	30	22	25	26	37	20	474	32	17	514	19	1,291
	APPROACH %	59%	24%	17%	28%	30%	42%	4%	90%	6%	3%	93%	3%	
	PEAK HR FACTOR		0.882			0.667			0.946			0.881		0.949
	APP/DEPART	127	/	69	88	/	75	526	/	521	550	/	626	0
PM	3:30 PM	19	3	16	9	6	10	18	172	16	10	167	4	450
	3:45 PM	27	8	7	11	7	9	10	168	19	12	129	4	411
	4:00 PM	16	7	10	9	5	9	12	160	12	4	151	7	402
	4:15 PM	13	12	7	3	17	7	11	151	8	8	149	5	391
	4:30 PM	24	12	6	9	10	7	11	181	12	3	158	9	442
	4:45 PM	15	16	4	11	12	13	9	186	23	8	125	6	428
	5:00 PM	19	10	6	12	7	19	13	168	15	7	162	4	442
	5:15 PM	8	8	6	5	6	12	7	188	18	7	121	7	393
	5:30 PM	11	2	5	8	8	14	10	184	16	7	128	5	398
	5:45 PM	16	7	5	7	7	7	8	179	12	10	125	4	387
	VOLUMES	168	85	72	84	85	107	109	1,737	151	76	1,415	55	4,144
	APPROACH %	52%	26%	22%	30%	31%	39%	5%	87%	8%	5%	92%	4%	
	APP/DEPART	325	/	249	276	/	312	1,997	/	1,893	1,546	/	1,690	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	66	46	22	37	35	51	40	723	68	25	566	26	1,705
	APPROACH %	49%	34%	16%	30%	28%	41%	5%	87%	8%	4%	92%	4%	
	PEAK HR FACTOR		0.798			0.809			0.953			0.892		0.964
	APP/DEPART	134	/	112	123	/	128	831	/	782	617	/	683	0

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	
				0
				0
				0
				0
				0
				0
				0
				0
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0	0	0	0	0
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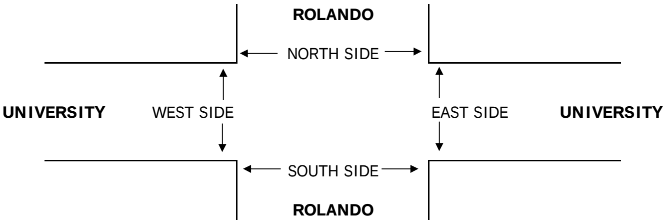
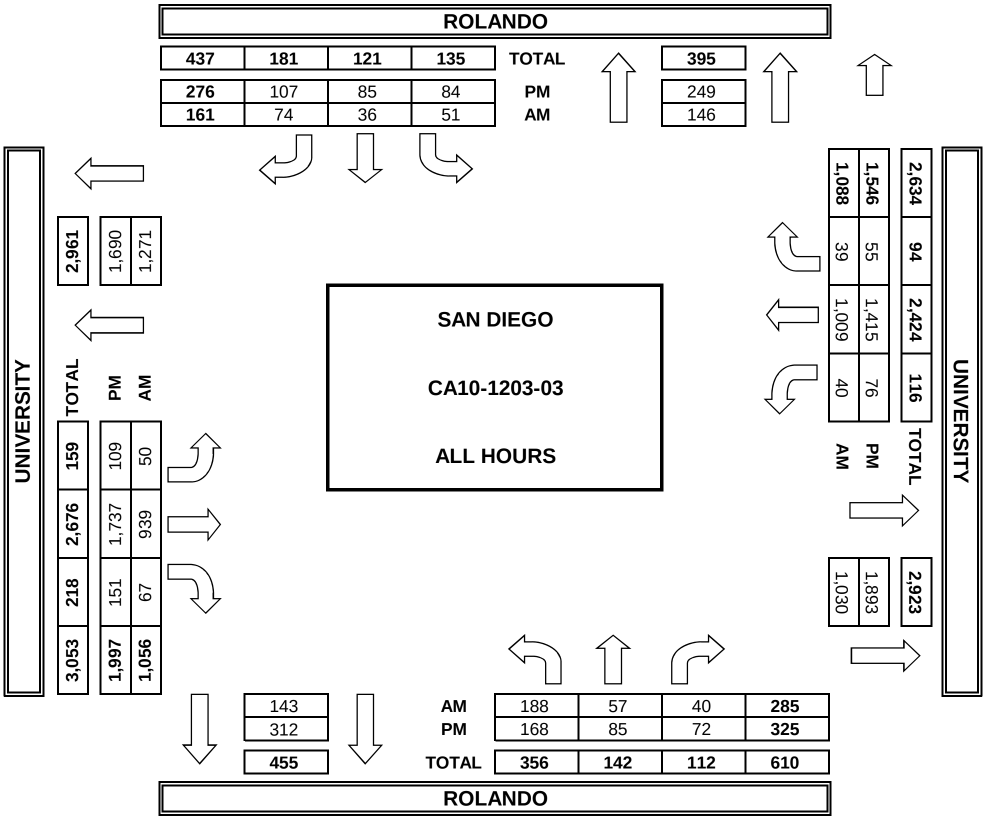
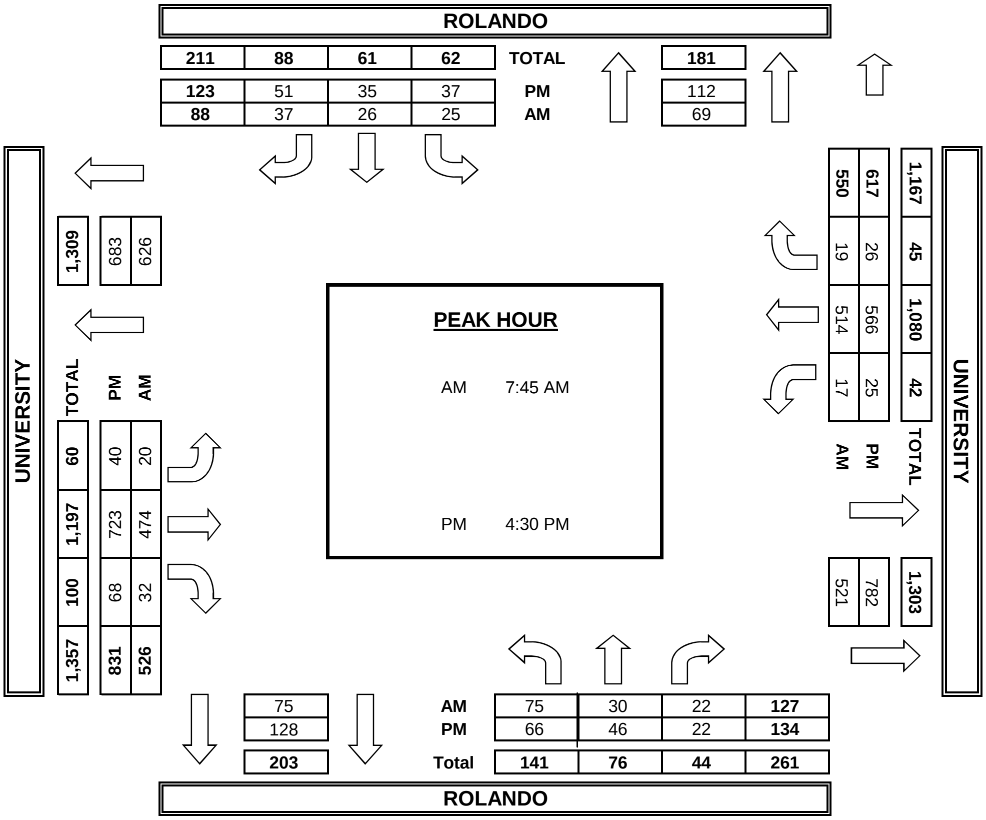
				0
				0
0	0	0	0	0



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	6:30 AM	0	0	1	0	1					0	0	0	0	0	0
	6:45 AM	0	0	0	1	1					0	0	0	0	0	0
	7:00 AM	0	0	0	3	3					0	1	1	0	0	2
	7:15 AM	2	1	0	1	4					0	2	1	0	0	3
	7:30 AM	2	1	2	1	6					0	0	0	0	0	0
	7:45 AM	1	0	2	0	3					0	2	1	0	0	3
	8:00 AM	0	2	6	1	9					0	1	2	0	0	3
	8:15 AM	0	1	8	2	11					0	1	0	0	1	2
	8:30 AM	0	2	4	2	8					0	2	0	1	0	3
	8:45 AM	2	0	6	0	8					0	0	0	0	0	0
	TOTAL	7	7	29	11	54	0	0	0	0	0	9	5	1	1	16
PM	3:30 PM	0	0	2	2	4					0	0	0	0	0	0
	3:45 PM	1	3	8	0	12					0	2	2	0	1	5
	4:00 PM	1	3	4	1	9					0	1	1	0	1	3
	4:15 PM	1	2	3	3	9					0	1	1	0	0	2
	4:30 PM	3	2	2	1	8					0	2	1	0	0	3
	4:45 PM	0	1	3	0	4					0	2	0	1	0	3
	5:00 PM	2	5	2	0	9					0	1	0	1	2	4
	5:15 PM	3	3	7	1	14					0	2	1	1	0	4
	5:30 PM	2	3	8	0	13					0	3	2	2	1	8
	5:45 PM	2	0	2	0	4					0	0	0	1	0	1
	TOTAL	15	22	41	8	86	0	0	0	0	0	14	8	6	5	33

PACIFIC TRAFFIC DATA SERVICES
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

DATE: 12/1/10 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	SAN DIEGO 54TH CHOLLAS		PROJECT #: LOCATION #: CONTROL:	CA10-1203-03 11 1-WAY STOP (WB)

NOTES:

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		NORTHBOUND 54TH			SOUTHBOUND 54TH			EASTBOUND CHOLLAS			WESTBOUND CHOLLAS			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	2	X	0	2	X	X	X	X	1	X	1	
AM	6:30 AM		146	17	0	65					15		0	243
	6:45 AM		164	20	2	70					18		0	274
	7:00 AM		216	27	0	95					17		0	355
	7:15 AM		202	25	1	138					31		0	397
	7:30 AM		258	33	1	107					22		1	422
	7:45 AM		218	38	2	89					29		3	379
	8:00 AM		204	38	5	97					18		4	366
	8:15 AM		168	32	3	104					31		0	338
	8:30 AM		176	47	3	117					29		1	373
	8:45 AM		149	36	2	104					37		1	329
	VOLUMES	0	1,901	313	19	986	0	0	0	0	247	0	10	3,476
	APPROACH %	0%	86%	14%	2%	98%	0%	0%	0%	0%	96%	0%	4%	
	APP/DEPART	2,214	/	1,911	1,005	/	1,233	0	/	332	257	/	0	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	882	134	9	431	0	0	0	0	100	0	8	1,564
	APPROACH %	0%	87%	13%	2%	98%	0%	0%	0%	0%	93%	0%	7%	
	PEAK HR FACTOR		0.873			0.791			0.000			0.844		0.927
	APP/DEPART	1,016	/	890	440	/	531	0	/	143	108	/	0	0
PM	3:30 PM		131	59	0	182					43		2	417
	3:45 PM		139	66	2	190					36		1	434
	4:00 PM		164	60	3	184					45		3	459
	4:15 PM		183	64	1	230					39		1	518
	4:30 PM		156	47	3	218					33		4	461
	4:45 PM		190	62	2	231					39		5	529
	5:00 PM		150	68	1	235					42		2	498
	5:15 PM		190	60	0	236					48		4	538
	5:30 PM		139	58	3	240					44		4	488
	5:45 PM		153	63	0	245					48		1	510
	VOLUMES	0	1,595	607	15	2,191	0	0	0	0	417	0	27	4,852
	APPROACH %	0%	72%	28%	1%	99%	0%	0%	0%	0%	94%	0%	6%	
	APP/DEPART	2,202	/	1,622	2,206	/	2,608	0	/	622	444	/	0	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	0	669	248	6	942	0	0	0	0	173	0	15	2,053
	APPROACH %	0%	73%	27%	1%	99%	0%	0%	0%	0%	92%	0%	8%	
	PEAK HR FACTOR		0.910			0.975			0.000			0.904		0.954
	APP/DEPART	917	/	684	948	/	1,115	0	/	254	188	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
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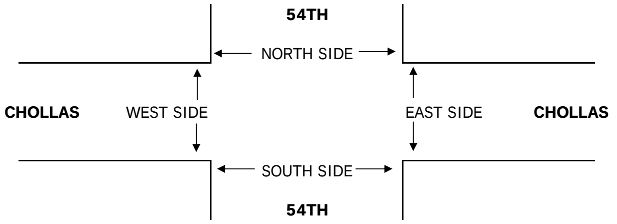
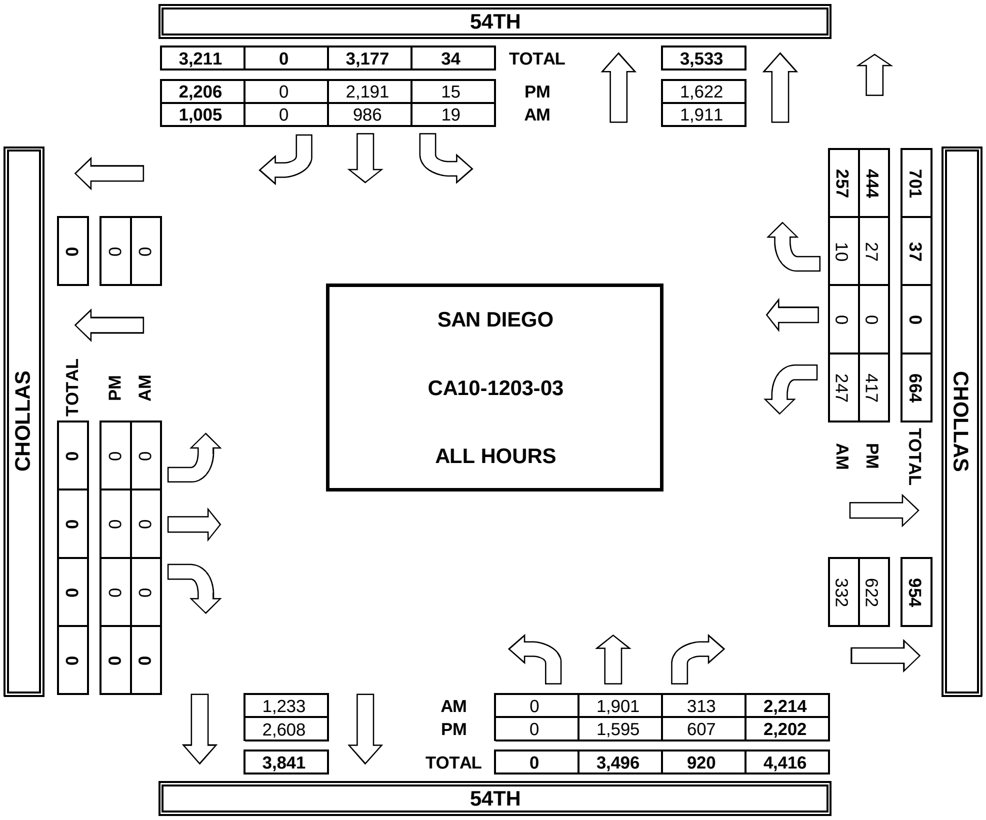
				0
0	0	0	0	0



		PEDESTRIAN CROSSINGS					PEDESTRIAN ACTIVATIONS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	6:30 AM	0	0	2		2					0	0	0	1	0	1
	6:45 AM	0	0	4		4					0	0	0	0	0	0
	7:00 AM	0	0	0		0					0	0	0	3	1	4
	7:15 AM	0	0	0		0					0	0	0	0	0	0
	7:30 AM	1	0	2		3					0	0	0	1	3	4
	7:45 AM	0	0	1		1					0	0	0	2	0	2
	8:00 AM	0	0	4		4					0	0	0	0	2	2
	8:15 AM	0	2	0		2					0	0	0	1	1	2
	8:30 AM	2	1	0		3					0	1	0	1	0	2
	8:45 AM	0	0	1		1					0	1	0	1	0	2
	TOTAL	3	3	14	0	20	0	0	0	0	0	2	0	10	7	19
PM	3:30 PM	0	0	2		2					0	0	0	0	1	1
	3:45 PM	0	0	3		3					0	0	0	1	0	1
	4:00 PM	0	0	0		0					0	1	0	0	0	1
	4:15 PM	0	1	1		2					0	1	0	0	0	1
	4:30 PM	2	2	2		6					0	1	1	0	2	4
	4:45 PM	0	0	4		4					0	0	1	1	0	2
	5:00 PM	2	0	2		4					0	2	0	3	1	6
	5:15 PM	1	0	5		6					0	0	1	0	0	1
	5:30 PM	0	1	2		3					0	0	2	2	0	4
	5:45 PM	0	0	0		0					0	0	1	1	0	2
	TOTAL	5	4	21	0	30	0	0	0	0	0	5	6	8	4	23

PACIFIC TRAFFIC DATA SERVICES

TURNING MOVEMENT COUNTS



54TH (north)

3,211	0	3,177	34	TOTAL
2,206	0	2,191	15	PM
1,005	0	986	19	AM

3,533	TOTAL
1,622	PM
1,911	AM

CHOLLAS (east)

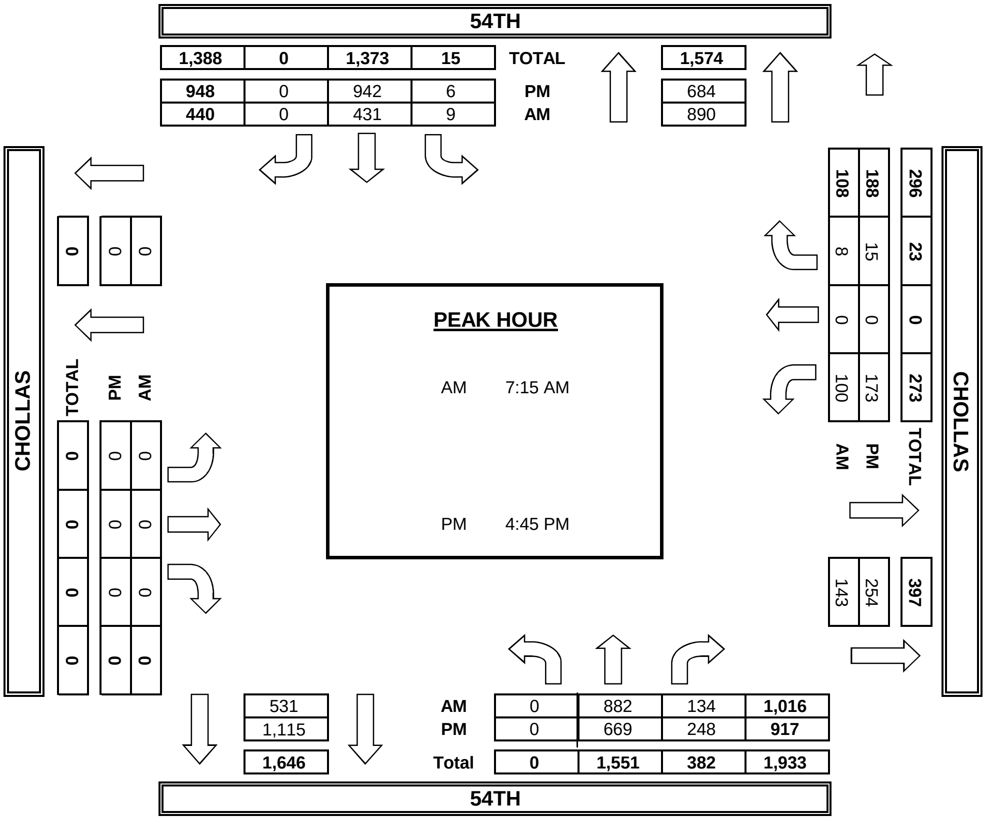
AM	PM	TOTAL
257	444	701
10	27	37
0	0	0
247	417	664
332	622	954

CHOLLAS (west)

TOTAL	PM	AM
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

54TH (south)

1,233	AM	0	1,901	313	2,214
2,608	PM	0	1,595	607	2,202
3,841	TOTAL	0	3,496	920	4,416



54TH (north)

1,388	0	1,373	15	TOTAL
948	0	942	6	PM
440	0	431	9	AM

1,574	TOTAL
684	PM
890	AM

CHOLLAS (east)

AM	PM	TOTAL
108	188	296
8	15	23
0	0	0
100	173	273
143	254	397

CHOLLAS (west)

TOTAL	PM	AM
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

54TH (south)

531	AM	0	882	134	1,016
1,115	PM	0	669	248	917
1,646	Total	0	1,551	382	1,933

APPENDIX B

PEAK HOUR INTERSECTION LOS WORKSHEETS EXISTING CONDITIONS

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑	↰↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Volume (vph)	444	383	55	992	1089	46
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	488	421	60	1090	1197	51
RTOR Reduction (vph)	0	67	0	0	0	31
Lane Group Flow (vph)	488	354	60	1090	1197	20
Turn Type		pm+ov	Prot			Perm
Protected Phases	2	3	1	6	3	
Permitted Phases		2				3
Actuated Green, G (s)	57.1	103.5	7.6	68.7	46.4	46.4
Effective Green, g (s)	59.2	106.0	8.0	71.2	46.8	46.8
Actuated g/C Ratio	0.47	0.84	0.06	0.57	0.37	0.37
Clearance Time (s)	6.1	4.4	4.4	6.5	4.4	4.4
Vehicle Extension (s)	4.3	2.0	2.0	4.8	2.0	2.0
Lane Grp Cap (vph)	1663	1382	112	2000	1275	588
v/s Ratio Prot	0.14	0.10	0.03	c0.31	c0.35	
v/s Ratio Perm		0.13				0.01
v/c Ratio	0.29	0.26	0.54	0.55	0.94	0.03
Uniform Delay, d1	20.5	2.0	57.2	17.2	38.2	25.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	2.5	1.1	12.9	0.0
Delay (s)	21.0	2.1	59.7	18.3	51.1	25.2
Level of Service	C	A	E	B	D	C
Approach Delay (s)	12.2			20.5	50.1	
Approach LOS	B			C	D	

Intersection Summary

HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	126.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Volume (vph)	63	41	978	75	21	380
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	66	43	1019	78	22	396
RTOR Reduction (vph)	0	38	0	69	0	0
Lane Group Flow (vph)	66	5	1019	9	22	396
Turn Type		Perm		Over	Prot	
Protected Phases	3		2	3	1	6
Permitted Phases		3				
Actuated Green, G (s)	8.0	8.0	48.1	8.0	1.4	53.5
Effective Green, g (s)	8.0	8.0	48.6	8.0	1.4	54.0
Actuated g/C Ratio	0.11	0.11	0.69	0.11	0.02	0.77
Clearance Time (s)	4.0	4.0	4.5	4.0	4.0	4.5
Vehicle Extension (s)	2.0	2.0	3.7	2.0	2.0	3.7
Lane Grp Cap (vph)	202	181	2457	181	35	2730
v/s Ratio Prot	c0.04		c0.29	0.01	c0.01	0.11
v/s Ratio Perm		0.00				
v/c Ratio	0.33	0.03	0.41	0.05	0.63	0.15
Uniform Delay, d1	28.5	27.5	4.6	27.6	34.0	2.1
Progression Factor	1.00	1.00	2.35	1.63	1.00	1.00
Incremental Delay, d2	0.3	0.0	0.4	0.0	22.7	0.1
Delay (s)	28.9	27.6	11.2	45.0	56.7	2.2
Level of Service	C	C	B	D	E	A
Approach Delay (s)	28.4		13.6			5.0
Approach LOS	C		B			A

Intersection Summary

HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3460		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3460		1770	3539	1583
Volume (vph)	57	259	128	90	388	316	235	642	113	104	290	73
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	61	276	136	96	413	336	250	683	120	111	309	78
RTOR Reduction (vph)	0	0	78	0	0	183	0	11	0	0	0	57
Lane Group Flow (vph)	61	276	58	96	413	153	250	792	0	111	309	21
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	7.7	60.3	60.3	11.3	62.6	62.6	13.9	38.1		12.6	36.9	36.9
Effective Green, g (s)	8.1	60.2	60.2	11.7	63.8	63.8	14.3	39.1		13.0	37.8	37.8
Actuated g/C Ratio	0.06	0.43	0.43	0.08	0.46	0.46	0.10	0.28		0.09	0.27	0.27
Clearance Time (s)	4.4	3.9	3.9	4.4	5.2	5.2	4.4	5.0		4.4	4.9	4.9
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Lane Grp Cap (vph)	102	1522	681	148	1613	721	351	966		164	956	427
v/s Ratio Prot	0.03	0.08		c0.05	c0.12		c0.07	c0.23		0.06	0.09	
v/s Ratio Perm			0.04			0.10						0.01
v/c Ratio	0.60	0.18	0.09	0.65	0.26	0.21	0.71	0.82		0.68	0.32	0.05
Uniform Delay, d1	64.4	24.7	23.6	62.2	23.5	23.0	60.9	47.2		61.5	40.9	37.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.22	0.91		0.96	1.02	1.07
Incremental Delay, d2	6.1	0.3	0.2	7.1	0.4	0.7	3.0	3.1		8.4	0.2	0.1
Delay (s)	70.5	24.9	23.9	69.3	23.9	23.6	77.3	45.9		67.3	41.8	40.6
Level of Service	E	C	C	E	C	C	E	D		E	D	D
Approach Delay (s)		30.5			28.9			53.4			47.3	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.93		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1773			1712		1770	3500		1770	3509	
Flt Permitted		0.85			0.87		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1533			1512		1770	3500		1770	3509	
Volume (vph)	31	62	35	61	49	114	37	905	71	108	355	21
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	36	73	41	72	58	134	44	1065	84	127	418	25
RTOR Reduction (vph)	0	28	0	0	77	0	0	8	0	0	4	0
Lane Group Flow (vph)	0	122	0	0	187	0	44	1141	0	127	439	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		15.0			15.0		3.4	23.6		16.8	36.8	
Effective Green, g (s)		15.9			15.9		3.8	24.9		17.2	38.3	
Actuated g/C Ratio		0.23			0.23		0.05	0.36		0.25	0.55	
Clearance Time (s)		4.9			4.9		4.4	5.3		4.4	5.5	
Vehicle Extension (s)		3.0			3.0		2.0	2.1		2.0	2.1	
Lane Grp Cap (vph)		348			343		96	1245		435	1920	
v/s Ratio Prot							c0.02	c0.33		c0.07	0.13	
v/s Ratio Perm		0.08			c0.12							
v/c Ratio		0.35			0.54		0.46	0.92		0.29	0.23	
Uniform Delay, d1		22.7			23.9		32.1	21.6		21.5	8.2	
Progression Factor		1.00			1.00		1.00	1.00		0.89	0.83	
Incremental Delay, d2		0.6			1.8		1.3	12.0		0.1	0.3	
Delay (s)		23.3			25.6		33.4	33.6		19.2	7.1	
Level of Service		C			C		C	C		B	A	
Approach Delay (s)		23.3			25.6			33.6			9.8	
Approach LOS		C			C			C			A	

Intersection Summary

HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	73	4	8	114	15	50	16	76	42	12	33
Peak Hour Factor	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Hourly flow rate (vph)	33	159	9	17	248	33	109	35	165	91	26	72

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	200	298	309	189
Volume Left (vph)	33	17	109	91
Volume Right (vph)	9	33	165	72
Hadj (s)	0.04	-0.02	-0.22	-0.10
Departure Headway (s)	6.0	5.7	5.5	5.9
Degree Utilization, x	0.33	0.47	0.47	0.31
Capacity (veh/h)	540	581	600	545
Control Delay (s)	11.9	13.7	13.4	11.4
Approach Delay (s)	11.9	13.7	13.4	11.4
Approach LOS	B	B	B	B

Intersection Summary			
Delay	12.8		
HCM Level of Service	B		
Intersection Capacity Utilization	26.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3495		1770	3479		1770	1769		1770	1808	
Flt Permitted	0.95	1.00		0.95	1.00		0.49	1.00		0.27	1.00	
Satd. Flow (perm)	1770	3495		1770	3479		919	1769		497	1808	
Volume (vph)	35	347	32	117	459	59	45	209	106	35	156	38
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	38	373	34	126	494	63	48	225	114	38	168	41
RTOR Reduction (vph)	0	6	0	0	7	0	0	30	0	0	14	0
Lane Group Flow (vph)	38	401	0	126	550	0	48	309	0	38	195	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	4.4	40.9		10.6	47.1		20.3	20.3		20.3	20.3	
Effective Green, g (s)	4.8	41.8		11.0	48.0		21.2	21.2		21.2	21.2	
Actuated g/C Ratio	0.06	0.49		0.13	0.56		0.25	0.25		0.25	0.25	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.1		2.0	2.3		3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	99	1699		226	1942		227	436		123	446	
v/s Ratio Prot	0.02	0.11		c0.07	c0.16			c0.17			0.11	
v/s Ratio Perm							0.05			0.08		
v/c Ratio	0.38	0.24		0.56	0.28		0.21	0.71		0.31	0.44	
Uniform Delay, d1	39.2	12.8		35.2	10.0		25.8	29.6		26.4	27.4	
Progression Factor	1.00	1.00		0.77	0.95		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.3		1.6	0.4		0.6	5.5		2.2	1.0	
Delay (s)	40.1	13.2		28.9	9.8		26.3	35.0		28.6	28.4	
Level of Service	D	B		C	A		C	D		C	C	
Approach Delay (s)		15.5			13.4			34.0			28.4	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.97	
Frt	1.00	0.99		1.00	0.98			0.93			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3485		1770	3406			1594			1610	
Flt Permitted	0.95	1.00		0.95	1.00			0.83			0.67	
Satd. Flow (perm)	1770	3485		1770	3406			1332			1095	
Volume (vph)	69	370	20	47	525	96	42	49	86	65	42	74
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	76	407	22	52	577	105	46	54	95	71	46	81
RTOR Reduction (vph)	0	2	0	0	10	0	0	56	0	0	41	0
Lane Group Flow (vph)	76	427	0	52	672	0	0	139	0	0	157	0
Confl. Peds. (#/hr)	30		48	48		30	78		113	113		78
Confl. Bikes (#/hr)			24			5			2			17
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.0	54.1		4.9	52.0			14.1			14.1	
Effective Green, g (s)	7.0	55.0		4.9	52.9			14.1			14.1	
Actuated g/C Ratio	0.08	0.64		0.06	0.62			0.16			0.16	
Clearance Time (s)	4.0	4.9		4.0	4.9			4.0			4.0	
Vehicle Extension (s)	2.0	4.1		2.0	4.1			2.0			2.0	
Lane Grp Cap (vph)	144	2229		101	2095			218			180	
v/s Ratio Prot	c0.04	0.12		0.03	c0.20							
v/s Ratio Perm								0.10			c0.14	
v/c Ratio	0.53	0.19		0.51	0.32			0.64			0.87	
Uniform Delay, d1	37.9	6.4		39.4	7.9			33.6			35.1	
Progression Factor	0.91	1.36		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.6	0.2		1.8	0.4			4.4			33.2	
Delay (s)	35.9	8.9		41.2	8.3			38.0			68.3	
Level of Service	D	A		D	A			D			E	
Approach Delay (s)		12.9			10.7			38.0			68.3	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.95	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1515	1770	3539	1538	1770	3539	1500	3433	3539	1556
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1515	1770	3539	1538	1770	3539	1500	3433	3539	1556
Volume (vph)	193	219	102	54	325	328	156	672	28	169	321	222
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	199	226	105	56	335	338	161	693	29	174	331	229
RTOR Reduction (vph)	0	0	64	0	0	0	0	0	20	0	0	0
Lane Group Flow (vph)	199	226	41	56	335	338	161	693	9	174	331	229
Confl. Peds. (#/hr)			44			18			54			18
Turn Type	Prot		Perm	Prot		Free	Prot		Perm	Prot		Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Actuated Green, G (s)	9.0	28.9	28.9	2.0	21.9	76.4	5.9	22.5	22.5	4.2	20.8	76.4
Effective Green, g (s)	9.4	29.9	29.9	2.4	22.9	76.4	6.3	23.5	23.5	4.6	21.8	76.4
Actuated g/C Ratio	0.12	0.39	0.39	0.03	0.30	1.00	0.08	0.31	0.31	0.06	0.29	1.00
Clearance Time (s)	4.4	5.0	5.0	4.4	5.0		4.4	5.0	5.0	4.4	5.0	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.7		3.0	3.5	3.5	2.0	3.5	
Lane Grp Cap (vph)	218	1385	593	56	1061	1538	146	1089	461	207	1010	1556
v/s Ratio Prot	c0.11	0.06		0.03	c0.09		c0.09	c0.20		0.05	0.09	
v/s Ratio Perm			0.03			c0.22			0.01			0.15
v/c Ratio	0.91	0.16	0.07	1.00	0.32	0.22	1.10	0.64	0.02	0.84	0.33	0.15
Uniform Delay, d1	33.1	15.1	14.5	37.0	20.7	0.0	35.1	22.8	18.4	35.5	21.5	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	37.2	0.1	0.1	120.3	0.2	0.3	104.7	1.3	0.0	24.4	0.2	0.2
Delay (s)	70.3	15.2	14.6	157.3	20.9	0.3	139.7	24.1	18.4	59.9	21.7	0.2
Level of Service	E	B	B	F	C	A	F	C	B	E	C	A
Approach Delay (s)		35.8			21.8			45.0			24.1	
Approach LOS		D			C			D			C	

Intersection Summary

HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	76.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	600	0	0	0	0	0	0	0	0	113	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	645	0	0	0	0	0	0	0	0	122	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			645			706	645	323	323	645	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			645			706	645	323	323	645	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	*7.4	3.3
p0 queue free %	100			100			100	100	100	100	55	100
cM capacity (veh/h)	1622			936			210	389	673	607	272	1084

Direction, Lane #	EB 1	EB 2	SB 1
Volume Total	323	323	122
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	272
Volume to Capacity	0.19	0.19	0.45
Queue Length 95th (ft)	0	0	54
Control Delay (s)	0.0	0.0	28.5
Lane LOS			D
Approach Delay (s)	0.0		28.5
Approach LOS			D

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.95		0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97			0.99	
Satd. Flow (prot)	1770	5085	1545	1770	3539	1505		1738			1687	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.73			0.85	
Satd. Flow (perm)	1770	5085	1545	1770	3539	1505		1301			1455	
Volume (vph)	39	608	114	40	553	45	217	67	83	40	29	73
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	42	654	123	43	595	48	233	72	89	43	31	78
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	0	0	0
Lane Group Flow (vph)	42	654	123	43	595	22	0	394	0	0	152	0
Confl. Peds. (#/hr)			8			12	9		17	17		9
Confl. Bikes (#/hr)									2			6
Turn Type	Prot		Free	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			4			4	
Permitted Phases			Free			6	4			4		
Actuated Green, G (s)	4.4	35.1	80.0	4.5	35.4	35.4		26.0			26.0	
Effective Green, g (s)	4.8	36.2	80.0	4.9	36.3	36.3		26.9			26.9	
Actuated g/C Ratio	0.06	0.45	1.00	0.06	0.45	0.45		0.34			0.34	
Clearance Time (s)	4.4	5.1		4.4	4.9	4.9		4.9			4.9	
Vehicle Extension (s)	2.0	3.5		2.0	3.5	3.5		2.0			2.0	
Lane Grp Cap (vph)	106	2301	1545	108	1606	683		437			489	
v/s Ratio Prot	0.02	0.13		c0.02	c0.17							
v/s Ratio Perm			c0.08			0.01		c0.30			0.10	
v/c Ratio	0.40	0.28	0.08	0.40	0.37	0.03		0.90			0.31	
Uniform Delay, d1	36.2	13.8	0.0	36.1	14.3	12.1		25.3			19.7	
Progression Factor	1.00	1.00	1.00	1.27	0.87	0.82		1.00			1.00	
Incremental Delay, d2	0.9	0.3	0.1	0.9	0.7	0.1		21.0			0.1	
Delay (s)	37.1	14.1	0.1	46.7	13.1	10.0		46.3			19.8	
Level of Service	D	B	A	D	B	B		D			B	
Approach Delay (s)		13.2			15.0			46.3			19.8	
Approach LOS		B			B			D			B	

Intersection Summary

HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↱			✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.97	
Satd. Flow (prot)	1770	5045		1770	3532			1720			1708	
Flt Permitted	0.95	1.00		0.95	1.00			0.76			0.84	
Satd. Flow (perm)	1770	5045		1770	3532			1361			1488	
Volume (vph)	3	601	28	31	653	8	58	1	20	17	2	9
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3	660	31	34	718	9	64	1	22	19	2	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	3	691	0	34	727	0	0	87	0	0	31	0
Confl. Peds. (#/hr)			4			1	4		13	13		4
Confl. Bikes (#/hr)			1			1			4			5
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.8	51.1		3.7	54.2			10.8			10.8	
Effective Green, g (s)	1.2	52.2		4.1	55.1			11.7			11.7	
Actuated g/C Ratio	0.01	0.65		0.05	0.69			0.15			0.15	
Clearance Time (s)	4.4	5.1		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	4.7		2.0	3.9			2.0			2.0	
Lane Grp Cap (vph)	27	3292		91	2433			199			218	
v/s Ratio Prot	0.00	0.14		c0.02	c0.21							
v/s Ratio Perm								c0.06			0.02	
v/c Ratio	0.11	0.21		0.37	0.30			0.44			0.14	
Uniform Delay, d1	38.9	5.6		36.7	4.9			31.1			29.8	
Progression Factor	1.01	1.05		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.7	0.1		0.9	0.3			0.6			0.1	
Delay (s)	40.0	6.0		37.6	5.2			31.7			29.9	
Level of Service	D	A		D	A			C			C	
Approach Delay (s)		6.2			6.6			31.7			29.9	
Approach LOS		A			A			C			C	

Intersection Summary

HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1530	1770	3383		1770	3434		1770	3406	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1530	1770	3383		1770	3434		1770	3406	
Volume (vph)	150	355	121	140	419	137	180	815	156	125	345	93
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	165	390	133	154	460	151	198	896	171	137	379	102
RTOR Reduction (vph)	0	0	99	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	165	390	34	154	611	0	198	1067	0	137	481	0
Confl. Peds. (#/hr)			22			16			20			13
Confl. Bikes (#/hr)						1			8			5
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	10.7	22.0	22.0	10.2	21.7		13.6	30.6		9.4	25.1	
Effective Green, g (s)	11.1	23.1	23.1	10.6	22.6		14.0	31.8		9.8	27.6	
Actuated g/C Ratio	0.12	0.25	0.25	0.12	0.25		0.15	0.35		0.11	0.30	
Clearance Time (s)	4.4	5.1	5.1	4.4	4.9		4.4	5.2		4.4	6.5	
Vehicle Extension (s)	2.0	3.7	3.7	2.0	3.7		2.0	3.2		2.0	3.6	
Lane Grp Cap (vph)	215	895	387	205	837		271	1196		190	1030	
v/s Ratio Prot	c0.09	0.11		0.09	c0.18		c0.11	c0.31		0.08	0.14	
v/s Ratio Perm			0.02									
v/c Ratio	0.77	0.44	0.09	0.75	0.73		0.73	0.89		0.72	0.47	
Uniform Delay, d1	38.8	28.6	26.0	39.1	31.5		36.9	28.1		39.4	25.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.7	0.4	0.1	12.8	3.4		8.4	8.8		10.8	0.4	
Delay (s)	52.5	29.1	26.2	51.9	34.9		45.3	36.9		50.2	26.3	
Level of Service	D	C	C	D	C		D	D		D	C	
Approach Delay (s)		34.1			38.3			38.2			31.6	
Approach LOS		C			D			D			C	

Intersection Summary

HCM Average Control Delay	36.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	91.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.98			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.99	
Satd. Flow (prot)	1770	3500		1770	3518			1754			1708	
Flt Permitted	0.95	1.00		0.95	1.00			0.76			0.91	
Satd. Flow (perm)	1770	3500		1770	3518			1373			1572	
Volume (vph)	20	474	32	17	514	19	75	30	22	25	26	37
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	499	34	18	541	20	79	32	23	26	27	39
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	21	533	0	18	561	0	0	134	0	0	92	0
Confl. Peds. (#/hr)			5			1	5		20	20		5
Confl. Bikes (#/hr)			1			1			3			6
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	2.7	58.5		2.6	58.4			14.7			14.7	
Effective Green, g (s)	3.1	59.4		3.0	59.3			15.6			15.6	
Actuated g/C Ratio	0.03	0.66		0.03	0.66			0.17			0.17	
Clearance Time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.6			2.0			2.0	
Lane Grp Cap (vph)	61	2310		59	2318			238			272	
v/s Ratio Prot	c0.01	0.15		0.01	c0.16							
v/s Ratio Perm								c0.10			0.06	
v/c Ratio	0.34	0.23		0.31	0.24			0.56			0.34	
Uniform Delay, d1	42.5	6.1		42.5	6.2			34.1			32.7	
Progression Factor	1.00	1.00		1.25	0.55			1.00			1.00	
Incremental Delay, d2	1.2	0.2		1.1	0.2			1.8			0.3	
Delay (s)	43.7	6.4		54.2	3.6			35.9			32.9	
Level of Service	D	A		D	A			D			C	
Approach Delay (s)		7.8			5.2			35.9			32.9	
Approach LOS		A			A			D			C	

Intersection Summary

HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱		↰↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	100	8	882	134	9	431
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	104	8	919	140	9	449
Pedestrians	5		3			2
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			602			
pX, platoon unblocked	0.90	0.90			0.90	
vC, conflicting volume	1170	466			924	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1076	293			802	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	45	99			99	
cM capacity (veh/h)	189	628			731	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	104	8	459	459	140	159	299
Volume Left	104	0	0	0	0	9	0
Volume Right	0	8	0	0	140	0	0
cSH	189	628	1700	1700	1700	731	1700
Volume to Capacity	0.55	0.01	0.27	0.27	0.08	0.01	0.18
Queue Length 95th (ft)	73	1	0	0	0	1	0
Control Delay (s)	45.4	10.8	0.0	0.0	0.0	0.7	0.0
Lane LOS	E	B				A	
Approach Delay (s)	42.9		0.0			0.3	
Approach LOS	E						

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1788	1554		1770	1543	1770	3498		1770	3517	
Flt Permitted		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1788	1554		1770	1543	1770	3498		1770	3517	
Volume (vph)	49	10	6	69	0	145	3	690	45	49	405	15
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	56	11	7	78	0	165	3	784	51	56	460	17
RTOR Reduction (vph)	0	0	6	0	0	146	0	3	0	0	2	0
Lane Group Flow (vph)	0	67	1	0	78	19	3	832	0	56	475	0
Confl. Peds. (#/hr)	3		2	2		3	5		11	11		5
Confl. Bikes (#/hr)			2			3			11			5
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8						
Actuated Green, G (s)		10.0	10.0		10.2	10.2	1.1	56.9		6.6	62.7	
Effective Green, g (s)		11.9	11.9		12.1	12.1	1.5	59.0		7.0	64.5	
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.01	0.56		0.07	0.61	
Clearance Time (s)		5.9	5.9		5.9	5.9	4.4	6.1		4.4	5.8	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.0	3.3		2.0	3.3	
Lane Grp Cap (vph)		201	174		202	176	25	1947		117	2140	
v/s Ratio Prot		c0.04			c0.04		0.00	c0.24		c0.03	0.14	
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.33	0.00		0.39	0.11	0.12	0.43		0.48	0.22	
Uniform Delay, d1		43.4	41.8		43.5	42.1	51.6	13.7		47.7	9.4	
Progression Factor		1.00	1.00		1.00	1.00	1.14	0.63		1.00	1.00	
Incremental Delay, d2		1.0	0.0		1.2	0.3	0.8	0.7		1.1	0.2	
Delay (s)		44.4	41.8		44.7	42.4	59.6	9.3		48.9	9.6	
Level of Service		D	D		D	D	E	A		D	A	
Approach Delay (s)		44.1			43.1			9.5			13.8	
Approach LOS		D			D			A			B	

Intersection Summary

HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.96		1.00	0.99		1.00	1.00	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1762			1741		1770	3493		1770	3523	
Flt Permitted		0.70			0.77		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1264			1380		1770	3493		1770	3523	
Volume (vph)	64	22	20	77	24	44	21	616	58	28	449	15
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	66	23	21	79	25	45	22	635	60	29	463	15
RTOR Reduction (vph)	0	10	0	0	19	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	100	0	0	130	0	22	692	0	29	477	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		14.7			14.7		2.8	72.6		4.3	73.5	
Effective Green, g (s)		15.6			15.6		3.2	73.7		4.7	75.2	
Actuated g/C Ratio		0.15			0.15		0.03	0.70		0.04	0.71	
Clearance Time (s)		4.9			4.9		4.4	5.1		4.4	5.7	
Vehicle Extension (s)		2.0			2.0		2.0	4.7		2.0	4.7	
Lane Grp Cap (vph)		186			203		53	2429		78	2499	
v/s Ratio Prot							0.01	c0.20		c0.02	0.14	
v/s Ratio Perm		0.08			c0.09							
v/c Ratio		0.54			0.64		0.42	0.28		0.37	0.19	
Uniform Delay, d1		41.9			42.6		50.5	6.1		49.2	5.2	
Progression Factor		1.00			1.00		1.11	0.50		1.00	1.16	
Incremental Delay, d2		1.5			5.1		1.8	0.3		1.1	0.2	
Delay (s)		43.3			47.7		57.6	3.3		50.2	6.2	
Level of Service		D			D		E	A		D	A	
Approach Delay (s)		43.3			47.7			5.0			8.7	
Approach LOS		D			D			A			A	

Intersection Summary

HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱		↰	↰↑	↱	↰	↑↑↱		↰	↑↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt		0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98		0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1753		1681	1750	1583	1770	3473		1770	3521	
Flt Permitted		0.98		0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1753		1681	1750	1583	1770	3473		1770	3521	
Volume (vph)	34	40	36	121	80	203	14	450	64	76	459	17
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	37	43	39	130	86	218	15	484	69	82	494	18
RTOR Reduction (vph)	0	16	0	0	0	187	0	8	0	0	2	0
Lane Group Flow (vph)	0	103	0	105	111	31	15	545	0	82	510	0
Turn Type	Split			Split		Perm	Prot			Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)		11.3		13.3	13.3	13.3	2.6	53.0		8.1	58.4	
Effective Green, g (s)		12.2		15.0	15.0	15.0	3.0	54.3		8.5	59.8	
Actuated g/C Ratio		0.12		0.14	0.14	0.14	0.03	0.51		0.08	0.56	
Clearance Time (s)		4.9		5.7	5.7	5.7	4.4	5.3		4.4	5.4	
Vehicle Extension (s)		3.6		2.6	2.6	2.6	2.0	5.0		2.0	4.7	
Lane Grp Cap (vph)		202		238	248	224	50	1779		142	1986	
v/s Ratio Prot		c0.06		0.06	c0.06		0.01	c0.16		c0.05	0.14	
v/s Ratio Perm						0.02						
v/c Ratio		0.51		0.44	0.45	0.14	0.30	0.31		0.58	0.26	
Uniform Delay, d1		44.1		41.7	41.7	39.8	50.5	15.0		47.0	11.8	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.30	0.42	
Incremental Delay, d2		2.6		1.0	1.0	0.2	1.2	0.4		3.5	0.3	
Delay (s)		46.7		42.7	42.7	40.1	51.7	15.4		64.7	5.3	
Level of Service		D		D	D	D	D	B		E	A	
Approach Delay (s)		46.7			41.4			16.4			13.5	
Approach LOS		D			D			B			B	

Intersection Summary

HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Existing AM
19: Lea Street & 54th St

3/27/2014

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↑↱		↰	↑↱	
Volume (vph)	55	0	52	17	0	5	29	870	6	0	405	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95			0.95	
Frt		0.93			0.97		1.00	1.00			0.99	
Flt Protected		0.97			0.96		0.95	1.00			1.00	
Satd. Flow (prot)		1697			1740		1770	3536			3511	
Flt Permitted		0.83			0.74		0.95	1.00			1.00	
Satd. Flow (perm)		1438			1339		1770	3536			3511	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	59	0	56	18	0	5	31	935	6	0	435	24
RTOR Reduction (vph)	0	39	0	0	4	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	76	0	0	19	0	31	941	0	0	457	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Actuated Green, G (s)		10.7			10.7		5.0	85.3			75.8	
Effective Green, g (s)		11.2			11.2		5.5	85.8			76.3	
Actuated g/C Ratio		0.11			0.11		0.05	0.82			0.73	
Clearance Time (s)		4.5			4.5		4.5	4.5			4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		153			143		93	2889			2551	
v/s Ratio Prot							0.02	c0.27			0.13	
v/s Ratio Perm		c0.05			0.01							
v/c Ratio		0.49			0.13		0.33	0.33			0.18	
Uniform Delay, d1		44.2			42.5		48.0	2.4			4.5	
Progression Factor		1.00			1.00		1.00	1.00			1.00	
Incremental Delay, d2		2.5			0.4		2.1	0.3			0.2	
Delay (s)		46.7			42.9		50.1	2.7			4.7	
Level of Service		D			D		D	A			A	
Approach Delay (s)		46.7			42.9			4.2			4.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑	↰↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Volume (vph)	1057	1133	100	763	616	66
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1101	1180	104	795	642	69
RTOR Reduction (vph)	0	86	0	0	0	48
Lane Group Flow (vph)	1101	1094	104	795	642	21
Turn Type		pm+ov	Prot			Perm
Protected Phases	2	3	1	6	3	
Permitted Phases		2				3
Actuated Green, G (s)	66.8	107.1	12.0	82.8	40.3	40.3
Effective Green, g (s)	68.9	109.6	12.4	85.3	40.7	40.7
Actuated g/C Ratio	0.51	0.82	0.09	0.64	0.30	0.30
Clearance Time (s)	6.1	4.4	4.4	6.5	4.4	4.4
Vehicle Extension (s)	4.3	2.0	2.0	4.8	2.0	2.0
Lane Grp Cap (vph)	1820	1342	164	2253	1043	481
v/s Ratio Prot	0.31	c0.25	c0.06	0.22	0.19	
v/s Ratio Perm		0.44				0.01
v/c Ratio	0.60	0.82	0.63	0.35	0.62	0.04
Uniform Delay, d1	23.0	6.7	58.6	11.4	39.9	32.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	3.7	5.8	0.4	0.8	0.0
Delay (s)	24.5	10.4	64.4	11.8	40.7	32.9
Level of Service	C	B	E	B	D	C
Approach Delay (s)	17.2			17.9	40.0	
Approach LOS	B			B	D	

Intersection Summary

HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	134.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Volume (vph)	60	39	576	83	61	1004
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	42	626	90	66	1091
RTOR Reduction (vph)	0	39	0	83	0	0
Lane Group Flow (vph)	65	3	626	7	66	1091
Turn Type		Perm		Over	Prot	
Protected Phases	3		2	3	1	6
Permitted Phases		3				
Actuated Green, G (s)	9.8	9.8	90.1	9.8	7.6	101.7
Effective Green, g (s)	9.8	9.8	90.6	9.8	7.6	102.2
Actuated g/C Ratio	0.08	0.08	0.75	0.08	0.06	0.85
Clearance Time (s)	4.0	4.0	4.5	4.0	4.0	4.5
Vehicle Extension (s)	2.0	2.0	3.7	2.0	2.0	3.7
Lane Grp Cap (vph)	145	129	2672	129	112	3014
v/s Ratio Prot	c0.04		0.18	0.00	c0.04	c0.31
v/s Ratio Perm		0.00				
v/c Ratio	0.45	0.03	0.23	0.06	0.59	0.36
Uniform Delay, d1	52.5	50.7	4.4	50.8	54.7	1.9
Progression Factor	1.00	1.00	0.47	1.70	1.00	1.00
Incremental Delay, d2	0.8	0.0	0.2	0.1	5.0	0.3
Delay (s)	53.3	50.7	2.2	86.4	59.7	2.2
Level of Service	D	D	A	F	E	A
Approach Delay (s)	52.3		12.8			5.5
Approach LOS	D		B			A

Intersection Summary

HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3422		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3422		1770	3539	1583
Volume (vph)	105	581	282	119	471	196	171	381	108	281	683	105
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	109	605	294	124	491	204	178	397	112	293	711	109
RTOR Reduction (vph)	0	0	177	0	0	126	0	27	0	0	0	76
Lane Group Flow (vph)	109	605	117	124	491	78	178	482	0	293	711	33
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	11.3	44.6	44.6	12.4	44.4	44.4	10.2	21.5		23.8	35.2	35.2
Effective Green, g (s)	11.7	44.5	44.5	12.8	45.6	45.6	10.6	22.5		24.2	36.1	36.1
Actuated g/C Ratio	0.10	0.37	0.37	0.11	0.38	0.38	0.09	0.19		0.20	0.30	0.30
Clearance Time (s)	4.4	3.9	3.9	4.4	5.2	5.2	4.4	5.0		4.4	4.9	4.9
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Lane Grp Cap (vph)	173	1312	587	189	1345	602	303	642		357	1065	476
v/s Ratio Prot	0.06	c0.17		c0.07	0.14		0.05	c0.14		c0.17	0.20	
v/s Ratio Perm			0.07			0.05						0.02
v/c Ratio	0.63	0.46	0.20	0.66	0.37	0.13	0.59	0.75		0.82	0.67	0.07
Uniform Delay, d1	52.1	28.7	25.6	51.5	26.8	24.3	52.6	46.1		45.8	36.7	30.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.17	0.98		0.95	0.97	0.95
Incremental Delay, d2	5.4	1.2	0.8	6.1	0.8	0.4	1.8	5.1		12.8	1.6	0.1
Delay (s)	57.5	29.8	26.4	57.6	27.5	24.7	63.2	50.3		56.4	37.3	28.6
Level of Service	E	C	C	E	C	C	E	D		E	D	C
Approach Delay (s)		31.8			31.4			53.6			41.4	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.92			0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1700			1689		1770	3514		1770	3515	
Flt Permitted		0.85			0.79		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1451			1345		1770	3514		1770	3515	
Volume (vph)	20	28	70	36	23	91	70	568	28	116	941	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	30	74	38	24	97	74	604	30	123	1001	48
RTOR Reduction (vph)	0	65	0	0	81	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	60	0	0	78	0	74	633	0	123	1048	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		14.0			14.0		8.3	78.1		13.3	82.9	
Effective Green, g (s)		14.9			14.9		8.7	79.4		13.7	84.4	
Actuated g/C Ratio		0.12			0.12		0.07	0.66		0.11	0.70	
Clearance Time (s)		4.9			4.9		4.4	5.3		4.4	5.5	
Vehicle Extension (s)		3.0			3.0		2.0	2.1		2.0	2.1	
Lane Grp Cap (vph)		180			167		128	2325		202	2472	
v/s Ratio Prot							0.04	0.18		c0.07	c0.30	
v/s Ratio Perm		0.04			c0.06							
v/c Ratio		0.33			0.47		0.58	0.27		0.61	0.42	
Uniform Delay, d1		48.0			48.9		53.9	8.4		50.6	7.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	0.56	
Incremental Delay, d2		1.1			2.1		3.9	0.3		3.1	0.5	
Delay (s)		49.1			51.0		57.8	8.7		53.9	4.7	
Level of Service		D			D		E	A		D	A	
Approach Delay (s)		49.1			51.0			13.8			9.9	
Approach LOS		D			D			B			A	

Intersection Summary

HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	25	39	7	8	48	18	72	28	45	15	37	32
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	28	44	8	9	55	20	82	32	51	17	42	36

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	81	84	165	95
Volume Left (vph)	28	9	82	17
Volume Right (vph)	8	20	51	36
Hadj (s)	0.05	-0.09	-0.05	-0.16
Departure Headway (s)	4.6	4.5	4.3	4.3
Degree Utilization, x	0.10	0.11	0.20	0.11
Capacity (veh/h)	721	743	791	785
Control Delay (s)	8.2	8.0	8.4	7.9
Approach Delay (s)	8.2	8.0	8.4	7.9
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.2		
HCM Level of Service	A		
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3463		1770	3503		1770	1751		1770	1820	
Flt Permitted	0.95	1.00		0.95	1.00		0.30	1.00		0.20	1.00	
Satd. Flow (perm)	1770	3463		1770	3503		564	1751		377	1820	
Volume (vph)	74	521	87	158	533	39	43	202	135	39	240	43
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	79	554	93	168	567	41	46	215	144	41	255	46
RTOR Reduction (vph)	0	10	0	0	4	0	0	33	0	0	9	0
Lane Group Flow (vph)	79	637	0	168	604	0	46	326	0	41	292	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.7	48.9		14.0	55.2		22.9	22.9		22.9	22.9	
Effective Green, g (s)	8.1	49.8		14.4	56.1		23.8	23.8		23.8	23.8	
Actuated g/C Ratio	0.08	0.50		0.14	0.56		0.24	0.24		0.24	0.24	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.1		2.0	2.3		3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	143	1725		255	1965		134	417		90	433	
v/s Ratio Prot	0.04	c0.18		c0.09	0.17			c0.19			0.16	
v/s Ratio Perm							0.08			0.11		
v/c Ratio	0.55	0.37		0.66	0.31		0.34	0.78		0.46	0.67	
Uniform Delay, d1	44.2	15.4		40.5	11.6		31.6	35.7		32.6	34.6	
Progression Factor	1.00	1.00		1.43	0.51		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	0.6		4.5	0.4		1.9	9.6		5.4	4.6	
Delay (s)	46.8	16.1		62.3	6.3		33.5	45.3		38.0	39.2	
Level of Service	D	B		E	A		C	D		D	D	
Approach Delay (s)		19.4			18.4			43.9			39.1	
Approach LOS		B			B			D			D	

Intersection Summary

HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.95			0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.97	
Frt	1.00	0.99		1.00	0.99			0.94			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3471		1770	3446			1619			1652	
Flt Permitted	0.95	1.00		0.95	1.00			0.87			0.64	
Satd. Flow (perm)	1770	3471		1770	3446			1423			1075	
Volume (vph)	65	685	37	47	616	55	40	51	78	95	51	52
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	66	692	37	47	622	56	40	52	79	96	52	53
RTOR Reduction (vph)	0	2	0	0	4	0	0	43	0	0	17	0
Lane Group Flow (vph)	66	727	0	47	674	0	0	128	0	0	184	0
Confl. Peds. (#/hr)	49		72	72		49	86		74	74		86
Confl. Bikes (#/hr)			15			17			7			11
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	6.5	64.0		5.1	62.6			18.0			18.0	
Effective Green, g (s)	6.5	64.9		5.1	63.5			18.0			18.0	
Actuated g/C Ratio	0.06	0.65		0.05	0.64			0.18			0.18	
Clearance Time (s)	4.0	4.9		4.0	4.9			4.0			4.0	
Vehicle Extension (s)	2.0	4.1		2.0	4.1			2.0			2.0	
Lane Grp Cap (vph)	115	2253		90	2188			256			194	
v/s Ratio Prot	c0.04	c0.21		0.03	0.20							
v/s Ratio Perm								0.09			c0.17	
v/c Ratio	0.57	0.32		0.52	0.31			0.50			0.95	
Uniform Delay, d1	45.4	7.8		46.3	8.3			37.0			40.5	
Progression Factor	1.40	0.49		0.81	1.94			1.00			1.00	
Incremental Delay, d2	4.1	0.4		2.2	0.3			0.6			48.7	
Delay (s)	67.8	4.2		39.9	16.4			37.5			89.2	
Level of Service	E	A		D	B			D			F	
Approach Delay (s)		9.5			17.9			37.5			89.2	
Approach LOS		A			B			D			F	

Intersection Summary

HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.94	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1500	1770	3539	1538	1770	3539	1481	3433	3539	1556
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1500	1770	3539	1538	1770	3539	1481	3433	3539	1556
Volume (vph)	126	647	254	128	568	309	223	431	61	477	592	184
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	130	667	262	132	586	319	230	444	63	492	610	190
RTOR Reduction (vph)	0	0	167	0	0	0	0	0	47	0	0	0
Lane Group Flow (vph)	130	667	95	132	586	319	230	444	16	492	610	190
Confl. Peds. (#/hr)			44			18			54			18
Turn Type	Prot		Perm	Prot		Free	Prot		Perm	Prot		Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Actuated Green, G (s)	9.7	30.6	30.6	9.6	30.5	100.0	17.3	23.9	23.9	17.1	23.7	100.0
Effective Green, g (s)	10.1	31.6	31.6	10.0	31.5	100.0	17.7	24.9	24.9	17.5	24.7	100.0
Actuated g/C Ratio	0.10	0.32	0.32	0.10	0.32	1.00	0.18	0.25	0.25	0.18	0.25	1.00
Clearance Time (s)	4.4	5.0	5.0	4.4	5.0		4.4	5.0	5.0	4.4	5.0	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.7		3.0	3.5	3.5	2.0	3.5	
Lane Grp Cap (vph)	179	1118	474	177	1115	1538	313	881	369	601	874	1556
v/s Ratio Prot	0.07	c0.19		c0.07	0.17		c0.13	0.13		c0.14	c0.17	
v/s Ratio Perm			0.06			c0.21			0.01			0.12
v/c Ratio	0.73	0.60	0.20	0.75	0.53	0.21	0.73	0.50	0.04	0.82	0.70	0.12
Uniform Delay, d1	43.6	28.8	25.0	43.8	28.1	0.0	38.9	32.2	28.5	39.7	34.3	0.0
Progression Factor	1.10	0.87	0.55	1.01	0.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.5	2.3	0.9	12.6	1.6	0.3	8.6	0.5	0.1	8.1	2.5	0.2
Delay (s)	59.5	27.4	14.7	56.7	25.4	0.3	47.6	32.8	28.6	47.8	36.8	0.2
Level of Service	E	C	B	E	C	A	D	C	C	D	D	A
Approach Delay (s)		28.2			21.6			37.0			35.6	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	1129	0	0	0	0	0	0	0	0	184	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	1214	0	0	0	0	0	0	0	0	198	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			1214			1313	1214	607	607	1214	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			1214			1313	1214	607	607	1214	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	*7.4	3.3
p0 queue free %	100			100			0	100	100	100	0	100
cM capacity (veh/h)	1622			570			0	180	439	380	146	1084

Direction, Lane #	EB 1	EB 2	SB 1
Volume Total	607	607	198
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	146
Volume to Capacity	0.36	0.36	1.36
Queue Length 95th (ft)	0	0	311
Control Delay (s)	0.0	0.0	256.7
Lane LOS			F
Approach Delay (s)	0.0		256.7
Approach LOS			F

Intersection Summary			
Average Delay	36.0		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑	↱		✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94		0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.96			0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97			0.98	
Satd. Flow (prot)	1770	5085	1545	1770	3539	1493		1718			1691	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.73			0.84	
Satd. Flow (perm)	1770	5085	1545	1770	3539	1493		1290			1448	
Volume (vph)	74	1025	247	59	803	43	210	30	88	36	22	53
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	80	1102	266	63	863	46	226	32	95	39	24	57
RTOR Reduction (vph)	0	0	0	0	0	18	0	0	0	0	0	0
Lane Group Flow (vph)	80	1102	266	63	863	28	0	353	0	0	120	0
Confl. Peds. (#/hr)			8			12	9		17	17		9
Confl. Bikes (#/hr)									2			6
Turn Type	Prot		Free	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			4			4	
Permitted Phases			Free			6	4			4		
Actuated Green, G (s)	7.5	47.9	100.0	6.9	47.5	47.5		30.8			30.8	
Effective Green, g (s)	7.9	49.0	100.0	7.3	48.4	48.4		31.7			31.7	
Actuated g/C Ratio	0.08	0.49	1.00	0.07	0.48	0.48		0.32			0.32	
Clearance Time (s)	4.4	5.1		4.4	4.9	4.9		4.9			4.9	
Vehicle Extension (s)	2.0	3.5		2.0	3.5	3.5		2.0			2.0	
Lane Grp Cap (vph)	140	2492	1545	129	1713	723		409			459	
v/s Ratio Prot	c0.05	0.22		0.04	c0.24							
v/s Ratio Perm			c0.17			0.02		c0.27			0.08	
v/c Ratio	0.57	0.44	0.17	0.49	0.50	0.04		0.86			0.26	
Uniform Delay, d1	44.4	16.6	0.0	44.6	17.6	13.6		32.1			25.4	
Progression Factor	1.14	1.04	1.00	1.06	0.89	0.99		1.00			1.00	
Incremental Delay, d2	3.0	0.5	0.2	1.0	1.0	0.1		16.4			0.1	
Delay (s)	53.8	17.7	0.2	48.1	16.8	13.5		48.5			25.5	
Level of Service	D	B	A	D	B	B		D			C	
Approach Delay (s)		16.5			18.6			48.5			25.5	
Approach LOS		B			B			D			C	

Intersection Summary

HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↱			✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.99	
Frt	1.00	0.99		1.00	1.00			0.93			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)	1770	5034		1770	3525			1669			1689	
Flt Permitted	0.95	1.00		0.95	1.00			0.85			0.86	
Satd. Flow (perm)	1770	5034		1770	3525			1446			1490	
Volume (vph)	14	980	58	55	793	18	37	3	41	20	1	14
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	15	1077	64	60	871	20	41	3	45	22	1	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	15	1141	0	60	891	0	0	89	0	0	38	0
Confl. Peds. (#/hr)			4			1	4		13	13		4
Confl. Bikes (#/hr)			1			1			4			5
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.6	65.9		6.8	70.3			12.9			12.9	
Effective Green, g (s)	3.0	67.0		7.2	71.2			13.8			13.8	
Actuated g/C Ratio	0.03	0.67		0.07	0.71			0.14			0.14	
Clearance Time (s)	4.4	5.1		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	4.7		2.0	3.9			2.0			2.0	
Lane Grp Cap (vph)	53	3373		127	2510			200			206	
v/s Ratio Prot	0.01	0.23		c0.03	c0.25							
v/s Ratio Perm								c0.06			0.03	
v/c Ratio	0.28	0.34		0.47	0.35			0.45			0.18	
Uniform Delay, d1	47.4	7.0		44.6	5.5			39.6			38.1	
Progression Factor	1.30	0.18		0.86	1.65			1.00			1.00	
Incremental Delay, d2	1.0	0.3		0.5	0.2			0.6			0.2	
Delay (s)	62.5	1.5		39.0	9.3			40.2			38.3	
Level of Service	E	A		D	A			D			D	
Approach Delay (s)		2.3			11.2			40.2			38.3	
Approach LOS		A			B			D			D	

Intersection Summary

HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1526	1770	3360		1770	3350		1770	3370	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1526	1770	3360		1770	3350		1770	3370	
Volume (vph)	207	582	328	235	432	169	225	514	205	220	699	255
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	227	640	360	258	475	186	247	565	225	242	768	280
RTOR Reduction (vph)	0	0	223	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	227	640	137	258	661	0	247	790	0	242	1048	0
Confl. Peds. (#/hr)			22			16			20			13
Confl. Bikes (#/hr)						1			8			5
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	13.6	24.7	24.7	12.6	23.9		14.9	28.6		15.0	27.4	
Effective Green, g (s)	14.0	25.8	25.8	13.0	24.8		15.3	29.8		15.4	29.9	
Actuated g/C Ratio	0.14	0.26	0.26	0.13	0.25		0.15	0.30		0.15	0.30	
Clearance Time (s)	4.4	5.1	5.1	4.4	4.9		4.4	5.2		4.4	6.5	
Vehicle Extension (s)	2.0	3.7	3.7	2.0	3.7		2.0	3.2		2.0	3.6	
Lane Grp Cap (vph)	248	913	394	230	833		271	998		273	1008	
v/s Ratio Prot	0.13	0.18		c0.15	c0.20		c0.14	0.24		0.14	c0.31	
v/s Ratio Perm			0.09									
v/c Ratio	0.92	0.70	0.35	1.12	0.79		0.91	0.79		0.89	1.04	
Uniform Delay, d1	42.4	33.6	30.2	43.5	35.2		41.7	32.2		41.4	35.0	
Progression Factor	0.93	0.68	1.32	1.00	1.10		1.00	1.00		1.00	1.00	
Incremental Delay, d2	33.8	2.5	0.7	95.7	5.4		31.8	6.4		26.6	39.2	
Delay (s)	73.1	25.5	40.7	139.2	44.2		73.5	38.7		68.0	74.2	
Level of Service	E	C	D	F	D		E	D		E	E	
Approach Delay (s)		38.7			70.9			47.0			73.1	
Approach LOS		D			E			D			E	

Intersection Summary

HCM Average Control Delay	57.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.98			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3486		1770	3513			1765			1708	
Flt Permitted	0.95	1.00		0.95	1.00			0.71			0.86	
Satd. Flow (perm)	1770	3486		1770	3513			1291			1498	
Volume (vph)	40	723	68	25	566	26	66	46	22	37	35	51
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	42	761	72	26	596	27	69	48	23	39	37	54
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	42	833	0	26	623	0	0	140	0	0	130	0
Confl. Peds. (#/hr)			5			1	5		20	20		5
Confl. Bikes (#/hr)			1			1			3			6
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	4.8	67.3		2.9	65.4			15.6			15.6	
Effective Green, g (s)	5.2	68.2		3.3	66.3			16.5			16.5	
Actuated g/C Ratio	0.05	0.68		0.03	0.66			0.16			0.16	
Clearance Time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.6			2.0			2.0	
Lane Grp Cap (vph)	92	2377		58	2329			213			247	
v/s Ratio Prot	c0.02	c0.24		0.01	0.18							
v/s Ratio Perm								c0.11			0.09	
v/c Ratio	0.46	0.35		0.45	0.27			0.66			0.53	
Uniform Delay, d1	46.0	6.6		47.5	6.9			39.1			38.2	
Progression Factor	0.96	0.88		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.1	0.4		2.0	0.3			5.5			0.9	
Delay (s)	45.1	6.2		49.5	7.2			44.6			39.1	
Level of Service	D	A		D	A			D			D	
Approach Delay (s)		8.1			8.9			44.6			39.1	
Approach LOS		A			A			D			D	

Intersection Summary

HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱		↰↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	100	8	669	248	6	942
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	104	8	697	258	6	981
Pedestrians	5		3			2
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			602			
pX, platoon unblocked	0.92	0.92			0.92	
vC, conflicting volume	1208	355			702	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1138	210			587	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	41	99			99	
cM capacity (veh/h)	177	727			900	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	104	8	348	348	258	333	654
Volume Left	104	0	0	0	0	6	0
Volume Right	0	8	0	0	258	0	0
cSH	177	727	1700	1700	1700	900	1700
Volume to Capacity	0.59	0.01	0.20	0.20	0.15	0.01	0.38
Queue Length 95th (ft)	80	1	0	0	0	1	0
Control Delay (s)	51.0	10.0	0.0	0.0	0.0	0.2	0.0
Lane LOS	F	B				A	
Approach Delay (s)	48.0		0.0			0.1	
Approach LOS	E						

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑	↱		↰↑	↱	↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1778	1560		1770	1583	1770	3491		1770	3512	
Flt Permitted		0.95	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1778	1560		1770	1583	1770	3491		1770	3512	
Volume (vph)	39	2	5	70	0	104	5	672	51	141	801	35
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	45	2	6	80	0	120	6	772	59	162	921	40
RTOR Reduction (vph)	0	0	5	0	0	107	0	5	0	0	2	0
Lane Group Flow (vph)	0	47	1	0	80	13	6	826	0	162	959	0
Confl. Peds. (#/hr)			2	2			16		16	16		16
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8						
Actuated Green, G (s)		8.0	8.0		9.8	9.8	1.2	49.1		16.8	65.0	
Effective Green, g (s)		9.9	9.9		11.7	11.7	1.6	51.2		17.2	66.8	
Actuated g/C Ratio		0.09	0.09		0.11	0.11	0.02	0.48		0.16	0.63	
Clearance Time (s)		5.9	5.9		5.9	5.9	4.4	6.1		4.4	5.8	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.0	3.3		2.0	3.3	
Lane Grp Cap (vph)		166	146		195	175	27	1686		287	2213	
v/s Ratio Prot		c0.03			c0.05		0.00	c0.24		c0.09	0.27	
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.28	0.00		0.41	0.08	0.22	0.49		0.56	0.43	
Uniform Delay, d1		44.7	43.6		43.9	42.3	51.6	18.6		40.9	10.0	
Progression Factor		1.00	1.00		1.00	1.00	1.35	0.58		1.00	1.00	
Incremental Delay, d2		0.9	0.0		1.4	0.2	1.5	1.0		1.5	0.6	
Delay (s)		45.7	43.6		45.3	42.5	71.3	11.7		42.5	10.6	
Level of Service		D	D		D	D	E	B		D	B	
Approach Delay (s)		45.4			43.6			12.1			15.2	
Approach LOS		D			D			B			B	

Intersection Summary

HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.97		1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1759			1748		1770	3461		1770	3512	
Flt Permitted		0.77			0.72		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1381			1287		1770	3461		1770	3512	
Volume (vph)	57	30	28	80	22	34	42	642	110	39	795	43
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	32	29	84	23	36	44	676	116	41	837	45
RTOR Reduction (vph)	0	14	0	0	14	0	0	6	0	0	2	0
Lane Group Flow (vph)	0	107	0	0	129	0	44	786	0	41	880	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		14.7			14.7		6.2	73.7		3.2	70.1	
Effective Green, g (s)		15.6			15.6		6.6	74.8		3.6	71.8	
Actuated g/C Ratio		0.15			0.15		0.06	0.71		0.03	0.68	
Clearance Time (s)		4.9			4.9		4.4	5.1		4.4	5.7	
Vehicle Extension (s)		2.0			2.0		2.0	4.7		2.0	4.7	
Lane Grp Cap (vph)		203			189		110	2442		60	2379	
v/s Ratio Prot							0.02	c0.23		c0.02	c0.25	
v/s Ratio Perm		0.08			c0.10							
v/c Ratio		0.53			0.68		0.40	0.32		0.68	0.37	
Uniform Delay, d1		41.8			42.8		47.8	5.9		50.6	7.4	
Progression Factor		1.00			1.00		1.14	0.31		1.27	0.62	
Incremental Delay, d2		1.1			7.4		0.8	0.3		21.3	0.4	
Delay (s)		42.9			50.3		55.0	2.2		85.5	5.0	
Level of Service		D			D		E	A		F	A	
Approach Delay (s)		42.9			50.3			4.9			8.5	
Approach LOS		D			D			A			A	

Intersection Summary

HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱		↰	↰↑	↱	↰	↑↑↱		↰	↑↑↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt		0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1780		1681	1770	1583	1770	3462		1770	3512	
Flt Permitted		0.99		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1780		1681	1770	1583	1770	3462		1770	3512	
Volume (vph)	20	67	32	77	81	149	26	624	106	177	695	38
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	71	34	82	86	159	28	664	113	188	739	40
RTOR Reduction (vph)	0	12	0	0	0	138	0	12	0	0	3	0
Lane Group Flow (vph)	0	114	0	82	86	21	28	765	0	188	776	0
Turn Type	Split			Split		Perm	Prot			Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)		11.3		12.4	12.4	12.4	4.3	41.0		21.0	57.6	
Effective Green, g (s)		12.2		14.1	14.1	14.1	4.7	42.3		21.4	59.0	
Actuated g/C Ratio		0.12		0.13	0.13	0.13	0.04	0.40		0.20	0.56	
Clearance Time (s)		4.9		5.7	5.7	5.7	4.4	5.3		4.4	5.4	
Vehicle Extension (s)		3.6		2.6	2.6	2.6	2.0	5.0		2.0	4.7	
Lane Grp Cap (vph)		205		224	235	211	78	1382		357	1955	
v/s Ratio Prot		c0.06		c0.05	0.05		0.02	c0.22		c0.11	0.22	
v/s Ratio Perm						0.01						
v/c Ratio		0.55		0.37	0.37	0.10	0.36	0.55		0.53	0.40	
Uniform Delay, d1		44.3		41.9	41.9	40.4	49.2	24.6		37.8	13.4	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.33	0.71	
Incremental Delay, d2		3.6		0.8	0.8	0.2	1.0	1.6		0.6	0.6	
Delay (s)		48.0		42.7	42.6	40.5	50.2	26.2		50.9	10.1	
Level of Service		D		D	D	D	D	C		D	B	
Approach Delay (s)		48.0			41.6			27.0			18.0	
Approach LOS		D			D			C			B	

Intersection Summary

HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↑↱		↰	↑↱	
Volume (vph)	34	2	47	51	15	7	47	539	8	5	952	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.92			0.99		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1686			1775		1770	3531		1770	3512	
Flt Permitted		0.86			0.69		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1474			1271		1770	3531		1770	3512	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	37	2	51	55	16	8	51	580	9	5	1024	55
RTOR Reduction (vph)	0	46	0	0	4	0	0	1	0	0	3	0
Lane Group Flow (vph)	0	44	0	0	75	0	51	588	0	5	1076	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Actuated Green, G (s)		10.7			10.7		7.3	79.5		1.3	73.5	
Effective Green, g (s)		11.2			11.2		7.8	80.0		1.8	74.0	
Actuated g/C Ratio		0.11			0.11		0.07	0.76		0.02	0.70	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		157			136		131	2690		30	2475	
v/s Ratio Prot							c0.03	0.17		0.00	c0.31	
v/s Ratio Perm		0.03			c0.06							
v/c Ratio		0.28			0.55		0.39	0.22		0.17	0.43	
Uniform Delay, d1		43.2			44.5		46.3	3.6		50.9	6.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			4.5		1.9	0.2		2.6	0.6	
Delay (s)		44.2			49.0		48.2	3.8		53.5	7.2	
Level of Service		D			D		D	A		D	A	
Approach Delay (s)		44.2			49.0			7.3			7.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX C

MTS BUS ROUTE TABLES

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*

Day Pass (Regional) / *Pase diario (Regional)* Compass Card required ($2) / *Se requiere un Compass Card ($2)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.25
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.10*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

All passes are sold on Compass Card, which can be reloaded and reused for up to five years. Compass Cards are available for $2 at select outlets. A $5 Day Pass requires a Compass Card. A paper Day Pass can be purchased on board buses for an additional $2 fee.

Todos los pases se venden en el Compass Card, el cual puede ser recargado y reutilizado por hasta cinco años. Compass Cards están disponibles por $2 en selectas sucursales. Un pase de un día por $5 requiere un Compass Card. Un pase de un día de papel se puede obtener a bordo los autobuses por un costo adicional de $2.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	511 or/ó (619) 233-3004
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	(619) 234-5005 or/ó (888) 722-4889
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	(619) 685-4900
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	(619) 557-4555
SafeWatch	(619) 557-4500
The Transit Store / Lost & Found *The Transit Store / Objetos extraviados*	(619) 234-1060
Articles found on the bus are turned in at The Transit Store *Artículos encontrados en los autobuses son entregados a The Transit Store*	1st & Broadway Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	www.sdmts.com

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com**.

*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a **www.sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective JANUARY 26, 2014

7

Downtown – La Mesa

via University Av.

DESTINATIONS

- Balboa Park
- City College
- City Heights Retail Village
- City Heights Transit Plaza
- Joan Kroc Center
- San Diego Zoo

TROLLEY CONNECTIONS
City College
La Mesa Blvd.

Metropolitan Transit System

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*

The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.
Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays
Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados >>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

Route 7 – Monday through Friday / *lunes a viernes*

Downtown ➡ North Park ➡ City Heights ➡ La Mesa

Ⓐ Front St. & B St. **DEPART**	Ⓒ Broadway & 3rd Av.	Ⓓ City College Trolley Sta. (11th Av.)	Ⓔ Park Bl. & University	Ⓕ University & 30th St.	Ⓗ University & Fairmount	Ⓘ University & College Av.	Ⓙ University & 69th St.	Ⓚ La Mesa Bl. Trolley **ARRIVE**
4:38a	4:41a	4:46a	4:54a	4:59a	5:08a	5:16a	5:19a	5:26a
5:00	5:04	5:10	5:19	5:24	5:34	5:43	5:46	—
5:20	5:24	5:30	5:39	5:44	5:54	6:03	6:06	6:13
5:35	5:39	5:45	5:54	5:59	6:09	6:18	6:21	—
5:50	5:54	6:00	6:09	6:14	6:24	6:33	6:36	6:43
6:03	6:07	6:13	6:23	6:29	6:39	6:49	6:52	—
6:15	6:19	6:25	6:35	6:41	6:51	7:01	7:04	7:12
6:27	6:31	6:37	6:47	6:53	7:03	7:13	7:16	—
6:37	6:41	6:48	6:59	7:05	7:16	7:27	7:31	7:39
6:48	6:53	7:00	7:11	7:17	7:28	7:39	7:43	—
7:00	7:05	7:12	7:23	7:29	7:40	7:51	7:55	8:03
7:12	7:17	7:24	7:35	7:41	7:52	8:03	8:07	—
7:24	7:29	7:36	7:47	7:53	8:04	8:15	8:19	8:27
7:36	7:41	7:48	7:59	8:05	8:16	8:27	8:31	—
7:48	7:53	8:00	8:11	8:17	8:28	8:39	8:43	8:51
8:00	8:05	8:12	8:23	8:30	8:42	8:53	8:57	—
8:12	8:17	8:24	8:35	8:42	8:54	9:05	9:09	9:18
8:24	8:29	8:36	8:47	8:54	9:06	9:17	9:21	—
8:36	8:41	8:48	8:59	9:06	9:18	9:29	9:33	9:42
8:48	8:53	9:00	9:11	9:18	9:30	9:41	9:45	—
9:00	9:05	9:12	9:23	9:30	9:42	9:53	9:57	10:06
9:12	9:17	9:24	9:35	9:42	9:54	10:05	10:09	—
9:24	9:29	9:36	9:47	9:54	10:06	10:17	10:21	10:30
9:36	9:41	9:48	9:59	10:06	10:18	10:29	10:33	—
9:48	9:53	10:00	10:11	10:18	10:30	10:41	10:45	10:54
10:00	10:05	10:12	10:23	10:30	10:42	10:53	10:57	—
10:12	10:17	10:24	10:35	10:42	10:54	11:05	11:09	11:18
10:24	10:29	10:36	10:47	10:54	11:06	11:17	11:21	—
10:36	10:41	10:48	10:59	11:06	11:18	11:29	11:33	11:42
10:48	10:53	11:00	11:11	11:18	11:30	11:41	11:45	—
11:00	11:05	11:12	11:23	11:30	11:42	11:53	11:57	**12:06p**
11:12	11:17	11:24	11:35	11:42	11:54	**12:05p**	**12:09p**	—
11:24	11:29	11:36	11:47	11:54	**12:06p**	**12:17**	**12:21**	**12:30**
11:36	11:41	11:48	11:59	**12:06p**	**12:18**	**12:29**	**12:33**	—
11:48	11:53	**12:00p**	**12:11p**	**12:18**	**12:30**	**12:41**	**12:45**	**12:54**
12:00p	**12:05p**	**12:12**	**12:23**	**12:30**	**12:42**	**12:53**	**12:57**	—
12:11	**12:16**	**12:23**	**12:35**	**12:42**	**12:56**	**1:08**	**1:12**	**1:22**
12:23	**12:28**	**12:35**	**12:47**	**12:54**	**1:08**	**1:20**	**1:24**	—
12:35	**12:40**	**12:47**	**12:59**	**1:06**	**1:20**	**1:32**	**1:36**	**1:46**
12:47	**12:52**	**12:59**	**1:11**	**1:18**	**1:32**	**1:44**	**1:48**	—
12:59	**1:04**	**1:11**	**1:23**	**1:30**	**1:44**	**1:56**	**2:00**	**2:10**
1:10	**1:16**	**1:23**	**1:35**	**1:42**	**1:57**	**2:09**	**2:13**	—
1:22	**1:28**	**1:35**	**1:47**	**1:54**	**2:09**	**2:21**	**2:25**	**2:35**
1:34	**1:40**	**1:47**	**1:59**	**2:06**	**2:21**	**2:33**	**2:37**	—
1:46	**1:52**	**1:59**	**2:11**	**2:18**	**2:33**	**2:45**	**2:49**	**2:59**
1:58	**2:04**	**2:11**	**2:23**	**2:30**	**2:45**	**2:57**	**3:01**	—
—	—	**R 2:20**	**2:32**	**2:39**	**2:54 B**	—	—	—
2:10	**2:16**	**2:23**	**2:35**	**2:42**	**2:57**	**3:09**	**3:13**	**3:23**
—	—	**R 2:32**	**2:44**	**2:51**	**3:06 B**	—	—	—
2:22	**2:28**	**2:35**	**2:47**	**2:54**	**3:09**	**3:21**	**3:25**	—
—	—	**R 2:44**	**2:56**	**3:03**	**3:18 B**	—	—	—
2:34	**2:40**	**2:47**	**2:59**	**3:06**	**3:21**	**3:33**	**3:37**	**3:47**
2:46	**2:52**	**2:59**	**3:11**	**3:18**	**3:33**	**3:45**	**3:49**	—
2:58	**3:04**	**3:11**	**3:23**	**3:30**	**3:45**	**3:57**	**4:01**	**4:11**
3:10	**3:16**	**3:23**	**3:35**	**3:42**	**3:57**	**4:09**	**4:13**	—
3:16	**3:22**	**3:29**	**3:41**	**3:48**	**4:03 B**	—	—	—
3:22	**3:28**	**3:35**	**3:47**	**3:54**	**4:09**	**4:21**	**4:25**	**4:35**
3:28	**3:34**	**3:41**	**3:53**	**4:00**	**4:15 B**	—	—	—
3:34	**3:40**	**3:47**	**3:59**	**4:06**	**4:21**	**4:33**	**4:37**	—
3:40	**3:46**	**3:53**	**4:05**	**4:12**	**4:27 B**	—	—	—
3:46	**3:52**	**3:59**	**4:11**	**4:18**	**4:33**	**4:45**	**4:49**	**4:59**
3:52	**3:58**	**4:05**	**4:17**	**4:24**	**4:39 B**	—	—	—
3:58	**4:04**	**4:11**	**4:23**	**4:30**	**4:45**	**4:57**	**5:01**	—
4:04	**4:10**	**4:17**	**4:29**	**4:36**	**4:51 B**	—	—	—
4:10	**4:16**	**4:23**	**4:35**	**4:42**	**4:57**	**5:09**	**5:13**	**5:23**
4:16	**4:22**	**4:29**	**4:41**	**4:48**	**5:03 B**	—	—	—
4:22	**4:28**	**4:35**	**4:47**	**4:54**	**5:09**	**5:21**	**5:25**	—
4:28	**4:34**	**4:41**	**4:53**	**5:00**	**5:15 B**	—	—	—
4:34	**4:40**	**4:47**	**4:59**	**5:06**	**5:21**	**5:33**	**5:37**	**5:47**
4:40	**4:46**	**4:53**	**5:05**	**5:12**	**5:27 B**	—	—	—
4:46	**4:52**	**4:59**	**5:11**	**5:18**	**5:33**	**5:45**	**5:49**	—
4:52	**4:58**	**5:05**	**5:17**	**5:24**	**5:39 B**	—	—	—
4:58	**5:04**	**5:11**	**5:23**	**5:30**	**5:45**	**5:57**	**6:01**	**6:11**
5:05	**5:11**	**5:18**	**5:29**	**5:36**	**5:50 B**	—	—	—
5:11	**5:17**	**5:24**	**5:35**	**5:42**	**5:56**	**6:08**	**6:12**	—
5:23	**5:29**	**5:36**	**5:47**	**5:54**	**6:08**	**6:20**	**6:24**	**6:33**
5:35	**5:41**	**5:48**	**5:59**	**6:06**	**6:20**	**6:31**	**6:35**	—
5:47	**5:53**	**6:00**	**6:11**	**6:18**	**6:32**	**6:43**	**6:47**	**6:56**
5:59	**6:05**	**6:12**	**6:23**	**6:30**	**6:44**	**6:55**	**6:59**	—
6:13	**6:19**	**6:26**	**6:37**	**6:43**	**6:56**	**7:06**	**7:10**	**7:18**
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6:42	**6:48**	**6:55**	**7:06**	**7:12**	**7:23**	**7:33**	**7:37**	**7:44**
6:58	**7:03**	**7:10**	**7:20**	**7:26**	**7:37**	**7:47**	**7:51**	—
7:14	**7:19**	**7:25**	**7:35**	**7:41**	**7:52**	**8:02**	**8:06**	**8:13**
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7:59	**8:04**	**8:10**	**8:20**	**8:26**	**8:36**	**8:45**	**8:48**	—
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8:45	**8:49**	**8:55**	**9:04**	**9:10**	**9:20**	**9:29**	**9:32**	**9:39**
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9:30	**9:34**	**9:40**	**9:49**	**9:55**	**10:05**	**10:14**	**10:17**	—
9:45	**9:49**	**9:55**	**10:04**	**10:10**	**10:20**	**10:29**	**10:32**	**10:39**
10:00	**10:04**	**10:10**	**10:19**	**10:24**	**10:33**	**10:42**	**10:45**	—
10:17	**10:20**	**10:25**	**10:34**	**10:39**	**10:48**	**10:57**	**11:00**	**11:07**
10:32	**10:35**	**10:40**	**10:49**	**10:54**	**11:03**	**11:12**	**11:15**	—
10:47	**10:50**	**10:55**	**11:04**	**11:09**	**11:18**	**11:27**	**11:30**	**11:37**
11:02	**11:05**	**11:10**	**11:18**	**11:23**	**11:31**	**11:39**	**11:42**	—
11:32	**11:35**	**11:40**	**11:48**	**11:53**	12:01a	12:09a	12:12a	—
12:02a	12:05a	12:10a	12:18a	12:23a	12:31	12:39	—	—
12:32	12:35	12:40	12:48	12:53	1:01	1:09	—	—
1:02	1:05	1:10	1:18	1:23	1:31	1:39	—	—
1:32	1:35	1:40	1:48	1:53	2:01 **B**	—	—	—

La Mesa ➡ City Heights ➡ North Park ➡ Downtown

Ⓚ La Mesa Bl. Trolley **DEPART**	Ⓙ University & 69th St.	Ⓘ University & College Av.	Ⓗ University & Fairmount	Ⓖ City Heights Transit Plaza @ 15 Fwy.	Ⓕ University & 30th St.	Ⓔ Park Bl. & University	Ⓓ City College Trolley Sta. (Park Bl.)	Ⓒ Broadway & 4th Av.	Ⓑ Broadway & 1st Av. **ARRIVE**
—	—	—	—	4:29a	4:35a	4:39a	4:47a	4:50a	4:53a
—	4:29a	4:32a	4:41a	4:44	4:51	4:56	5:04	5:08	5:11
—	4:44	4:47	4:56	4:59	5:06	5:11	5:19	5:23	5:26
—	4:59	5:02	5:11	5:14	5:21	5:26	5:34	5:38	5:41
—	5:12	5:15	5:24	5:27	5:34	5:39	5:47	5:51	5:54
—	5:24	5:27	5:36	5:39	5:46	5:52	6:00	6:04	6:07
—	5:36	5:39	5:48	5:51	5:58	6:04	6:12	6:16	6:20
—	—	—	—	6:03	6:10	6:16	6:24	6:28	6:32
5:47a	5:54	5:57	6:06	6:09	6:16	6:22	6:30	6:34	6:38
—	—	—	—	6:15	6:23	6:29	6:37	6:41	6:45
—	6:02	6:06	6:17	6:21	6:29	6:35	6:43	6:47	6:52
—	—	—	—	6:27	6:35	6:41	6:49	6:53	6:58
6:07	6:14	6:18	6:29	6:33	6:41	6:47	6:55	6:59	7:04
—	—	—	—	6:39	6:47	6:53	7:01	7:05	7:10
—	6:26	6:30	6:41	6:45	6:53	6:59	7:07	7:11	7:16
—	—	—	—	6:51	6:59	7:05	7:13	7:17	7:22
6:31	6:38	6:42	6:53	6:57	7:05	7:11	7:19	7:23	7:28
—	—	—	—	7:03	7:11	7:17	7:26	7:30	7:35
—	6:49	6:53	7:05	7:09	7:17	7:23	7:32	7:36	7:42
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6:53	7:01	7:05	7:17	7:21	7:29	7:35	7:44	7:48	7:54
—	—	—	—	7:27	7:35	7:41	7:50	7:54	8:00
—	7:13	7:17	7:29	7:33	7:41	7:47	7:56	8:00	8:06
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7:15	7:24	7:28	7:40	7:45	7:53	7:59	8:09	8:14	8:20
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—	7:36	7:40	7:52	7:57	8:05	8:11	8:21	8:26	8:32
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7:39	7:48	7:52	8:04	8:09	8:17	8:23	8:33	8:38	8:44
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—	8:00	8:04	8:16	8:21	8:29	8:35	8:45	8:50	8:56
8:03	8:12	8:16	8:28	8:33	8:41	8:47	8:57	9:02	9:08
—	8:24	8:28	8:40	8:45	8:53	8:59	9:09	9:14	9:20
8:27	8:36	8:40	8:52	8:57	9:05	9:11	9:21	9:26	9:32
—	8:48	8:52	9:04	9:09	9:17	9:23	9:33	9:38	9:44
8:51	9:00	9:04	9:16	9:21	9:29	9:35	9:45	9:50	9:56
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9:14	9:23	9:27	9:40	9:45	9:54	10:01	10:12	10:17	10:22
—	9:35	9:39	9:52	9:57	10:06	10:13	10:24	10:29	10:34
9:38	9:47	9:51	10:04	10:09	10:18	10:25	10:36	10:41	10:46
—	9:59	10:03	10:16	10:21	10:30	10:37	10:48	10:53	10:58
10:02	10:11	10:15	10:28	10:33	10:42	10:49	11:00	11:05	11:10
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10:26	10:35	10:39	10:52	10:57	11:06	11:13	11:24	11:29	11:34
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10:50	10:59	11:03	11:16	11:21	11:30	11:37	11:48	11:53	11:58
—	11:11	11:15	11:28	11:33	11:42	11:49	**12:00p**	**12:05p**	**12:10p**
11:14	11:23	11:27	11:40	11:45	11:54	**12:01p**	**12:12**	**12:17**	**12:22**
—	11:35	11:39	11:52	11:57	**12:06p**	**12:13**	**12:24**	**12:29**	**12:34**
11:38	11:47	11:51	**12:04p**	**12:09p**	**12:18**	**12:25**	**12:36**	**12:41**	**12:46**
—	11:59	**12:03p**	**12:16**	**12:21**	**12:30**	**12:37**	**12:48**	**12:53**	**12:58**
12:02p	**12:11p**	**12:15**	**12:28**	**12:33**	**12:42**	**12:49**	**1:00**	**1:05**	**1:10**
—	**12:23**	**12:27**	**12:40**	**12:45**	**12:54**	**1:01**	**1:12**	**1:17**	**1:22**
12:26	**12:35**	**12:39**	**12:52**	**12:57**	**1:06**	**1:13**	**1:24**	**1:29**	**1:34**
—	**12:47**	**12:51**	**1:04**	**1:09**	**1:18**	**1:25**	**1:36**	**1:41**	**1:46**
12:50	**12:59**	**1:03**	**1:16**	**1:21**	**1:30**	**1:37**	**1:48**	**1:53**	**1:58**
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—	**1:33**	**1:37**	**1:50**	**1:55**	**2:04**	**2:11**	**2:22**	**2:27**	**2:32**
—	**1:43**	**1:47**	**2:00**	**2:05**	**2:14**	**2:21**	**2:32**	**2:37**	**2:42**
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5:45	**5:54**	**5:58**	**6:11**	**6:15**	**6:24**	**6:31**	**6:41**	**6:45**	**6:50**
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8:40	**8:47**	**8:50**	**9:00**	**9:03**	**9:10**	**9:16**	**9:24**	**9:28**	**9:31**
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—	**9:37**	**9:40**	**9:50**	**9:53**	**10:00**	**10:06**	**10:14**	**10:18**	**10:21**
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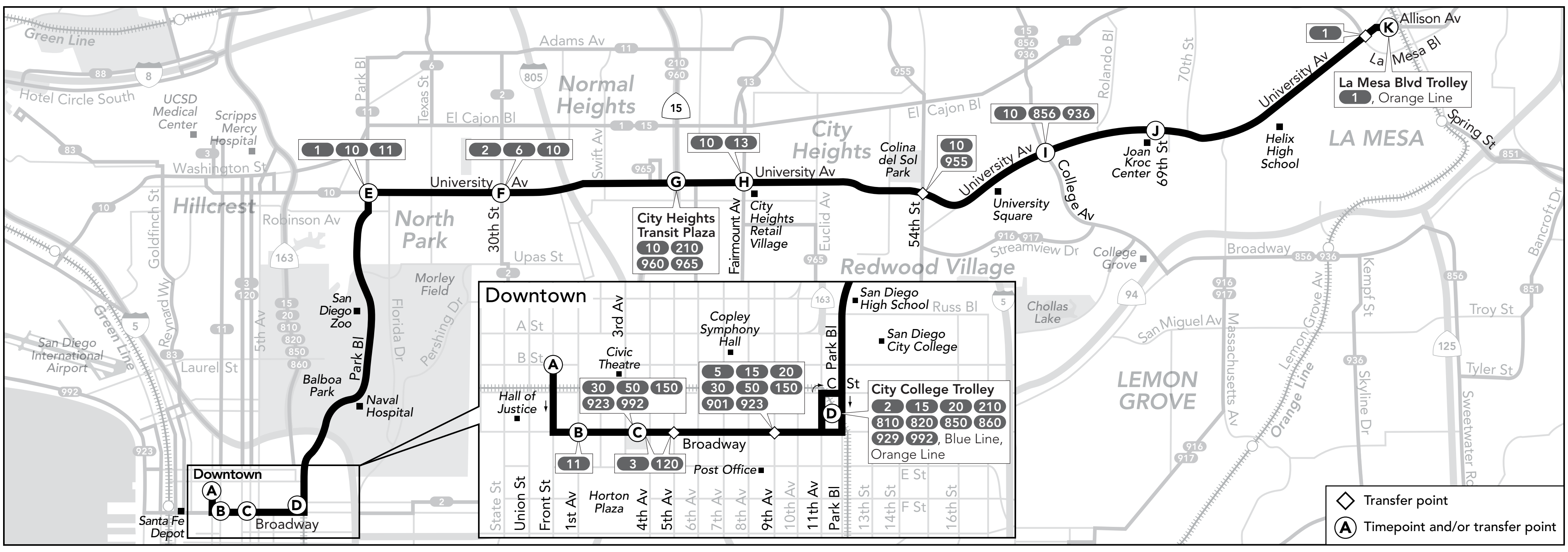
—	**11:31**	**11:34**	**11:42**	**11:45**	**11:51**	**11:57**	12:04a	12:08a	12:11a
—	12:01a	12:04a	12:12a	12:15a	12:21a	12:27a	12:34	12:38	12:41
—	12:31	12:34	12:42	12:45	12:51	12:57	1:04	1:08	1:11

B = Trip ends 8 minutes later at University Ave. & 54th St. / *Viaje termina 8 minutos después en University Ave. y 54th St.*
R = Trip does not operate during June, July and August school break / *Viaje no opera durante las vacaciones de escuela en junio, julio y agosto*



Route 7 – Saturday / *sábado*

Downtown ➡ North Park ➡ City Heights ➡ La Mesa

Ⓐ Front St. & B St. **DEPART**	Ⓒ Broadway & 3rd Av.	Ⓓ City College Trolley Sta. (11th Av.)	Ⓔ Park Bl. & University	Ⓕ University & 30th St.	Ⓗ University & Fairmount	Ⓘ University & College Av.	Ⓙ University & 69th St.	Ⓚ La Mesa Bl. Trolley **ARRIVE**
5:32a	5:35a	5:40a	5:49a	5:54a	6:04a	6:14a	6:16a	6:23a
6:01	6:04	6:10	6:19	6:24	6:35	6:46	6:48	6:55
6:31	6:34	6:40	6:49	6:54	7:05	7:16	7:18	7:25
6:46	6:49	6:55	7:04	7:09	7:20	7:31	—	—
7:01	7:04	7:10	7:19	7:24	7:35	7:46	7:48	7:55
7:15	7:19	7:25	7:35	7:40	7:52	8:03	—	—
7:30	7:34	7:40	7:50	7:55	8:07	8:18	8:21	8:28
7:45	7:49	7:55	8:05	8:10	8:23	8:34	—	—
7:58	8:02	8:08	8:18	8:23	8:36	8:47	8:51	8:58
8:09	8:13	8:19	8:29	8:34	8:47	8:58	—	—
8:20	8:24	8:30	8:40	8:45	8:58	9:09	9:13	9:20
8:31	8:35	8:42	8:52	8:58	9:12	9:24	—	—
8:43	8:47	8:54	9:04	9:10	9:24	9:36	9:40	9:48
8:55	8:59	9:06	9:16	9:22	9:36	9:48	—	—
9:07	9:11	9:18	9:28	9:34	9:48	10:00	10:04	10:12
9:19	9:23	9:30	9:41	9:48	10:02	10:15	—	—
9:31	9:35	9:42	9:53	10:00	10:14	10:27	10:31	10:39
9:43	9:47	9:54	10:05	10:12	10:26	10:39	—	—
9:55	9:59	10:06	10:17	10:24	10:38	10:51	10:55	11:03
10:06	10:10	10:18	10:29	10:36	10:51	11:05	—	—
10:18	10:22	10:30	10:41	10:48	11:03	11:17	11:21	11:30
10:30	10:34	10:42	10:53	11:00	11:15	11:29	—	—
10:42	10:46	10:54	11:05	11:12	11:27	11:41	11:45	11:54
10:54	10:58	11:06	11:17	11:24	11:39	11:53	—	—
11:06	11:10	11:18	11:29	11:36	11:51	**12:05p**	**12:09p**	**12:18p**
11:18	11:22	11:30	11:41	11:48	**12:03p**	**12:17**	—	—
11:30	11:34	11:42	11:53	**12:00p**	**12:15**	**12:29**	**12:33**	**12:42**
11:42	11:46	11:54	**12:05p**	**12:12**	**12:27**	**12:41**	—	—
11:54	11:58	**12:06p**	**12:17**	**12:24**	**12:39**	**12:53**	**12:57**	**1:06**
12:06p	**12:10p**	**12:18**	**12:29**	**12:36**	**12:51**	**1:05**	—	—
12:18	**12:22**	**12:30**	**12:41**	**12:48**	**1:03**	**1:17**	**1:21**	**1:30**
12:30	**12:34**	**12:42**	**12:53**	**1:00**	**1:15**	**1:29**	—	—
12:42	**12:46**	**12:54**	**1:05**	**1:12**	**1:27**	**1:41**	**1:45**	**1:54**
12:54	**12:58**	**1:06**	**1:17**	**1:24**	**1:39**	**1:53**	—	—
1:06	**1:10**	**1:18**	**1:29**	**1:36**	**1:51**	**2:05**	**2:09**	**2:18**
1:18	**1:22**	**1:30**	**1:41**	**1:48**	**2:03**	**2:17**	—	—
1:30	**1:34**	**1:42**	**1:53**	**2:00**	**2:15**	**2:29**	**2:33**	**2:42**
1:42	**1:46**	**1:54**	**2:05**	**2:12**	**2:27**	**2:41**	—	—
1:54	**1:58**	**2:06**	**2:17**	**2:24**	**2:39**	**2:53**	**2:57**	**3:06**
2:06	**2:10**	**2:18**	**2:29**	**2:36**	**2:51**	**3:05**	—	—
2:18	**2:22**	**2:30**	**2:41**	**2:48**	**3:03**	**3:17**	**3:21**	**3:30**
2:30	**2:34**	**2:42**	**2:53**	**3:00**	**3:15**	**3:29**	—	—
2:42	**2:46**	**2:54**	**3:05**	**3:12**	**3:27**	**3:41**	**3:45**	**3:54**
2:54	**2:58**	**3:06**	**3:17**	**3:24**	**3:39**	**3:53**	—	—
3:06	**3:10**	**3:18**	**3:29**	**3:36**	**3:51**	**4:05**	**4:09**	**4:18**
3:18	**3:22**	**3:30**	**3:41**	**3:48**	**4:03**	**4:17**	—	—
3:30	**3:34**	**3:42**	**3:53**	**4:00**	**4:15**	**4:29**	**4:33**	**4:42**
3:42	**3:46**	**3:54**	**4:05**	**4:12**	**4:27**	**4:41**	—	—
3:54	**3:58**	**4:06**	**4:17**	**4:24**	**4:38**	**4:51**	**4:55**	**5:03**
4:06	**4:10**	**4:18**	**4:29**	**4:36**	**4:50**	**5:03**	—	—
4:18	**4:22**	**4:30**	**4:41**	**4:48**	**5:02**	**5:15**	**5:19**	**5:27**
4:30	**4:34**	**4:42**	**4:53**	**5:00**	**5:14**	**5:27**	—	—
4:42	**4:46**	**4:54**	**5:05**	**5:12**	**5:26**	**5:39**	**5:43**	**5:51**
4:54	**4:58**	**5:06**	**5:17**	**5:24**	**5:38**	**5:51**	—	—
5:07	**5:11**	**5:18**	**5:29**	**5:36**	**5:49**	**6:01**	**6:04**	**6:11**
5:19	**5:23**	**5:30**	**5:41**	**5:48**	**6:01**	**6:13**	—	—
5:31	**5:35**	**5:42**	**5:53**	**6:00**	**6:13**	**6:25**	**6:28**	**6:35**
5:43	**5:47**	**5:54**	**6:05**	**6:12**	**6:25**	**6:37**	—	—
5:59	**6:03**	**6:10**	**6:21**	**6:28**	**6:41**	**6:53**	—	—
6:14	**6:18**	**6:25**	**6:36**	**6:43**	**6:56**	**7:08**	**7:11**	**7:18**
6:29	**6:33**	**6:40**	**6:51**	**6:58**	**7:11**	**7:23**	—	—
6:44	**6:48**	**6:55**	**7:06**	**7:13**	**7:26**	**7:38**	**7:41**	**7:48**
6:59	**7:03**	**7:10**	**7:21**	**7:28**	**7:41**	**7:53**	—	—
7:14	**7:18**	**7:25**	**7:36**	**7:43**	**7:56**	**8:08**	**8:11**	**8:18**
7:29	**7:33**	**7:40**	**7:49**	**7:56**	**8:08**	**8:19**	—	—
7:44	**7:48**	**7:55**	**8:04**	**8:11**	**8:23**	**8:34**	—	—
7:59	**8:03**	**8:10**	**8:19**	**8:26**	**8:38**	**8:49**	—	—
8:15	**8:19**	**8:25**	**8:34**	**8:41**	**8:53**	**9:03**	—	—
8:30	**8:34**	**8:40**	**8:49**	**8:56**	**9:08**	**9:18**	—	—
8:45	**8:49**	**8:55**	**9:04**	**9:10**	**9:21**	**9:30**	—	—
9:00	**9:04**	**9:10**	**9:19**	**9:25**	**9:36**	**9:45**	—	—
9:30	**9:34**	**9:40**	**9:49**	**9:55**	**10:06**	**10:15**	—	—
10:00	**10:04**	**10:10**	**10:19**	**10:25**	**10:36**	**10:45**	—	—
10:30	**10:34**	**10:40**	**10:48**	**10:54**	**11:04**	**11:13**	—	—
11:00	**11:04**	**11:10**	**11:18**	**11:24**	**11:34**	**11:43**	—	—
11:31	**11:34**	**11:40**	**11:48**	**11:53**	12:02a	12:11a	—	—
12:01a	12:04a	12:10a	12:18a	12:23a	12:32	12:41	—	—
12:31	12:34	12:40	12:48	12:53	1:02	1:11	—	—
1:01	1:04	1:10	1:18	1:23	1:32 **C**	—	—	—

La Mesa ➡ City Heights ➡ North Park ➡ Downtown

Ⓚ La Mesa Bl. Trolley **DEPART**	Ⓙ University & 69th St.	Ⓘ University & College Av.	Ⓗ University & Fairmount	Ⓖ City Heights Transit Plaza @ 15 Fwy.	Ⓕ University & 30th St.	Ⓔ Park Bl. & University	Ⓓ City College Trolley Sta. (Park Bl.)	Ⓒ Broadway & 4th Av.	Ⓑ Broadway & 1st Av. **ARRIVE**
—	—	4:55a **D**	5:06a	5:08a	5:16a	5:20a	5:29a	5:33a	5:36a
—	—	5:25 **D**	5:36	5:38	5:46	5:50	5:59	6:03	6:06
—	—	5:40 **D**	5:51	5:53	6:01	6:05	6:14	6:18	6:21
—	—	5:54 **D**	6:05	6:08	6:16	6:20	6:29	6:33	6:37
—	—	6:09 **D**	6:20	6:23	6:31	6:35	6:44	6:48	6:52
6:16a	6:23a	6:25	6:35	6:38	6:46	6:50	6:59	7:03	7:07
—	—	6:39 **D**	6:50	6:53	7:01	7:05	7:14	7:18	7:22
6:46	6:53	6:55	7:05	7:08	7:16	7:20	7:29	7:33	7:37
—	—	7:06 **D**	7:18	7:22	7:31	7:36	7:46	7:50	7:54
7:13	7:20	7:23	7:34	7:38	7:47	7:52	8:02	8:06	8:10
—	—	7:37 **D**	7:49	7:53	8:03	8:09	8:20	8:24	8:29
7:42	7:50	7:53	8:04	8:08	8:18	8:24	8:35	8:39	8:44
—	—	8:07 **D**	8:19	8:23	8:33	8:39	8:50	8:54	8:59
8:12	8:20	8:23	8:34	8:38	8:48	8:54	9:05	9:09	9:14
—	—	8:34 **D**	8:48	8:52	9:03	9:09	9:20	9:24	9:29
8:40	8:48	8:51	9:03	9:07	9:18	9:24	9:35	9:39	9:44
—	—	9:02 **D**	9:16	9:20	9:31	9:37	9:48	9:52	9:57
9:06	9:14	9:17	9:29	9:33	9:44	9:50	10:01	10:05	10:10
—	—	9:27 **D**	9:41	9:45	9:56	10:02	10:13	10:17	10:22
9:30	9:38	9:41	9:53	9:57	10:08	10:14	10:25	10:29	10:34
—	—	9:49 **D**	10:05	10:09	10:20	10:27	10:39	10:43	10:48
9:52	10:01	10:04	10:17	10:21	10:32	10:39	10:51	10:55	11:00
—	—	10:13 **D**	10:29	10:33	10:44	10:51	11:03	11:07	11:12
10:16	10:25	10:28	10:41	10:45	10:56	11:03	11:15	11:19	11:24
—	—	10:37 **D**	10:53	10:57	11:08	11:15	11:27	11:31	11:36
10:40	10:49	10:52	11:05	11:09	11:20	11:27	11:39	11:43	11:48
—	—	11:01 **D**	11:17	11:21	11:32	11:39	11:51	11:55	**12:00p**
11:04	11:13	11:16	11:29	11:33	11:44	11:51	**12:03p**	**12:07p**	**12:12**
—	—	11:25 **D**	11:41	11:45	11:56	**12:03p**	**12:16**	**12:20**	**12:25**
11:27	11:36	11:39	11:53	11:57	**12:08p**	**12:15**	**12:28**	**12:32**	**12:37**
—	—	11:49 **D**	**12:05p**	**12:09p**	**12:20**	**12:27**	**12:40**	**12:44**	**12:49**
11:51	**12:00p**	**12:03p**	**12:17**	**12:21**	**12:32**	**12:39**	**12:52**	**12:56**	**1:01**
—	—	**12:13 D**	**12:29**	**12:33**	**12:44**	**12:51**	**1:04**	**1:08**	**1:13**
12:15p	**12:24**	**12:27**	**12:41**	**12:45**	**12:56**	**1:03**	**1:16**	**1:20**	**1:25**
—	—	**12:37 D**	**12:53**	**12:57**	**1:08**	**1:15**	**1:28**	**1:32**	**1:37**
12:39	**12:48**	**12:51**	**1:05**	**1:09**	**1:20**	**1:27**	**1:40**	**1:44**	**1:49**
—	—	**1:01 D**	**1:17**	**1:21**	**1:32**	**1:39**	**1:52**	**1:56**	**2:01**
1:03	**1:12**	**1:15**	**1:29**	**1:33**	**1:44**	**1:51**	**2:04**	**2:08**	**2:13**
—	—	**1:25 D**	**1:41**	**1:45**	**1:56**	**2:03**	**2:16**	**2:20**	**2:25**
1:27	**1:36**	**1:39**	**1:53**	**1:57**	**2:08**	**2:15**	**2:28**	**2:32**	**2:37**
—	—	**1:49 D**	**2:05**	**2:09**	**2:20**	**2:27**	**2:40**	**2:44**	**2:49**
1:51	**2:00**	**2:03**	**2:17**	**2:21**	**2:32**	**2:39**	**2:52**	**2:56**	**3:01**
—	—	**2:13 D**	**2:29**	**2:33**	**2:44**	**2:51**	**3:04**	**3:08**	**3:13**
2:15	**2:24**	**2:27**	**2:41**	**2:45**	**2:56**	**3:03**	**3:16**	**3:20**	**3:25**
—	—	**2:37 D**	**2:53**	**2:57**	**3:08**	**3:15**	**3:28**	**3:32**	**3:37**
2:39	**2:48**	**2:51**	**3:05**	**3:09**	**3:20**	**3:27**	**3:40**	**3:44**	**3:49**
—	—	**3:01 D**	**3:17**	**3:21**	**3:32**	**3:39**	**3:52**	**3:56**	**4:01**
3:03	**3:12**	**3:15**	**3:29**	**3:33**	**3:44**	**3:51**	**4:04**	**4:08**	**4:13**
—	—	**3:25 D**	**3:41**	**3:45**	**3:56**	**4:03**	**4:16**	**4:20**	**4:25**
3:27	**3:36**	**3:39**	**3:53**	**3:57**	**4:08**	**4:15**	**4:28**	**4:32**	**4:37**
—	—	**3:49 D**	**4:05**	**4:09**	**4:20**	**4:27**	**4:40**	**4:44**	**4:49**
3:51	**4:00**	**4:03**	**4:17**	**4:21**	**4:32**	**4:39**	**4:52**	**4:56**	**5:01**
—	—	**4:13 D**	**4:29**	**4:33**	**4:44**	**4:51**	**5:04**	**5:08**	**5:13**
4:15	**4:24**	**4:27**	**4:41**	**4:45**	**4:56**	**5:03**	**5:16**	**5:20**	**5:25**
—	—	**4:37 D**	**4:53**	**4:57**	**5:08**	**5:15**	**5:28**	**5:32**	**5:37**
4:39	**4:48**	**4:51**	**5:05**	**5:09**	**5:20**	**5:27**	**5:40**	**5:44**	**5:49**
—	—	**5:01 D**	**5:17**	**5:21**	**5:32**	**5:39**	**5:52**	**5:56**	**6:01**
5:03	**5:12**	**5:15**	**5:29**	**5:33**	**5:44**	**5:51**	**6:04**	**6:08**	**6:13**
—	—	**5:27 D**	**5:41**	**5:45**	**5:55**	**6:02**	**6:13**	**6:17**	**6:22**
5:29	**5:37**	**5:40**	**5:53**	**5:57**	**6:07**	**6:14**	**6:25**	**6:29**	**6:34**
—	—	**5:51 D**	**6:05**	**6:09**	**6:19**	**6:26**	**6:37**	**6:41**	**6:46**
5:53	**6:01**	**6:04**	**6:17**	**6:21**	**6:31**	**6:38**	**6:49**	**6:53**	**6:58**
—	—	**6:18 D**	**6:32**	**6:36**	**6:46**	**6:53**	**7:04**	**7:08**	**7:13**
6:23	**6:31**	**6:34**	**6:47**	**6:51**	**7:01**	**7:08**	**7:19**	**7:23**	**7:28**
—	—	**6:51 D**	**7:04**	**7:08**	**7:17**	**7:23**	**7:33**	**7:37**	**7:41**
—	—	**7:07 D**	**7:20**	**7:24**	**7:33**	**7:39**	**7:49**	**7:53**	**7:57**
7:12	**7:20**	**7:23**	**7:35**	**7:39**	**7:48**	**7:54**	**8:04**	**8:08**	**8:12**
—	—	**7:39 D**	**7:51**	**7:54**	**8:02**	**8:08**	**8:17**	**8:21**	**8:25**
7:45	**7:52**	**7:55**	**8:06**	**8:09**	**8:17**	**8:23**	**8:32**	**8:36**	**8:40**
—	—	**8:09 D**	**8:21**	**8:24**	**8:32**	**8:38**	**8:47**	**8:51**	**8:55**
8:15	**8:22**	**8:25**	**8:36**	**8:39**	**8:47**	**8:53**	**9:02**	**9:06**	**9:10**
—	—	**8:39 D**	**8:51**	**8:54**	**9:02**	**9:08**	**9:17**	**9:21**	**9:25**
8:52	**8:59**	**9:02**	**9:13**	**9:16**	**9:24**	**9:30**	**9:39**	**9:43**	**9:47**
—	—	**9:31 D**	**9:43**	**9:46**	**9:54**	**10:00**	**10:09**	**10:13**	**10:17**
—	—	**10:01 D**	**10:13**	**10:16**	**10:24**	**10:30**	**10:39**	**10:43**	**10:47**
—	—	**10:33 D**	**10:45**	**10:48**	**10:55**	**11:01**	**11:09**	**11:13**	**11:16**
—	—	**11:03 D**	**11:15**	**11:18**	**11:25**	**11:31**	**11:39**	**11:43**	**11:46**
—	—	**11:36 D**	**11:47**	**11:50**	**11:56**	12:02a	12:09a	12:13a	12:16a
—	—	12:06a **D**	12:17a	12:20a	12:26a	12:32	12:39	12:43	12:46

Route 7 – Sunday / *domingo*

Downtown ➡ North Park ➡ City Heights ➡ La Mesa

Ⓐ Front St. & B St. **DEPART**	Ⓒ Broadway & 3rd Av.	Ⓓ City College Trolley Sta. (11th Av.)	Ⓔ Park Blvd. & University	Ⓕ University & 30th St.	Ⓗ University & Fairmount	Ⓘ University & College Av.	Ⓙ University & 69th St.	Ⓚ La Mesa Bl. Trolley **ARRIVE**
—	—	6:27a	6:36a	6:41a	6:52a	7:03a	7:05a	7:12a
—	—	7:10	7:19	7:24	7:35	7:46	—	—
—	—	7:40	7:50	7:55	8:07	8:18	8:21	8:28
NOTE: On Sunday, use Routes 2 and 992 on Broadway between Front St. and City College Trolley Station ***NOTA:*** *En los domingos, use las rutas 2 y 992 para servicio sobre Broadway entre Front St. y City College Trolley Station*		8:12	8:22	8:27	8:40	8:51	—	—
		8:42	8:52	8:58	9:12	9:24	9:28	9:36
		9:12	9:22	9:28	9:42	9:54	9:58	10:06
		9:27	9:38	9:45	9:59	10:12	—	—
		9:42	9:53	10:00	10:14	10:27	10:31	10:39
		9:57	10:08	10:15	10:29	10:42	—	—
		10:12	10:23	10:30	10:45	10:59	11:03	11:12
		10:27	10:38	10:45	11:00	11:14	—	—
		10:42	10:53	11:00	11:15	11:29	11:33	11:42
		10:54	11:05	11:12	11:27	11:41	—	—
		11:06	11:17	11:24	11:39	11:53	11:57	**12:06p**
		11:18	11:29	11:36	11:51	**12:05p**	—	—
		11:30	11:41	11:48	**12:03p**	**12:17**	**12:21p**	**12:30**
		11:42	11:53	**12:00p**	**12:15**	**12:29**	—	—
		11:54	**12:05p**	**12:12**	**12:27**	**12:41**	**12:45**	**12:54**
		12:06p	**12:17**	**12:24**	**12:39**	**12:53**	—	—
		12:18	**12:29**	**12:36**	**12:51**	**1:05**	**1:09**	**1:18**
		12:30	**12:41**	**12:48**	**1:03**	**1:17**	—	—
		12:42	**12:53**	**1:00**	**1:15**	**1:29**	**1:33**	**1:42**
		12:54	**1:05**	**1:12**	**1:27**	**1:41**	—	—
		1:06	**1:17**	**1:24**	**1:39**	**1:53**	**1:57**	**2:06**
		1:18	**1:29**	**1:36**	**1:51**	**2:05**	—	—
		1:30	**1:41**	**1:48**	**2:03**	**2:17**	**2:21**	**2:30**
		1:42	**1:53**	**2:00**	**2:15**	**2:29**	—	—
		1:54	**2:05**	**2:12**	**2:27**	**2:41**	**2:45**	**2:54**
		2:06	**2:17**	**2:24**	**2:39**	**2:53**	—	—
		2:18	**2:29**	**2:36**	**2:51**	**3:05**	**3:09**	**3:18**
		2:30	**2:41**	**2:48**	**3:03**	**3:17**	—	—
		2:42	**2:53**	**3:00**	**3:15**	**3:29**	**3:33**	**3:42**
		2:54	**3:05**	**3:12**	**3:27**	**3:41**	—	—
		3:06	**3:17**	**3:24**	**3:39**	**3:53**	**3:57**	**4:06**
		3:18	**3:29**	**3:36**	**3:51**	**4:05**	—	—
		3:30	**3:41**	**3:48**	**4:03**	**4:17**	**4:21**	**4:30**
		3:42	**3:53**	**4:00**	**4:15**	**4:29**	—	—
		3:54	**4:05**	**4:12**	**4:26**	**4:39**	**4:43**	**4:51**
		4:06	**4:17**	**4:24**	**4:38**	**4:51**	—	—
		4:18	**4:29**	**4:36**	**4:50**	**5:03**	**5:07**	**5:15**
		4:30	**4:41**	**4:48**	**5:02**	**5:15**	—	—
		4:42	**4:53**	**5:00**	**5:14**	**5:27**	**5:31**	**5:39**
		4:54	**5:05**	**5:12**	**5:26**	**5:39**	—	—
		5:06	**5:17**	**5:24**	**5:37**	**5:49**	**5:52**	**5:59**
		5:18	**5:29**	**5:36**	**5:49**	**6:01**	—	—
		5:30	**5:41**	**5:48**	**6:01**	**6:13**	**6:16**	**6:23**
		5:42	**5:53**	**6:00**	**6:13**	**6:25**	—	—
		5:54	**6:05**	**6:12**	**6:25**	**6:37**	**6:40**	**6:47**
		6:06	**6:17**	**6:24**	**6:37**	**6:49**	—	—
		6:21	**6:32**	**6:39**	**6:52**	**7:04**	**7:07**	**7:14**
		6:42	**6:53**	**7:00**	**7:13**	**7:25**	**7:28**	**7:35**
		7:12	**7:23**	**7:30**	**7:43**	**7:55**	**7:58**	**8:05**
		7:40	**7:49**	**7:56**	**8:08**	**8:19**	—	—
		8:10	**8:19**	**8:26**	**8:38**	**8:49**	—	—
		8:40	**8:49**	**8:56**	**9:08**	**9:18**	—	—
		9:10	**9:19**	**9:25**	**9:36**	**9:45**	—	—
		9:40	**9:49**	**9:55**	**10:06**	**10:15**	—	—
—	—	**10:10**	**10:19**	**10:25**	**10:36**	**10:45**	—	—
—	—	**10:40**	**10:48**	**10:54**	**11:04**	**11:13**	—	—
—	—	**11:10**	**11:18**	**11:24**	**11:34**	**11:43**	—	—

La Mesa ➡ City Heights ➡ North Park ➡ Downtown

Ⓚ La Mesa Bl. Trolley **DEPART**	Ⓙ University & 69th St.	Ⓘ University & College Av.	Ⓗ University & Fairmount	Ⓖ City Heights Transit Plaza @ 15 Fwy.	Ⓕ University & 30th St.	Ⓔ Park Blvd. & University	Ⓓ City College Trolley Sta. (Park Bl.)	Ⓒ Broadway & 4th Av.	Ⓑ Broadway & 1st Av. **ARRIVE**
—	—	5:25a **D**	5:36a	5:38a	5:46a	5:50a	5:59a	—	—
—	—	5:54 **D**	6:05	6:08	6:16	6:20	6:29	—	—
6:16a	6:23a	6:25	6:35	6:38	6:46	6:50	6:59	—	—
—	—	6:49 **D**	7:01	7:05	7:14	7:19	7:29	**NOTE:** On Sunday, use Routes 2 and 992 on Broadway between City College Trolley Station and 1st Av. ***NOTA:*** *En los domingos, use las rutas 2 y 992 para servicio sobre Broadway entre City College Trolley Station y 1st Av.*	
—	—	7:19 **D**	7:31	7:35	7:44	7:49	7:59		
7:38	7:46	7:49	8:00	8:04	8:13	8:18	8:29		
—	—	8:16 **D**	8:28	8:32	8:42	8:48	8:59		
—	—	8:28 **D**	8:42	8:46	8:57	9:03	9:14		
—	—	8:43 **D**	8:57	9:01	9:12	9:18	9:29		
8:49	8:57	9:00	9:12	9:16	9:27	9:33	9:44		
—	—	9:13 **D**	9:27	9:31	9:42	9:48	9:59		
—	—	9:28 **D**	9:42	9:46	9:57	10:03	10:14		
—	—	9:45 **D**	9:59	10:03	10:14	10:20	10:31		
9:50	9:59	10:02	10:15	10:19	10:30	10:37	10:49		
—	—	10:14 **D**	10:30	10:34	10:45	10:52	11:04		
—	—	10:28 **D**	10:44	10:48	10:59	11:06	11:18		
10:32	10:41	10:44	10:57	11:01	11:12	11:19	11:31		
—	—	10:53 **D**	11:09	11:13	11:24	11:31	11:43		
10:56	11:05	11:08	11:21	11:25	11:36	11:43	11:55		
—	—	11:17 **D**	11:33	11:37	11:48	11:55	**12:08p**		
11:19	11:28	11:31	11:45	11:49	**12:00p**	**12:07p**	**12:20**		
—	—	11:41 **D**	11:57	**12:01p**	**12:12**	**12:19**	**12:32**		
11:43	11:52	11:55	**12:09p**	**12:13**	**12:24**	**12:31**	**12:44**		
—	—	**12:05p D**	**12:21**	**12:25**	**12:36**	**12:43**	**12:56**		
12:07p	**12:16p**	**12:19**	**12:33**	**12:37**	**12:48**	**12:55**	**1:08**		
—	—	**12:29 D**	**12:45**	**12:49**	**1:00**	**1:07**	**1:20**		
12:31	**12:40**	**12:43**	**12:57**	**1:01**	**1:12**	**1:19**	**1:32**		
—	—	**12:53 D**	**1:09**	**1:13**	**1:24**	**1:31**	**1:44**		
12:55	**1:04**	**1:07**	**1:21**	**1:25**	**1:36**	**1:43**	**1:56**		
—	—	**1:17 D**	**1:33**	**1:37**	**1:48**	**1:55**	**2:08**		
1:19	**1:28**	**1:31**	**1:45**	**1:49**	**2:00**	**2:07**	**2:20**		
—	—	**1:41 D**	**1:57**	**2:01**	**2:12**	**2:19**	**2:32**		
1:43	**1:52**	**1:55**	**2:09**	**2:13**	**2:24**	**2:31**	**2:44**		
—	—	**2:05 D**	**2:21**	**2:25**	**2:36**	**2:43**	**2:56**		
2:07	**2:16**	**2:19**	**2:33**	**2:37**	**2:48**	**2:55**	**3:08**		
—	—	**2:29 D**	**2:45**	**2:49**	**3:00**	**3:07**	**3:20**		
2:31	**2:40**	**2:43**	**2:57**	**3:01**	**3:12**	**3:19**	**3:32**		
—	—	**2:53 D**	**3:09**	**3:13**	**3:24**	**3:31**	**3:44**		
2:55	**3:04**	**3:07**	**3:21**	**3:25**	**3:36**	**3:43**	**3:56**		
—	—	**3:17 D**	**3:33**	**3:37**	**3:48**	**3:55**	**4:08**		
3:19	**3:28**	**3:31**	**3:45**	**3:49**	**4:00**	**4:07**	**4:20**		
—	—	**3:41 D**	**3:57**	**4:01**	**4:12**	**4:19**	**4:32**		
3:43	**3:52**	**3:55**	**4:09**	**4:13**	**4:24**	**4:31**	**4:44**		
—	—	**4:05 D**	**4:21**	**4:25**	**4:36**	**4:43**	**4:56**		
4:07	**4:16**	**4:19**	**4:33**	**4:37**	**4:48**	**4:55**	**5:08**		
—	—	**4:29 D**	**4:45**	**4:49**	**5:00**	**5:07**	**5:20**		
4:31	**4:40**	**4:43**	**4:57**	**5:01**	**5:12**	**5:19**	**5:32**		
—	—	**4:53 D**	**5:09**	**5:13**	**5:24**	**5:31**	**5:44**		
4:55	**5:04**	**5:07**	**5:21**	**5:25**	**5:36**	**5:43**	**5:56**		
—	—	**5:19 D**	**5:33**	**5:37**	**5:47**	**5:54**	**6:05**		
5:21	**5:29**	**5:32**	**5:45**	**5:49**	**5:59**	**6:06**	**6:17**		
—	—	**5:43 D**	**5:57**	**6:01**	**6:11**	**6:18**	**6:29**		
5:45	**5:53**	**5:56**	**6:09**	**6:13**	**6:23**	**6:30**	**6:41**		
—	—	**6:08 D**	**6:22**	**6:26**	**6:36**	**6:43**	**6:54**		
6:12	**6:20**	**6:23**	**6:36**	**6:40**	**6:50**	**6:57**	**7:08**		
—	—	**6:38 D**	**6:51**	**6:55**	**7:04**	**7:10**	**7:20**		
6:43	**6:51**	**6:54**	**7:06**	**7:10**	**7:19**	**7:25**	**7:35**		
7:05	**7:13**	**7:16**	**7:28**	**7:32**	**7:41**	**7:47**	**7:57**		
7:34	**7:41**	**7:44**	**7:55**	**7:58**	**8:06**	**8:12**	**8:21**		
8:04	**8:11**	**8:14**	**8:25**	**8:28**	**8:36**	**8:42**	**8:51**		
8:34	**8:41**	**8:44**	**8:55**	**8:58**	**9:06**	**9:12**	**9:21**	—	—
—	—	**9:13 D**	**9:25**	**9:28**	**9:36**	**9:42**	**9:51**	—	—
—	—	**9:43 D**	**9:55**	**9:58**	**10:06**	**10:12**	**10:21**	—	—
—	—	**10:13 D**	**10:25**	**10:28**	**10:36**	**10:42**	**10:51**	—	—

C = Trip ends 6 minutes later at University Av. & 54th St. / *Viaje termina 6 minutos después en University Av. y 54th St.*
D = Trip begins on southwest corner of University Av. at College Av. (next to the Everything A Deal store) / *Viaje comienza en la esquina suroeste de University Av. y College Av. (junto a la tienda Everything A Deal)*

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*	
Day Pass (Regional) / *Pase diario (Regional)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.25
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.10*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

Valid for unlimited travel for one person on Trolley, most MTS buses, NCTD BREEZE and SPRINTER. Valid for a discount on COASTER fares. Not valid on Premium Express, Rural, Access, or special service buses.

Válidos para viajes ilimitados de una sola persona para: el Trolley, la mayoría de los autobuses de MTS, y los servicios del NCTD de BREEZE y SPRINTER. Válidos para acceder a descuentos en el COASTER, pero no para las rutas Premium Express, rurales, Access, ni los servicios especiales.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	511 or/ó (619) 233-3004
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	(619) 234-5005 or/ó (888) 722-4889
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	(619) 685-4900
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	(619) 557-4555
SafeWatch	(619) 557-4500
The Transit Store / Lost & Found *The Transit Store / Objetos extraviados*	(619) 234-1060
Articles found on the bus are turned in at The Transit Store *Artículos encontrados en los autobuses son entregados a The Transit Store*	1st & Broadway Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	www.sdmts.com

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com.**

Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a ***www.sdmts.com.***

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective JANUARY 27, 2013

10

Old Town – University & College Limited Stops

via University Av.

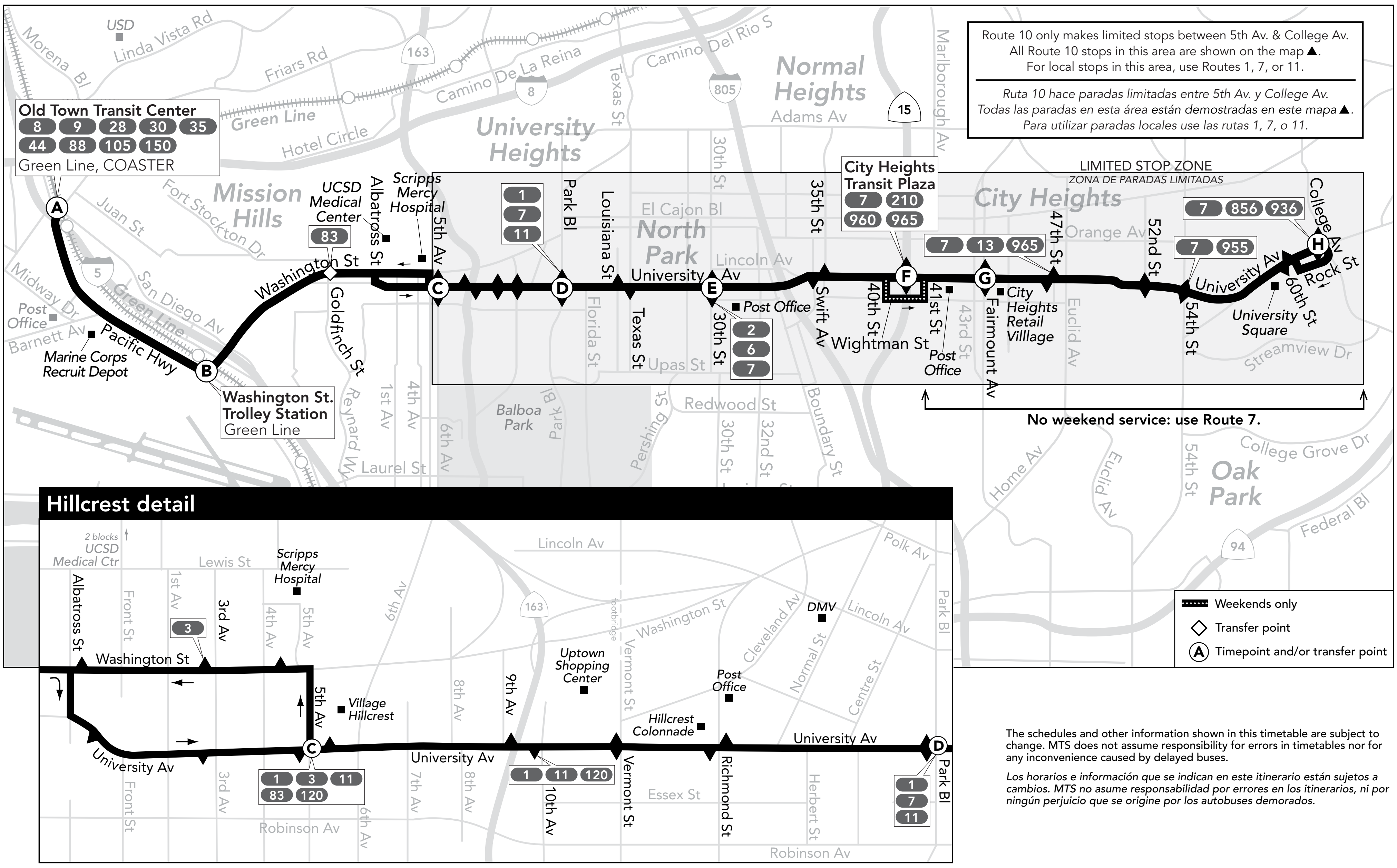
DESTINATIONS

- City Heights Retail Village
- City Heights Transit Plaza
- Hillcrest DMV
- Scripps Mercy Hospital
- Uptown Shopping Center
- Village Hillcrest

MTS Metropolitan Transit System

TROLLEY CONNECTIONS
Old Town
Washington St.

Alternative formats available upon request. Please call: (619) 557-4555 / ***Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555***



Route 10 only makes limited stops between 5th Av. & College Av.
All Route 10 stops in this area are shown on the map ▲.
For local stops in this area, use Routes 1, 7, or 11.

Ruta 10 hace paradas limitadas entre 5th Av. y College Av.
Todas las paradas en esta área están demostradas en este mapa ▲.
Para utilizar paradas locales use las rutas 1, 7, o 11.

▬ Weekends only
◇ Transfer point
Ⓐ Timepoint and/or transfer point

The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.

Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays
Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados >>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

Route 10 – Sunday / *domingo*

Old Town ➡ Hillcrest ➡ North Park ➡ City Heights

Ⓐ Old Town Transit Center **DEPART**	Ⓑ Washington St. & Pacific Hwy.	Ⓒ University Av. & 5th Av.	Ⓓ University Av. & Park Bl.	Ⓔ University Av. & 30th St.	Ⓕ City Heights Transit Plaza @ 15-Fwy.	Ⓖ University Av. & Fairmount Av.	Ⓗ University Av. & College Av. **ARRIVE**
6:32a	6:36a	6:43a	6:47a	6:52a	6:59a	—	—
7:32	7:36	7:44	7:49	7:54	8:02	—	—
8:32	8:36	8:44	8:49	8:54	9:02	—	—
9:00	9:04	9:12	9:17	9:22	9:30	—	—
9:28	9:32	9:40	9:45	9:50	9:58	—	—
9:58	10:02	10:10	10:15	10:20	10:28	—	—
10:28	10:32	10:40	10:45	10:50	10:58	—	—
10:58	11:03	11:11	11:18	11:23	11:32	—	—
11:28	11:33	11:41	11:48	11:53	**12:02p**	—	—
11:58	**12:03p**	**12:11p**	**12:18p**	**12:23p**	**12:32**	—	—
12:28p	**12:33**	**12:42**	**12:49**	**12:55**	**1:04**	—	—
12:58	**1:03**	**1:12**	**1:19**	**1:25**	**1:34**	—	—
1:28	**1:33**	**1:42**	**1:49**	**1:55**	**2:04**	—	—
1:58	**2:03**	**2:12**	**2:19**	**2:25**	**2:34**	—	—
2:28	**2:33**	**2:42**	**2:49**	**2:55**	**3:04**	—	—
2:58	**3:03**	**3:12**	**3:19**	**3:25**	**3:34**	—	—
3:28	**3:33**	**3:42**	**3:49**	**3:55**	**4:04**	—	—
3:58	**4:03**	**4:12**	**4:19**	**4:25**	**4:34**	—	—
4:28	**4:33**	**4:42**	**4:49**	**4:55**	**5:04**	—	—
4:58	**5:03**	**5:12**	**5:19**	**5:25**	**5:34**	—	—
5:28	**5:33**	**5:42**	**5:49**	**5:55**	**6:04**	—	—
5:58	**6:03**	**6:11**	**6:18**	**6:23**	**6:31**	—	—
6:28	**6:33**	**6:41**	**6:48**	**6:53**	**7:01**	—	—
6:58	**7:03**	**7:11**	**7:18**	**7:23**	**7:31**	—	—
7:26	**7:31**	**7:39**	**7:46**	**7:51**	**7:59**	—	—
7:56	**8:01**	**8:09**	**8:16**	**8:21**	**8:29**	—	—
8:26	**8:31**	**8:39**	**8:46**	**8:51**	**8:59**	—	—
8:56	**9:00**	**9:08**	**9:14**	**9:19**	**9:26**	—	—
9:56	**10:00**	**10:08**	**10:14**	**10:19**	**10:26**	—	—

LIMITED STOP ZONE / *ZONA DE PARADAS LIMITADAS*

City Heights ➡ North Park ➡ Hillcrest ➡ Old Town

Ⓗ University Av. & College Av. **DEPART**	Ⓖ University Av. & Fairmount Av.	Ⓕ City Heights Transit Plaza @ 15-Fwy.	Ⓔ University Av. & 30th St.	Ⓓ University Av. & Park Bl.	Ⓒ University Av. & 5th Av.	Ⓑ Washington St. & Pacific Hwy.	Ⓐ Old Town Transit Center **ARRIVE**
—	—	5:25a	5:30a	5:33a	5:37a	5:45a	5:50a
—	—	5:55	6:00	6:03	6:07	6:15	6:20
—	—	6:25	6:30	6:33	6:37	6:45	6:50
—	—	6:55	7:00	7:03	7:07	7:15	7:20
—	—	7:25	7:30	7:33	7:37	7:45	7:50
—	—	7:51	7:57	8:01	8:06	8:15	8:20
—	—	8:19	8:25	8:29	8:34	8:43	8:48
—	—	8:49	8:55	8:59	9:04	9:13	9:18
—	—	9:16	9:23	9:28	9:33	9:42	9:48
—	—	9:46	9:53	9:58	10:03	10:12	10:18
—	—	10:16	10:23	10:28	10:33	10:42	10:48
—	—	10:44	10:52	10:57	11:03	11:12	11:18
—	—	11:14	11:22	11:27	11:33	11:42	11:48
—	—	11:44	11:52	11:57	**12:03p**	**12:12p**	**12:18p**
—	—	**12:14p**	**12:22p**	**12:27p**	**12:33**	**12:42**	**12:48**
—	—	**12:44**	**12:52**	**12:57**	**1:03**	**1:12**	**1:18**
—	—	**1:14**	**1:22**	**1:27**	**1:33**	**1:42**	**1:48**
—	—	**1:44**	**1:52**	**1:57**	**2:03**	**2:12**	**2:18**
—	—	**2:14**	**2:22**	**2:27**	**2:33**	**2:42**	**2:48**
—	—	**2:44**	**2:52**	**2:57**	**3:03**	**3:12**	**3:18**
—	—	**3:14**	**3:22**	**3:27**	**3:33**	**3:42**	**3:48**
—	—	**3:44**	**3:52**	**3:57**	**4:03**	**4:12**	**4:18**
—	—	**4:14**	**4:22**	**4:27**	**4:33**	**4:42**	**4:48**
—	—	**4:44**	**4:52**	**4:57**	**5:03**	**5:12**	**5:18**
—	—	**5:14**	**5:22**	**5:27**	**5:33**	**5:42**	**5:48**
—	—	**5:47**	**5:54**	**5:58**	**6:04**	**6:13**	**6:18**
—	—	**6:17**	**6:24**	**6:28**	**6:34**	**6:43**	**6:48**
—	—	**6:45**	**6:52**	**6:56**	**7:02**	**7:11**	**7:16**
—	—	**7:45**	**7:52**	**7:56**	**8:02**	**8:11**	**8:16**

LIMITED STOP ZONE / *ZONA DE PARADAS LIMITADAS*

Route 10 – Monday through Friday / *lunes a viernes*

Old Town ➡ Hillcrest ➡ North Park ➡ City Heights

Ⓐ Old Town Transit Center **DEPART**	Ⓑ Washington St. & Pacific Hwy.	Ⓒ University Av. & 5th Av.	Ⓓ University Av. & Park Bl.	Ⓔ University Av. & 30th St.	Ⓕ City Heights Transit Plaza @ 15-Fwy.	Ⓖ University Av. & Fairmount Av.	Ⓗ University Av. & College Av. **ARRIVE**
5:51a	5:55a	6:02a	6:06a	6:11a	6:16a	6:19a	6:26a
6:06	6:10	6:17	6:21	6:26	6:31	6:34	6:41
6:21	6:25	6:32	6:37	6:42	6:48	6:51	6:59
6:36	6:40	6:47	6:52	6:57	7:03	7:06	7:14
6:51	6:55	7:02	7:07	7:12	7:18	7:21	7:29
7:06	7:10	7:17	7:23	7:28	7:35	7:38	7:46
7:21	7:25	7:32	7:38	7:43	7:51	7:54	8:02
7:36	7:40	7:47	7:53	7:58	8:06	8:09	8:17
7:51	7:55	8:02	8:08	8:13	8:21	8:24	8:32
8:06	8:10	8:18	8:25	8:30	8:38	8:41	8:50
8:21	8:25	8:33	8:40	8:45	8:53	8:56	9:05
8:36	8:40	8:48	8:55	9:00	9:08	9:11	9:20
8:51	8:55	9:03	9:10	9:15	9:23	9:26	9:35
9:06	9:10	9:18	9:25	9:30	9:38	9:41	9:50
9:21	9:25	9:33	9:40	9:45	9:53	9:56	10:05
9:36	9:40	9:48	9:55	10:00	10:08	10:11	10:20
9:51	9:56	10:04	10:11	10:16	10:24	10:28	10:37
10:06	10:11	10:20	10:27	10:32	10:40	10:44	10:53
10:21	10:26	10:35	10:42	10:47	10:55	10:59	11:08
10:36	10:41	10:50	10:57	11:02	11:10	11:14	11:23
10:51	10:56	11:05	11:12	11:17	11:25	11:29	11:38
11:06	11:11	11:20	11:27	11:32	11:40	11:44	11:53
11:21	11:26	11:35	11:42	11:47	11:55	11:59	**12:08p**
11:36	11:41	11:50	11:57	**12:02p**	**12:10p**	**12:14p**	**12:23**
11:51	11:56	**12:05p**	**12:12p**	**12:17**	**12:25**	**12:29**	**12:38**
12:06p	**12:11p**	**12:20**	**12:27**	**12:32**	**12:40**	**12:44**	**12:53**
12:21	**12:26**	**12:35**	**12:42**	**12:47**	**12:55**	**12:59**	**1:08**
12:36	**12:41**	**12:50**	**12:57**	**1:02**	**1:10**	**1:14**	**1:23**
12:51	**12:56**	**1:06**	**1:13**	**1:18**	**1:26**	**1:30**	**1:40**
1:06	**1:11**	**1:21**	**1:29**	**1:34**	**1:42**	**1:46**	**1:56**
1:21	**1:26**	**1:36**	**1:44**	**1:49**	**1:57**	**2:01**	**2:11**
1:36	**1:41**	**1:51**	**1:59**	**2:04**	**2:12**	**2:16**	**2:26**
1:51	**1:56**	**2:06**	**2:14**	**2:19**	**2:27**	**2:31**	**2:41**
2:06	**2:11**	**2:21**	**2:29**	**2:34**	**2:42**	**2:46**	**2:56**
2:21	**2:26**	**2:36**	**2:44**	**2:49**	**2:57**	**3:01**	**3:11**
2:36	**2:41**	**2:51**	**2:59**	**3:04**	**3:12**	**3:16**	**3:26**
2:48	**2:53**	**3:03**	**3:11**	**3:16**	**3:24**	**3:28**	**3:38**
3:00	**3:05**	**3:15**	**3:23**	**3:28**	**3:36**	**3:40**	**3:50**
3:12	**3:17**	**3:27**	**3:35**	**3:40**	**3:48**	**3:52**	**4:02**
3:24	**3:29**	**3:39**	**3:47**	**3:52**	**4:00**	**4:04**	**4:14**
3:36	**3:41**	**3:51**	**3:59**	**4:04**	**4:12**	**4:16**	**4:26**
3:48	**3:53**	**4:03**	**4:11**	**4:16**	**4:24**	**4:28**	**4:38**
4:00	**4:05**	**4:15**	**4:23**	**4:29**	**4:37**	**4:42**	**4:52**
4:12	**4:17**	**4:27**	**4:35**	**4:41**	**4:49**	**4:54**	**5:04**
4:24	**4:29**	**4:39**	**4:47**	**4:53**	**5:01**	**5:06**	**5:16**
4:36	**4:41**	**4:51**	**4:59**	**5:05**	**5:13**	**5:18**	**5:28**
4:48	**4:53**	**5:03**	**5:11**	**5:17**	**5:25**	**5:30**	**5:40**
5:00	**5:05**	**5:15**	**5:23**	**5:29**	**5:37**	**5:42**	**5:52**
5:12	**5:17**	**5:27**	**5:35**	**5:41**	**5:49**	**5:54**	**6:04**
5:24	**5:29**	**5:39**	**5:47**	**5:53**	**6:01**	**6:06**	**6:16**
5:37	**5:42**	**5:52**	**6:00**	**6:06**	**6:14**	**6:19**	**6:29**
5:52	**5:57**	**6:07**	**6:15**	**6:21**	**6:29**	**6:34**	**6:44**
6:07	**6:12**	**6:22**	**6:30**	**6:36**	**6:44**	**6:49**	**6:59**
6:22	**6:27**	**6:37**	**6:45**	**6:50**	**6:58**	**7:03**	**7:12**
6:37	**6:41**	**6:51**	**6:59**	**7:04**	**7:11**	**7:15**	**7:24**
6:52	**6:56**	**7:06**	**7:14**	**7:19**	**7:26**	**7:30**	**7:39**
7:07	**7:11**	**7:21**	**7:29**	**7:34**	**7:41**	**7:45**	**7:54**
7:22	**7:26**	**7:36**	**7:43**	**7:48**	**7:54**	**7:58**	**8:06**
7:37	**7:41**	**7:50**	**7:57**	**8:02**	**8:08**	**8:11**	**8:19**
7:52	**7:56**	**8:05**	**8:12**	**8:17**	**8:23**	**8:26**	**8:34**
8:07	**8:11**	**8:20**	**8:27**	**8:32**	**8:38**	**8:41**	**8:49**
8:22	**8:26**	**8:35**	**8:42**	**8:47**	**8:53**	**8:56**	**9:04**
8:42	**8:46**	**8:55**	**9:02**	**9:07**	**9:13**	**9:16**	**9:24**
9:12	**9:16**	**9:24**	**9:30**	**9:35**	**9:40**	**9:43**	**9:50**
9:42	**9:46**	**9:54**	**10:00**	**10:05**	**10:10**	**10:13**	**10:20**
10:12	**10:16**	**10:23**	**10:28**	**10:32**	**10:37**	**10:40**	**10:47**
10:44	**10:48**	**10:55**	**11:00**	**11:04**	**11:09**	**11:12**	**11:19**
11:14	**11:18**	**11:25**	**11:30**	**11:34**	**11:39**	**11:42**	**11:49**
11:44	**11:48**	**11:55**	12:00a	12:04a	12:09a	12:12a	12:19a

LIMITED STOP ZONE / *ZONA DE PARADAS LIMITADAS*

City Heights ➡ North Park ➡ Hillcrest ➡ Old Town

Ⓗ University Av. & College Av. **DEPART**	Ⓖ University Av. & Fairmount Av.	Ⓕ City Heights Transit Plaza @ 15-Fwy.	Ⓔ University Av. & 30th St.	Ⓓ University Av. & Park Bl.	Ⓒ University Av. & 5th Av.	Ⓑ Washington St. & Pacific Hwy.	Ⓐ Old Town Transit Center **ARRIVE**
4:46a	4:53a	4:56a	5:02a	5:06a	5:11a	5:19a	5:24a
5:16	5:23	5:26	5:32	5:36	5:41	5:49	5:54
5:31	5:38	5:41	5:47	5:51	5:56	6:04	6:09
5:46	5:53	5:56	6:02	6:06	6:11	6:19	6:24
6:00	6:07	6:10	6:16	6:21	6:26	6:34	6:39
6:12	6:19	6:22	6:28	6:33	6:38	6:46	6:51
6:22	6:29	6:32	6:38	6:43	6:48	6:57	7:03
6:32	6:39	6:43	6:50	6:55	7:00	7:09	7:15
6:44	6:51	6:55	7:02	7:07	7:12	7:21	7:27
6:55	7:02	7:06	7:14	7:19	7:24	7:33	7:39
7:06	7:13	7:17	7:25	7:30	7:35	7:45	7:51
7:17	7:25	7:29	7:37	7:42	7:47	7:57	8:03
7:29	7:37	7:41	7:49	7:54	7:59	8:09	8:15
7:41	7:49	7:53	8:01	8:06	8:11	8:21	8:27
7:53	8:01	8:05	8:13	8:18	8:23	8:33	8:39
8:05	8:13	8:17	8:25	8:30	8:35	8:45	8:51
8:17	8:25	8:29	8:37	8:42	8:47	8:57	9:03
8:29	8:37	8:41	8:49	8:54	8:59	9:09	9:15
8:39	8:48	8:52	9:00	9:05	9:10	9:20	9:27
8:51	9:00	9:04	9:12	9:17	9:23	9:33	9:40
9:06	9:15	9:19	9:27	9:32	9:38	9:48	9:55
9:21	9:30	9:34	9:42	9:47	9:53	10:03	10:10
9:36	9:45	9:49	9:57	10:02	10:08	10:18	10:25
9:51	10:00	10:04	10:12	10:17	10:23	10:33	10:40
10:06	10:15	10:19	10:27	10:32	10:38	10:48	10:55
10:21	10:30	10:34	10:42	10:47	10:53	11:03	11:10
10:36	10:45	10:49	10:57	11:02	11:08	11:18	11:25
10:51	11:00	11:04	11:12	11:17	11:23	11:33	11:40
11:06	11:15	11:19	11:27	11:32	11:38	11:48	11:55
11:21	11:30	11:34	11:42	11:47	11:53	**12:03p**	**12:10p**
11:36	11:45	11:49	11:57	**12:02p**	**12:08p**	**12:18**	**12:25**
11:51	**12:00p**	**12:04p**	**12:12p**	**12:17**	**12:23**	**12:33**	**12:40**
12:06p	**12:15**	**12:19**	**12:27**	**12:32**	**12:38**	**12:48**	**12:55**
12:21	**12:30**	**12:34**	**12:42**	**12:47**	**12:53**	**1:03**	**1:10**
12:36	**12:45**	**12:49**	**12:57**	**1:02**	**1:08**	**1:18**	**1:25**
12:51	**1:00**	**1:04**	**1:12**	**1:17**	**1:23**	**1:33**	**1:40**
1:06	**1:15**	**1:19**	**1:27**	**1:32**	**1:38**	**1:48**	**1:55**
1:21	**1:30**	**1:34**	**1:42**	**1:47**	**1:53**	**2:03**	**2:10**
1:34	**1:44**	**1:48**	**1:56**	**2:02**	**2:08**	**2:18**	**2:25**
1:49	**1:59**	**2:03**	**2:11**	**2:17**	**2:23**	**2:33**	**2:40**
2:05	**2:15**	**2:19**	**2:27**	**2:33**	**2:39**	**2:49**	**2:56**
2:20	**2:30**	**2:34**	**2:42**	**2:48**	**2:54**	**3:04**	**3:11**
2:35	**2:45**	**2:49**	**2:57**	**3:03**	**3:09**	**3:19**	**3:26**
2:50	**3:00**	**3:04**	**3:12**	**3:18**	**3:24**	**3:34**	**3:41**
3:05	**3:15**	**3:19**	**3:27**	**3:33**	**3:39**	**3:49**	**3:56**
3:20	**3:30**	**3:34**	**3:42**	**3:48**	**3:54**	**4:04**	**4:11**
3:35	**3:45**	**3:49**	**3:57**	**4:03**	**4:09**	**4:19**	**4:26**
3:48	**3:58**	**4:02**	**4:11**	**4:17**	**4:24**	**4:35**	**4:42**
4:03	**4:13**	**4:17**	**4:26**	**4:32**	**4:39**	**4:50**	**4:57**
4:18	**4:28**	**4:32**	**4:41**	**4:47**	**4:54**	**5:05**	**5:12**
4:33	**4:43**	**4:47**	**4:56**	**5:02**	**5:09**	**5:20**	**5:27**
4:48	**4:58**	**5:02**	**5:11**	**5:17**	**5:24**	**5:35**	**5:42**
5:05	**5:15**	**5:19**	**5:28**	**5:34**	**5:41**	**5:52**	**5:59**
5:20	**5:30**	**5:34**	**5:43**	**5:49**	**5:56**	**6:07**	**6:14**
5:37	**5:47**	**5:50**	**5:58**	**6:04**	**6:11**	**6:21**	**6:28**
5:52	**6:02**	**6:05**	**6:13**	**6:19**	**6:26**	**6:36**	**6:43**
6:07	**6:17**	**6:20**	**6:28**	**6:34**	**6:41**	**6:51**	**6:58**
6:22	**6:32**	**6:35**	**6:43**	**6:49**	**6:56**	**7:06**	**7:13**
6:40	**6:50**	**6:53**	**7:01**	**7:06**	**7:12**	**7:22**	**7:28**
7:09	**7:19**	**7:22**	**7:30**	**7:35**	**7:41**	**7:51**	**7:57**
7:39	**7:49**	**7:52**	**8:00**	**8:05**	**8:11**	**8:21**	**8:27**
8:14	**8:24**	**8:27**	**8:35**	**8:40**	**8:46**	**8:56**	**9:02**
8:48	**8:57**	**9:00**	**9:07**	**9:12**	**9:18**	**9:27**	**9:32**
9:18	**9:27**	**9:30**	**9:37**	**9:42**	**9:48**	**9:57**	**10:02**
9:57	**10:05**	**10:07**	**10:14**	**10:18**	**10:23**	**10:32**	**10:37**
10:27	**10:35**	**10:37**	**10:44**	**10:48**	**10:53**	**11:02**	**11:07**

LIMITED STOP ZONE / *ZONA DE PARADAS LIMITADAS*

Route 10 – Saturday / *sábado*

Old Town ➡ Hillcrest ➡ North Park ➡ City Heights

Ⓐ Old Town Transit Center **DEPART**	Ⓑ Washington St. & Pacific Hwy.	Ⓒ University Av. & 5th Av.	Ⓓ University Av. & Park Bl.	Ⓔ University Av. & 30th St.	Ⓕ City Heights Transit Plaza @ 15-Fwy.	Ⓖ University Av. & Fairmount Av.	Ⓗ University Av. & College Av. **ARRIVE**
5:47a	5:51a	5:58a	6:02a	6:07a	6:14a	—	—
6:17	6:21	6:28	6:32	6:37	6:44	—	—
6:47	6:51	6:58	7:02	7:07	7:14	—	—
7:17	7:21	7:29	7:34	7:39	7:47	—	—
7:47	7:51	7:59	8:04	8:09	8:17	—	—
8:17	8:21	8:29	8:34	8:39	8:47	—	—
8:45	8:49	8:57	9:02	9:07	9:15	—	—
9:08	9:12	9:20	9:25	9:30	9:38	—	—
9:30	9:34	9:42	9:47	9:52	10:00	—	—
9:52	9:56	10:04	10:09	10:14	10:22	—	—
10:13	10:17	10:25	10:30	10:35	10:43	—	—
10:33	10:38	10:46	10:53	10:58	11:07	—	—
10:53	10:58	11:06	11:13	11:18	11:27	—	—
11:13	11:18	11:26	11:33	11:38	11:47	—	—
11:33	11:38	11:46	11:53	11:58	**12:07p**	—	—
11:53	11:58	**12:06p**	**12:13p**	**12:18p**	**12:27**	—	—
12:13p	**12:18p**	**12:26**	**12:33**	**12:38**	**12:47**	—	—
12:33	**12:38**	**12:47**	**12:54**	**1:00**	**1:09**	—	—
12:53	**12:58**	**1:07**	**1:14**	**1:20**	**1:29**	—	—
1:13	**1:18**	**1:27**	**1:34**	**1:40**	**1:49**	—	—
1:33	**1:38**	**1:47**	**1:54**	**2:00**	**2:09**	—	—
1:53	**1:58**	**2:07**	**2:14**	**2:20**	**2:29**	—	—
2:13	**2:18**	**2:27**	**2:34**	**2:40**	**2:49**	—	—
2:33	**2:38**	**2:47**	**2:54**	**3:00**	**3:09**	—	—
2:53	**2:58**	**3:07**	**3:14**	**3:20**	**3:29**	—	—
3:13	**3:18**	**3:27**	**3:34**	**3:40**	**3:49**	—	—
3:33	**3:38**	**3:47**	**3:54**	**4:00**	**4:09**	—	—
3:53	**3:58**	**4:07**	**4:14**	**4:20**	**4:29**	—	—
4:13	**4:18**	**4:27**	**4:34**	**4:40**	**4:49**	—	—
4:33	**4:38**	**4:47**	**4:54**	**5:00**	**5:09**	—	—
4:53	**4:58**	**5:07**	**5:14**	**5:20**	**5:29**	—	—
5:13	**5:18**	**5:27**	**5:34**	**5:40**	**5:49**	—	—
5:33	**5:38**	**5:47**	**5:54**	**6:00**	**6:09**	—	—
5:53	**5:58**	**6:06**	**6:13**	**6:18**	**6:26**	—	—
6:13	**6:18**	**6:26**	**6:33**	**6:38**	**6:46**	—	—
6:37	**6:42**	**6:50**	**6:57**	**7:02**	**7:10**	—	—
7:07	**7:12**	**7:20**	**7:27**	**7:32**	**7:40**	—	—
7:37	**7:42**	**7:50**	**7:57**	**8:02**	**8:10**	—	—
8:10	**8:15**	**8:23**	**8:30**	**8:35**	**8:43**	—	—
8:40	**8:45**	**8:53**	**9:00**	**9:05**	**9:13**	—	—
9:10	**9:14**	**9:22**	**9:28**	**9:33**	**9:40**	—	—
9:40	**9:44**	**9:52**	**9:58**	**10:03**	**10:10**	—	—
10:10	**10:14**	**10:21**	**10:26**	**10:30**	**10:37**	—	—
10:40	**10:44**	**10:51**	**10:56**	**11:00**	**11:07**	—	—
11:12	**11:16**	**11:23**	**11:28**	**11:32**	**11:39**	—	—
11:42	**11:46**	**11:53**	**11:58**	12:02a	12:09a	—	—

LIMITED STOP ZONE / *ZONA DE PARADAS LIMITADAS*

City Heights ➡ North Park ➡ Hillcrest ➡ Old Town

Ⓗ University Av. & College Av. **DEPART**	Ⓖ University Av. & Fairmount Av.	Ⓕ City Heights Transit Plaza @ 15-Fwy.	Ⓔ University Av. & 30th St.	Ⓓ University Av. & Park Bl.	Ⓒ University Av. & 5th Av.	Ⓑ Washington St. & Pacific Hwy.	Ⓐ Old Town Transit Center **ARRIVE**
—	—	5:12a	5:17a	5:20a	5:24a	5:32a	5:37a
—	—	5:42	5:47	5:50	5:54	6:02	6:07
—	—	6:12	6:17	6:20	6:24	6:32	6:37
—	—	6:42	6:47	6:50	6:54	7:02	7:07
—	—	7:12	7:17	7:20	7:24	7:32	7:37
—	—	7:38	7:44	7:48	7:53	8:02	8:07
—	—	8:04	8:10	8:14	8:19	8:28	8:33
—	—	8:28	8:34	8:38	8:43	8:52	8:57
—	—	8:51	8:57	9:01	9:06	9:15	9:20
—	—	9:08	9:15	9:20	9:25	9:34	9:40
—	—	9:28	9:35	9:40	9:45	9:54	10:00
—	—	9:48	9:55	10:00	10:05	10:14	10:20
—	—	10:08	10:15	10:20	10:25	10:34	10:40
—	—	10:28	10:35	10:40	10:45	10:54	11:00
—	—	10:46	10:54	10:59	11:05	11:14	11:20
—	—	11:06	11:14	11:19	11:25	11:34	11:40
—	—	11:26	11:34	11:39	11:45	11:54	**12:00p**
—	—	11:46	11:54	11:59	**12:05p**	**12:14p**	**12:20**
—	—	**12:06p**	**12:14p**	**12:19p**	**12:25**	**12:34**	**12:40**
—	—	**12:26**	**12:34**	**12:39**	**12:45**	**12:54**	**1:00**
—	—	**12:46**	**12:54**	**12:59**	**1:05**	**1:14**	**1:20**
—	—	**1:06**	**1:14**	**1:19**	**1:25**	**1:34**	**1:40**
—	—	**1:26**	**1:34**	**1:39**	**1:45**	**1:54**	**2:00**
—	—	**1:46**	**1:54**	**1:59**	**2:05**	**2:14**	**2:20**
—	—	**2:06**	**2:14**	**2:19**	**2:25**	**2:34**	**2:40**
—	—	**2:26**	**2:34**	**2:39**	**2:45**	**2:54**	**3:00**
—	—	**2:46**	**2:54**	**2:59**	**3:05**	**3:14**	**3:20**
—	—	**3:06**	**3:14**	**3:19**	**3:25**	**3:34**	**3:40**
—	—	**3:26**	**3:34**	**3:39**	**3:45**	**3:54**	**4:00**
—	—	**3:46**	**3:54**	**3:59**	**4:05**	**4:14**	**4:20**
—	—	**4:06**	**4:14**	**4:19**	**4:25**	**4:34**	**4:40**
—	—	**4:26**	**4:34**	**4:39**	**4:45**	**4:54**	**5:00**
—	—	**4:46**	**4:54**	**4:59**	**5:05**	**5:14**	**5:20**
—	—	**5:06**	**5:14**	**5:19**	**5:25**	**5:34**	**5:40**
—	—	**5:23**	**5:31**	**5:36**	**5:42**	**5:51**	**5:57**
—	—	**5:53**	**6:00**	**6:04**	**6:10**	**6:19**	**6:24**
—	—	**6:24**	**6:31**	**6:35**	**6:41**	**6:50**	**6:55**
—	—	**6:54**	**7:01**	**7:05**	**7:11**	**7:20**	**7:25**
—	—	**7:24**	**7:31**	**7:35**	**7:41**	**7:50**	**7:55**
—	—	**7:54**	**8:01**	**8:05**	**8:11**	**8:20**	**8:25**
—	—	**8:24**	**8:31**	**8:35**	**8:41**	**8:50**	**8:55**
—	—	**8:58**	**9:04**	**9:07**	**9:12**	**9:20**	**9:25**
—	—	**9:28**	**9:34**	**9:37**	**9:42**	**9:50**	**9:55**
—	—	**9:58**	**10:04**	**10:07**	**10:12**	**10:20**	**10:25**
—	—	**10:28**	**10:34**	**10:37**	**10:42**	**10:50**	**10:55**

LIMITED STOP ZONE / *ZONA DE PARADAS LIMITADAS*

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*	
Day Pass (Regional) / *Pase diario (Regional)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.25
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.10*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

Valid for unlimited travel for one person on Trolley, most MTS buses, NCTD BREEZE and SPRINTER. Valid for a discount on COASTER fares. Not valid on Premium Express, Rural, Access, or special service buses.

Válidos para viajes ilimitados de una sola persona para: el Trolley, la mayoría de los autobuses de MTS, y los servicios del NCTD de BREEZE y SPRINTER. Válidos para acceder a descuentos en el COASTER, pero no para las rutas Premium Express, rurales, Access, ni los servicios especiales.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	511 or/ó (619) 233-3004
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	(619) 234-5005 or/ó (888) 722-4889
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	(619) 685-4900
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	(619) 557-4555
SafeWatch	(619) 557-4500
Lost & Found *Objetos extraviados*	(619) 427-5660 or/ó (800) 409-3310
The Transit Store	(619) 234-1060 1st & Broadway, Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	www.sdmts.com

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com**.
Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a ***www.sdmts.com****.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective JANUARY 27, 2013

955

8th St. Trolley – SDSU

via 43rd St. / Euclid Trolley / 54th St.

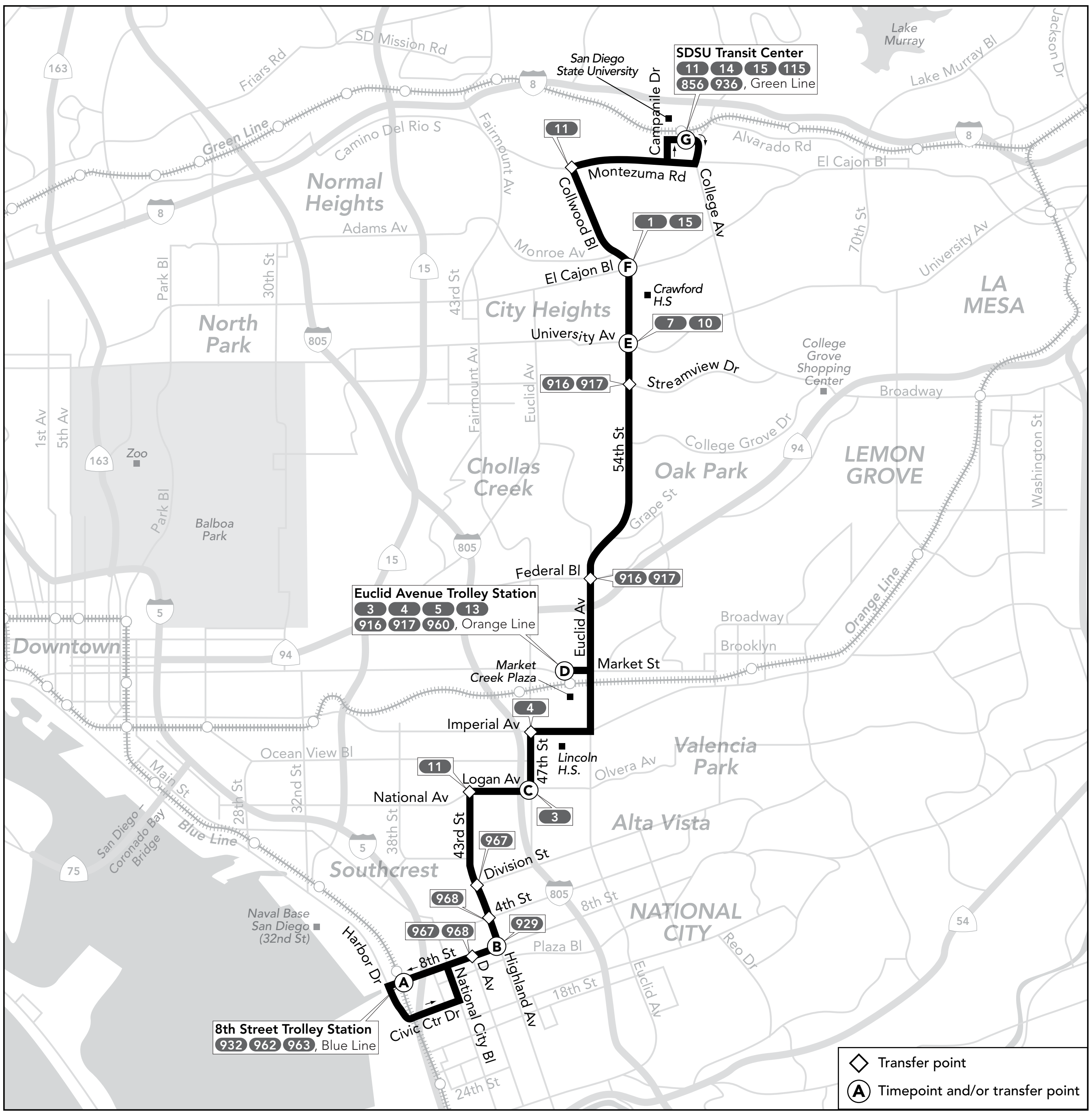
DESTINATIONS

- 54th Street
- Crawford High School
- Euclid Avenue Trolley Station
- Lincoln High School
- Market Creek Plaza
- San Diego State University
- South 43rd Street

TROLLEY CONNECTIONS
8th St.
Euclid Av.
SDSU

MTS Metropolitan Transit System

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*



The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.

Los horarios e información que se indican en este inerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

Route 955 – Sunday / *domingo*

National City ➡ Oak Park ➡ SDSU

Ⓐ 8th St. Trolley Station **DEPART**	Ⓑ Highland Av. & 8th St.	Ⓒ 47th St. & Logan Av.	Ⓓ Euclid Av. Trolley Station	Ⓔ 54th St. & University Av.	Ⓕ 54th St. & El Cajon Bl.	Ⓖ SDSU Transit Center **ARRIVE**
—	—	—	6:00a	6:09a	6:12a	6:21a
6:34a	6:42a	6:51a	7:00	7:09	7:12	7:21
7:32	7:40	7:50	8:00	8:10	8:14	8:24
8:32	8:40	8:50	9:00	9:10	9:14	9:24
9:32	9:40	9:50	10:00	10:10	10:14	10:24
10:32	10:40	10:50	11:00	11:10	11:14	11:24
11:05	11:14	11:25	11:36	11:47	11:51	**12:02p**
11:35	11:44	11:55	**12:06p**	**12:17p**	**12:21p**	**12:32**
12:05p	**12:14p**	**12:25p**	**12:36**	**12:47**	**12:51**	**1:02**
12:35	**12:44**	**12:55**	**1:06**	**1:17**	**1:21**	**1:32**
1:05	**1:14**	**1:25**	**1:36**	**1:47**	**1:51**	**2:02**
1:35	**1:44**	**1:55**	**2:06**	**2:17**	**2:21**	**2:32**
2:05	**2:14**	**2:25**	**2:36**	**2:47**	**2:51**	**3:02**
2:35	**2:44**	**2:55**	**3:06**	**3:17**	**3:21**	**3:32**
3:05	**3:14**	**3:25**	**3:36**	**3:47**	**3:51**	**4:02**
3:35	**3:44**	**3:55**	**4:06**	**4:17**	**4:21**	**4:32**
4:05	**4:14**	**4:25**	**4:36**	**4:47**	**4:51**	**5:02**
4:35	**4:44**	**4:55**	**5:06**	**5:17**	**5:21**	**5:32**
5:05	**5:14**	**5:25**	**5:36**	**5:47**	**5:51**	**6:02**
5:35	**5:44**	**5:55**	**6:06**	**6:17**	**6:21**	**6:32**
6:13	**6:22**	**6:32**	**6:49 T**	**6:59**	**7:03**	**7:13**
7:13	**7:22**	**7:32**	**7:49 T**	**7:59**	**8:03**	**8:13**
8:14	**8:23**	**8:33**	**8:49 T**	**8:59**	**9:02**	**9:11**

SDSU ➡ Oak Park ➡ National City

Ⓖ SDSU Transit Center **DEPART**	Ⓕ 54th St. & El Cajon Bl.	Ⓔ 54th St. & University Av.	Ⓓ Euclid Av. Trolley Station	Ⓒ Logan Av. & 47th St.	Ⓑ 8th St. & Highland Av.	Ⓐ 8th St. Trolley Station **ARRIVE**
—	—	—	5:58a	6:05a	6:14a	6:19a
6:38a	6:45a	6:47a	6:58	7:05	7:14	7:19
7:34	7:43	7:46	7:58	8:05	8:14	8:19
8:34	8:43	8:46	8:58	9:05	9:14	9:19
9:32	9:41	9:44	9:56	10:04	10:14	10:20
9:58	10:07	10:10	10:22	10:30	10:40	10:46
10:28	10:37	10:40	10:52	11:00	11:10	11:16
10:57	11:06	11:09	11:22	11:31	11:41	11:47
11:27	11:36	11:39	11:52	**12:01p**	**12:11p**	**12:17p**
11:57	**12:06p**	**12:09p**	**12:22p**	**12:31**	**12:41**	**12:47**
12:27p	**12:36**	**12:39**	**12:52**	**1:01**	**1:11**	**1:17**
12:57	**1:06**	**1:09**	**1:22**	**1:31**	**1:41**	**1:47**
1:27	**1:36**	**1:39**	**1:52**	**2:01**	**2:11**	**2:17**
1:57	**2:06**	**2:09**	**2:22**	**2:31**	**2:41**	**2:47**
2:27	**2:36**	**2:39**	**2:52**	**3:01**	**3:11**	**3:17**
2:57	**3:06**	**3:09**	**3:22**	**3:31**	**3:41**	**3:47**
3:27	**3:36**	**3:39**	**3:52**	**4:01**	**4:11**	**4:17**
3:57	**4:06**	**4:09**	**4:22**	**4:31**	**4:41**	**4:47**
4:27	**4:36**	**4:39**	**4:52**	**5:01**	**5:11**	**5:17**
4:57	**5:06**	**5:09**	**5:22**	**5:31**	**5:41**	**5:47**
5:27	**5:36**	**5:39**	**5:52**	**6:01**	**6:11**	**6:17**
6:01	**6:10**	**6:13**	**6:34 T**	**6:43**	**6:53**	**6:59**
6:48	**6:56**	**6:59**	**7:19 T**	**7:26**	**7:35**	**7:41**
7:48	**7:56**	**7:59**	**8:19 T**	**8:26**	**8:35**	**8:41**
8:48	**8:56**	**8:59**	**9:19 T**	**9:26**	**9:35**	**9:41**

T = Trip arrives 8 minutes earlier / *Viaje llega 8 minutos antes*

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays >>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados

Route 955 – Monday through Friday / *lunes a viernes*

National City ➡ Oak Park ➡ SDSU

Ⓐ 8th St. Trolley Station **DEPART**	Ⓑ Highland Av. & 8th St.	Ⓒ 47th St. & Logan Av.	Ⓓ Euclid Av. Trolley Station	Ⓔ 54th St. & University Av.	Ⓕ 54th St. & El Cajon Bl.	Ⓖ SDSU Transit Center **ARRIVE**
4:55a	5:04a	5:13a	5:21a	5:30a	5:33a	5:42a
5:10	5:19	5:28	5:36	5:45	5:48	5:57
5:25	5:34	5:43	5:51	6:00	6:03	6:12
5:39	5:48	5:58	6:06	6:15	6:18	6:27
5:53	6:02	6:12	6:21	6:31	6:35	6:45
6:08	6:17	6:27	6:36	6:46	6:50	7:00
6:20	6:30	6:40	6:51	7:02	7:06	7:17
6:35	6:45	6:55	7:06	7:17	7:21	7:32
6:50	7:00	7:10	7:21	7:32	7:36	7:47
7:05	7:15	7:25	7:36	7:47	7:51	8:02
7:20	7:30	7:40	7:51	8:02	8:06	8:17
7:35	7:45	7:55	8:06	8:17	8:21	8:32
7:50	8:00	8:10	8:21	8:32	8:36	8:47
8:06	8:16	8:26	8:36	8:47	8:51	9:01
8:21	8:31	8:41	8:51	9:02	9:06	9:16
8:36	8:46	8:56	9:06	9:17	9:21	9:31
8:51	9:01	9:11	9:21	9:32	9:36	9:46
9:06	9:16	9:26	9:36	9:47	9:51	10:01
9:21	9:31	9:41	9:51	10:02	10:06	10:16
9:36	9:46	9:56	10:06	10:17	10:21	10:31
9:51	10:01	10:11	10:21	10:32	10:36	10:46
10:06	10:16	10:26	10:36	10:47	10:51	11:01
10:20	10:30	10:41	10:51	11:02	11:06	11:17
10:35	10:45	10:56	11:06	11:17	11:21	11:32
10:50	11:00	11:11	11:21	11:32	11:36	11:47
11:05	11:15	11:26	11:36	11:47	11:51	**12:02p**
11:20	11:30	11:41	11:51	**12:02p**	**12:06p**	**12:17**
11:35	11:45	11:56	**12:06p**	**12:17**	**12:21**	**12:32**
11:50	**12:00p**	**12:11p**	**12:21**	**12:32**	**12:36**	**12:47**
12:05p	**12:15**	**12:26**	**12:36**	**12:47**	**12:51**	**1:02**
12:20	**12:30**	**12:41**	**12:51**	**1:02**	**1:06**	**1:17**
12:35	**12:45**	**12:56**	**1:06**	**1:17**	**1:21**	**1:32**
12:50	**1:00**	**1:11**	**1:21**	**1:32**	**1:36**	**1:47**
1:05	**1:15**	**1:26**	**1:36**	**1:47**	**1:51**	**2:02**
1:20	**1:30**	**1:41**	**1:51**	**2:02**	**2:06**	**2:17**
1:35	**1:45**	**1:56**	**2:06**	**2:17**	**2:21**	**2:32**
1:50	**2:00**	**2:11**	**2:21**	**2:32**	**2:36**	**2:47**
2:05	**2:15**	**2:26**	**2:36**	**2:47**	**2:51**	**3:02**
2:19	**2:29**	**2:40**	**2:51**	**3:03**	**3:07**	**3:18**
2:34	**2:44**	**2:55**	**3:06**	**3:18**	**3:22**	**3:33**
2:49	**2:59**	**3:10**	**3:21**	**3:33**	**3:37**	**3:48**
3:04	**3:14**	**3:25**	**3:36**	**3:48**	**3:52**	**4:03**
3:19	**3:29**	**3:40**	**3:51**	**4:03**	**4:07**	**4:18**
3:34	**3:44**	**3:55**	**4:06**	**4:18**	**4:22**	**4:33**
3:49	**3:59**	**4:10**	**4:21**	**4:33**	**4:37**	**4:48**
4:04	**4:14**	**4:25**	**4:36**	**4:48**	**4:52**	**5:03**
4:19	**4:29**	**4:40**	**4:51**	**5:03**	**5:07**	**5:18**
4:34	**4:44**	**4:55**	**5:06**	**5:18**	**5:22**	**5:33**
4:49	**4:59**	**5:10**	**5:21**	**5:33**	**5:37**	**5:48**
5:04	**5:14**	**5:25**	**5:36**	**5:48**	**5:52**	**6:03**
5:19	**5:29**	**5:40**	**5:51**	**6:03**	**6:07**	**6:18**
5:34	**5:44**	**5:55**	**6:06**	**6:18**	**6:22**	**6:33**
5:55	**6:05**	**6:15**	**6:25**	**6:36**	**6:40**	**6:50**
6:18	**6:28**	**6:38**	**6:48**	**6:59**	**7:03**	**7:12**
6:50	**6:59**	**7:09**	**7:18**	**7:28**	**7:32**	**7:41**
7:20	**7:29**	**7:39**	**7:48**	**7:58**	**8:02**	**8:11**
7:52	**8:01**	**8:11**	**8:19**	**8:29**	**8:32**	**8:41**
8:23	**8:32**	**8:42**	**8:50**	**9:00**	**9:03**	**9:12**
8:53	**9:02**	**9:12**	**9:20**	**9:30**	**9:33**	**9:42**
9:23	**9:32**	**9:42**	**9:50**	**10:00**	**10:03**	**10:12**
9:53	**10:02**	**10:12**	**10:20**	**10:30**	**10:33**	**10:42**

SDSU ➡ Oak Park ➡ National City

Ⓖ SDSU Transit Center **DEPART**	Ⓕ 54th St. & El Cajon Bl.	Ⓔ 54th St. & University Av.	Ⓓ Euclid Av. Trolley Station	Ⓒ Logan Av. & 47th St.	Ⓑ 8th St. & Highland Av.	Ⓐ 8th St. Trolley Station **ARRIVE**
5:04a	5:11a	5:13a	5:24a	5:31a	5:40a	5:45a
5:34	5:41	5:43	5:54	6:01	6:10	6:15
5:48	5:55	5:57	6:09	6:17	6:27	6:32
6:02	6:09	6:12	6:24	6:32	6:42	6:47
6:16	6:24	6:27	6:39	6:47	6:57	7:02
6:31	6:39	6:42	6:54	7:02	7:12	7:17
6:44	6:53	6:56	7:09	7:18	7:28	7:35
6:59	7:08	7:11	7:24	7:33	7:43	7:50
7:14	7:23	7:26	7:39	7:48	7:58	8:05
7:29	7:38	7:41	7:54	8:03	8:13	8:20
7:44	7:53	7:56	8:09	8:18	8:28	8:35
7:59	8:08	8:11	8:24	8:33	8:43	8:50
8:14	8:23	8:26	8:39	8:48	8:58	9:05
8:29	8:38	8:41	8:54	9:03	9:13	9:20
8:44	8:53	8:56	9:09	9:18	9:28	9:35
9:00	9:09	9:12	9:24	9:32	9:42	9:48
9:15	9:24	9:27	9:39	9:47	9:57	10:03
9:30	9:39	9:42	9:54	10:02	10:12	10:18
9:45	9:54	9:57	10:09	10:17	10:27	10:33
10:00	10:09	10:12	10:24	10:32	10:42	10:48
10:15	10:24	10:27	10:39	10:47	10:57	11:03
10:30	10:39	10:42	10:54	11:02	11:12	11:18
10:45	10:54	10:57	11:09	11:17	11:27	11:33
11:00	11:09	11:12	11:24	11:32	11:42	11:48
11:15	11:24	11:27	11:39	11:47	11:57	**12:03p**
11:30	11:39	11:42	11:54	**12:02p**	**12:12p**	**12:18**
11:45	11:54	11:57	**12:09p**	**12:17**	**12:27**	**12:33**
12:00p	**12:09p**	**12:12p**	**12:24**	**12:32**	**12:42**	**12:48**
12:15	**12:24**	**12:27**	**12:39**	**12:47**	**12:57**	**1:03**
12:30	**12:39**	**12:42**	**12:54**	**1:02**	**1:12**	**1:18**
12:45	**12:54**	**12:57**	**1:09**	**1:17**	**1:27**	**1:33**
1:00	**1:09**	**1:12**	**1:24**	**1:32**	**1:42**	**1:48**
1:15	**1:24**	**1:27**	**1:39**	**1:47**	**1:57**	**2:03**
1:30	**1:39**	**1:42**	**1:54**	**2:02**	**2:12**	**2:18**
1:45	**1:54**	**1:57**	**2:09**	**2:17**	**2:27**	**2:33**
1:59	**2:09**	**2:12**	**2:24**	**2:32**	**2:42**	**2:48**
2:13	**2:23**	**2:26**	**2:39**	**2:48**	**2:59**	**3:06**
2:28	**2:38**	**2:41**	**2:54**	**3:03**	**3:14**	**3:21**
2:43	**2:53**	**2:56**	**3:09**	**3:18**	**3:29**	**3:36**
2:58	**3:08**	**3:11**	**3:24**	**3:33**	**3:44**	**3:51**
3:13	**3:23**	**3:26**	**3:39**	**3:48**	**3:59**	**4:06**
3:28	**3:38**	**3:41**	**3:54**	**4:03**	**4:14**	**4:21**
3:43	**3:53**	**3:56**	**4:09**	**4:18**	**4:29**	**4:36**
3:58	**4:08**	**4:11**	**4:24**	**4:33**	**4:44**	**4:51**
4:13	**4:23**	**4:26**	**4:39**	**4:48**	**4:59**	**5:06**
4:28	**4:38**	**4:41**	**4:54**	**5:03**	**5:14**	**5:21**
4:43	**4:53**	**4:56**	**5:09**	**5:18**	**5:29**	**5:36**
4:58	**5:08**	**5:11**	**5:24**	**5:33**	**5:44**	**5:51**
5:13	**5:23**	**5:26**	**5:39**	**5:48**	**5:59**	**6:06**
5:30	**5:39**	**5:42**	**5:54**	**6:02**	**6:12**	**6:18**
5:45	**5:54**	**5:57**	**6:09**	**6:17**	**6:27**	**6:33**
6:00	**6:09**	**6:12**	**6:24**	**6:32**	**6:42**	**6:48**
6:15	**6:24**	**6:27**	**6:39**	**6:47**	**6:57**	**7:03**
6:30	**6:39**	**6:42**	**6:54**	**7:02**	**7:12**	**7:18**
6:45	**6:54**	**6:57**	**7:09**	**7:17**	**7:27**	**7:33**
7:01	**7:10**	**7:13**	**7:25**	**7:33**	**7:43**	**7:49**
7:19	**7:27**	**7:30**	**7:49 T**	**7:56**	**8:05**	**8:11**
7:49	**7:57**	**8:00**	**8:19 T**	**8:26**	**8:35**	**8:41**
8:18	**8:26**	**8:29**	**8:49 T**	**8:56**	**9:05**	**9:11**
8:48	**8:56**	**8:59**	**9:19 T**	**9:26**	**9:35**	**9:41**
9:20	**9:28**	**9:30**	**9:49 T**	**9:56**	**10:05**	**10:10**
9:50	**9:58**	**10:00**	**10:19 T**	**10:26**	**10:35**	**10:40**
10:20	**10:28**	**10:30**	**10:49 T**	**10:56**	**11:05**	**11:10**
10:50	**10:58**	**11:00**	**11:19 T**	**11:26**	**11:35**	**11:40**

Route 955 – Saturday / *sábado*

National City ➡ Oak Park ➡ SDSU

Ⓐ 8th St. Trolley Station **DEPART**	Ⓑ Highland Av. & 8th St.	Ⓒ 47th St. & Logan Av.	Ⓓ Euclid Av. Trolley Station	Ⓔ 54th St. & University Av.	Ⓕ 54th St. & El Cajon Bl.	Ⓖ SDSU Transit Center **ARRIVE**
5:39a	5:47a	5:56a	6:05a	6:14a	6:17a	6:26a
6:09	6:17	6:26	6:35	6:44	6:47	6:56
6:39	6:47	6:56	7:05	7:14	7:17	7:26
7:02	7:10	7:20	7:30	7:40	7:44	7:54
7:32	7:40	7:50	8:00	8:10	8:14	8:24
8:02	8:10	8:20	8:30	8:40	8:44	8:54
8:22	8:30	8:40	8:50	9:00	9:04	9:14
8:42	8:50	9:00	9:10	9:20	9:24	9:34
9:02	9:10	9:20	9:30	9:40	9:44	9:54
9:22	9:30	9:40	9:50	10:00	10:04	10:14
9:42	9:50	10:00	10:10	10:20	10:24	10:34
10:02	10:10	10:20	10:30	10:40	10:44	10:54
10:22	10:30	10:40	10:50	11:00	11:04	11:14
10:39	10:48	10:59	11:10	11:21	11:25	11:36
10:59	11:08	11:19	11:30	11:41	11:45	11:56
AND THEN EVERY 20 MINUTES AT: / *Y LUEGO CADA 20 MINUTOS A LA:*						
:19	:28	:39	:50	:01	:05	:16
:39	:48	:59	:10	:21	:25	:36
:59	:08	:19	:30	:41	:45	:56
UNTIL: / *HASTA:*						
5:19p	**5:28p**	**5:39p**	**5:50p**	**6:01p**	**6:05p**	**6:16p**
5:39	**5:48**	**5:59**	**6:10**	**6:21**	**6:25**	**6:36**
6:05	**6:14**	**6:24**	**6:33**	**6:43**	**6:47**	**6:57**
6:28	**6:37**	**6:47**	**6:56**	**7:06**	**7:10**	**7:20**
6:58	**7:07**	**7:17**	**7:26**	**7:36**	**7:40**	**7:50**
7:28	**7:37**	**7:47**	**7:56**	**8:06**	**8:10**	**8:20**
7:56	**8:05**	**8:15**	**8:23**	**8:33**	**8:36**	**8:45**
8:23	**8:32**	**8:42**	**8:50**	**9:00**	**9:03**	**9:12**
8:53	**9:02**	**9:12**	**9:20**	**9:30**	**9:33**	**9:42**
9:53	**10:02**	**10:12**	**10:20**	**10:30**	**10:33**	**10:42**

SDSU ➡ Oak Park ➡ National City

Ⓖ SDSU Transit Center **DEPART**	Ⓕ 54th St. & El Cajon Bl.	Ⓔ 54th St. & University Av.	Ⓓ Euclid Av. Trolley Station	Ⓒ Logan Av. & 47th St.	Ⓑ 8th St. & Highland Av.	Ⓐ 8th St. Trolley Station **ARRIVE**
5:38a	5:45a	5:47a	5:58a	6:05a	6:14a	6:19a
6:08	6:15	6:17	6:28	6:35	6:44	6:49
6:38	6:45	6:47	6:58	7:05	7:14	7:19
7:04	7:13	7:16	7:28	7:35	7:44	7:49
7:34	7:43	7:46	7:58	8:05	8:14	8:19
8:04	8:13	8:16	8:28	8:35	8:44	8:49
8:41	8:50	8:53	9:05	9:12	9:21	9:26
9:11	9:20	9:23	9:35	9:43	9:53	9:59
9:31	9:40	9:43	9:55	10:03	10:13	10:19
9:51	10:00	10:03	10:15	10:23	10:33	10:39
10:11	10:20	10:23	10:35	10:43	10:53	10:59
10:30	10:39	10:42	10:55	11:04	11:14	11:20
10:50	10:59	11:02	11:15	11:24	11:34	11:40
AND THEN EVERY 20 MINUTES AT: / *Y LUEGO CADA 20 MINUTOS A LA:*						
:10	:19	:22	:35	:44	:54	:00
:30	:39	:42	:55	:04	:14	:20
:50	:59	:02	:15	:24	:34	:40
UNTIL: / *HASTA:*						
5:10p	**5:19p**	**5:22p**	**5:35p**	**5:44p**	**5:54p**	**6:00p**
5:30	**5:39**	**5:42**	**5:55**	**6:04**	**6:14**	**6:20**
5:57	**6:06**	**6:09**	**6:22**	**6:31**	**6:41**	**6:47**
6:18	**6:26**	**6:29**	**6:49 T**	**6:56**	**7:05**	**7:11**
6:48	**6:56**	**6:59**	**7:19 T**	**7:26**	**7:35**	**7:41**
7:18	**7:26**	**7:29**	**7:49 T**	**7:56**	**8:05**	**8:11**
7:48	**7:56**	**7:59**	**8:19 T**	**8:26**	**8:35**	**8:41**
8:18	**8:26**	**8:29**	**8:49 T**	**8:56**	**9:05**	**9:11**
8:48	**8:56**	**8:59**	**9:19 T**	**9:26**	**9:35**	**9:41**
9:20	**9:28**	**9:30**	**9:49 T**	**9:56**	**10:05**	**10:10**
9:50	**9:58**	**10:00**	**10:19 T**	**10:26**	**10:35**	**10:40**
10:50	**10:58**	**11:00**	**11:19 T**	**11:26**	**11:35**	**11:40**

T = Trip arrives 8 minutes earlier / *Viaje llega 8 minutos antes*

APPENDIX D

SAN DIEGO TRAFFIC IMPACT STUDY ADT THRESHOLDS

TABLE 2
Roadway Classifications, Levels of Service (LOS) and Average Daily Traffic (ADT)

			LEVEL OF SERVICE				
STREET CLASSIFICATION	LANES	CROSS SECTIONS	A	B	C	D	E
Freeway	8 lanes		60,000	84,000	120,000	140,000	150,000
Freeway	6 lanes		45,000	63,000	90,000	110,000	120,000
Freeway	4 lanes		30,000	42,000	60,000	70,000	80,000
Expressway	6 lanes	102/122	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	72/92	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) continuous left-turn lane)	4 lanes 2 lanes	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2 lanes	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	50/70	2,500	3,500	5,000	6,500	8,000
Collector (multifamily)	2 lanes	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	36/56	—	—	2,200	—	—

<u>LEGEND</u>:

XXX/XXX = Curb to curb width (feet)/right-of-way width (feet): based on the City of San Diego Street Design. Manual

XX/XXX= Approximate recommended ADT based on the City of San Diego Street Design Manual.

<u>NOTES</u>:

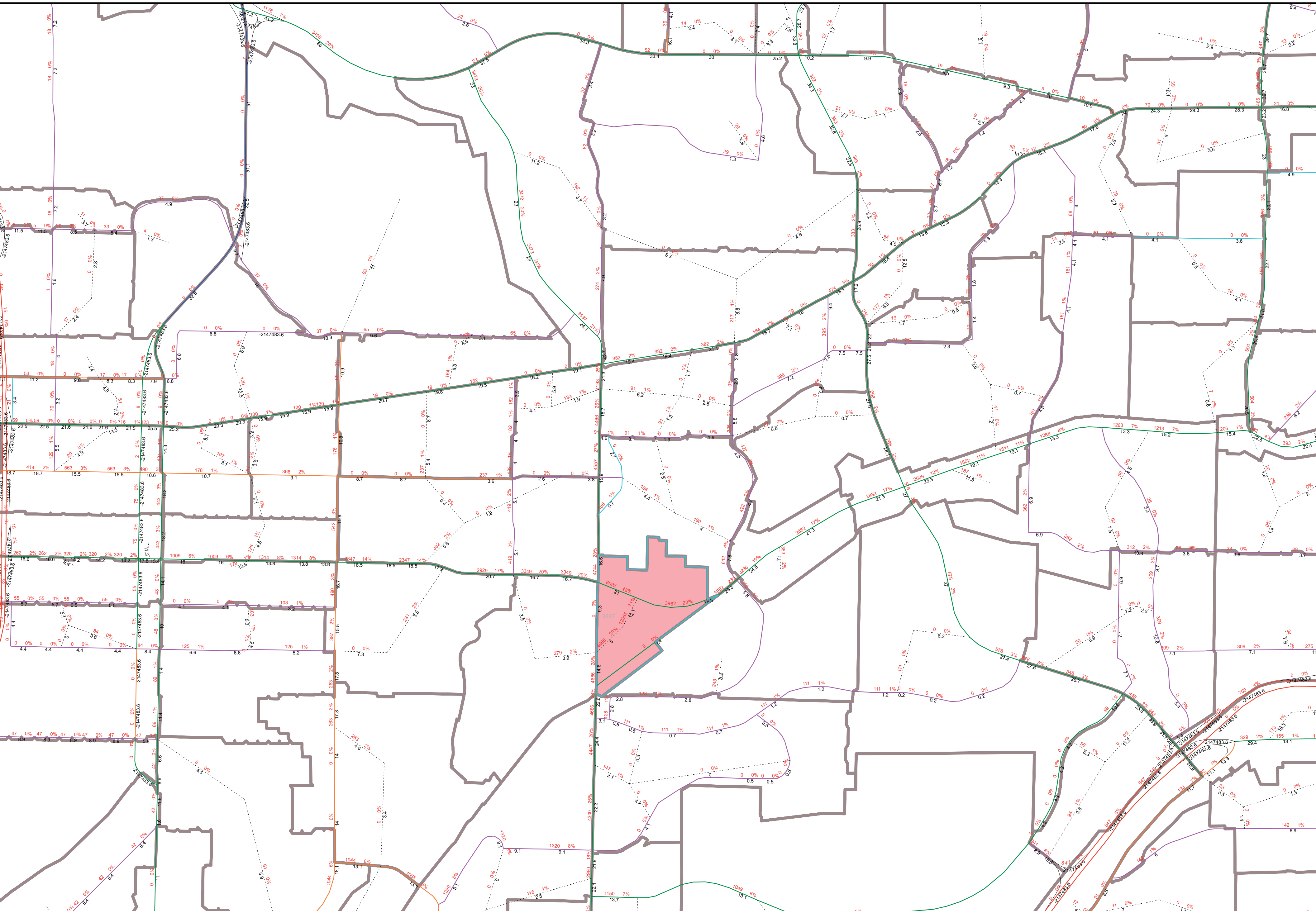
1. The volumes and the average daily level of service listed above are only intended as a general planning guideline.

2. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

			LEVEL OF SERVICE				
STREET CLASSIFICATION	LANES	CROSS SECTIONS	A	B	C	D	E
Major Arterial	5 lanes		25,000	30,000	35,000	40,000	45,000

APPENDIX E

SELECT ZONE ASSIGNMENT OUTPUT



Existing Movement Volume

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	1089		46					444	383	55	992	
2		978	75	21	380					63		41
3	235	642	113	104	290	73	57	259	128	90	388	316
4	37	905	71	108	355	21	31	62	35	61	49	114
5	50	16	76	42	12	33	15	73	4	8	114	15
6	45	209	106	35	156	38	35	347	32	117	459	59
7	42	49	86	65	42	74	69	370	20	47	525	96
8	208	502	29	170	286	134	112	342	94	35	412	320
9					111			523				
10	216	58	88	36	22	53	36	538	117	45	567	43
11	58	1	20	17	2	9	3	601	28	31	653	8
12	180	815	156	125	345	93	150	355	121	140	419	137
13	75	30	22	25	26	37	20	474	32	17	514	19
14		766	155	13	407					107		8
15	3	690	45	49	405	15	49	10	6	69		145
16	21	616	58	28	449	15	64	22	20	77	24	44
17	14	450	64	76	459	17	34	40	36	121	80	203

Derectional volume				Leg Growth				Future Derectional Volume				Future Derectional Volume			
NB	SB	EB	WB	N Leg	S Leg	E Leg	W Leg	NB	SB	EB	WB	NB	SB	EB	WB
1135	0	827	1047	0	1	0	0	1748	0	1100	1393	613	0	273	346
1053	401	0	104	0	0	2	0	1116	453	0	267	63	52	0	163
990	467	444	794	0	0	0	0	1327	495	457	953	337	28	13	159
1013	484	128	224	0	0	0	0	1357	649	146	309	344	165	18	85
142	87	92	137	0	1	0	0	253	95	110	178	111	8	18	41
360	229	414	635	0	0	0	0	457	268	468	794	97	39	54	159
177	181	459	668	0	0	0	0	195	185	514	755	18	4	55	87
739	590	548	767	0	0	0	0	909	844	625	890	170	254	77	123
0	111	523	0	0	0	0	1	0	133	858	0	0	22	335	0
362	111	691	655	0	0	0	0	518	162	829	740	156	51	138	85
79	28	632	692	0	0	0	0	87	31	670	734	8	3	38	42
1151	563	626	696	0	0	0	0	1266	619	689	766	115	56	63	70
127	88	526	550	0	0	0	0	144	114	668	627	17	26	142	77
921	420	0	115	0	0	0	0	939	466	0	115	18	46	0	0
738	469	65	214	0	0	0	0	1063	478	65	231	325	9	0	17
695	492	106	145	0	0	0	0	785	708	153	170	90	216	47	25
528	552	110	404	0	0	0	0	539	624	121	521	11	72	11	117

Movement Growth

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
232	0	232	0	0	0	0	104	223	283	131	0
0	5	522	2	2	0	0	0	0	6	0	13
17	35	157	33	33	1	1	6	16	186	8	17
45	136	160	65	65	22	7	8	7	34	11	34
19	8	31	10	10	1	1	5	24	54	7	3
18	25	43	19	19	7	14	24	26	78	30	42
8	1	10	1	1	2	3	30	20	32	42	5
29	138	34	80	80	43	62	15	24	39	21	100
0	0	0	13	13	21	60	0	191	0	0	0
31	94	19	28	28	10	84	16	75	46	17	52
2	4	2	1	1	1	17	9	17	19	10	19
38	38	38	19	19	19	21	21	21	23	23	23
8	9	3	5	5	13	79	28	26	14	36	43
68	4	0	2	2	171	0	0	0	0	0	0
0	12	56	41	41	0	0	0	0	75	0	1
54	54	15	27	27	129	28	8	6	3	15	15
2	3	12	3	3	16	3	13	0	5	27	37

Future Movement

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1321	0	278	0	0	0	0	548	606	338	1123	0
0	983	597	23	382	0	0	0	0	69	0	54
252	677	270	137	323	74	58	265	144	276	396	333
82	1041	231	173	420	43	38	70	42	95	60	148
69	24	107	52	22	34	16	78	28	62	121	18
63	234	149	54	175	45	49	371	58	195	489	101
50	50	96	66	43	76	72	400	40	79	567	101
237	640	63	250	366	177	174	357	118	74	433	420
0	0	0	0	124	0	0	523	0	0	0	0
247	152	107	64	50	63	120	554	192	91	584	95
60	5	22	18	3	10	20	610	45	50	663	27
218	853	194	144	364	112	171	376	142	163	442	160
83	39	25	30	31	50	99	502	58	31	550	62
0	770	155	15	409	0	0	0	0	107	0	8
3	702	101	90	446	15	49	10	6	144	0	146
75	670	73	55	476	144	92	30	26	80	39	59
16	453	76	79	462	33	37	53	36	126	107	240

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1325	0	280	0	0	0	0	550	610	340	1125	0
0	985	600	25	385	0	0	0	0	70	0	55
255	680	270	140	325	75	60	270	145	280	400	335
85	1045	235	175	425	45	40	75	45	95	65	150
70	25	110	55	25	35	20	80	30	65	125	20
65	235	150	55	180	50	50	375	60	195	490	105
55	55	100	70	45	80	75	400	45	80	570	105
240	640	65	250	370	180	175	360	120	75	435	420
0	0	0	0	125	0	0	525	0	0	0	0
250	155	110	65	50	65	120	555	195	95	585	95
60	5	25	20	5	10	25	610	50	50	665	30
220	855	195	145	365	115	175	380	145	165	445	165
85	40	30	30	35	50	100	505	60	35	555	65
0	775	160	15	410	0	0	0	0	110	0	10
5	705	105	95	450	20	50	10	10	145	0	150
75	670	75	55	480	145	95	30	30	85	40	60
20	455	80	80	465	35	40	55	40	130	110	245

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
0.31	0.29	0.08	0.05	0.02	0.01	0.00	0.00	0.08	0.07	0.02	0.01
0.05	0.05	0.10	0.08	0.00	0.00	0.01	0.00	0.01	0.01	0.03	0.02
0.05	0.05	0.10	0.10	0.00	0.00	0.01	0.01	0.01	0.01	0.03	0.03
0.05	0.05	0.16	0.10	0.00	0.00	0.01	0.01	0.01	0.01	0.04	0.03
0.05	0.05	0.16	0.16	0.00	0.00	0.01	0.01	0.01	0.01	0.04	0.04
0.10	0.10	0.33	0.16	0.01	0.01	0.02	0.01	0.03	0.03	0.08	0.04
0.10	0.10	0.33	0.33	0.01	0.01	0.02	0.02	0.03	0.03	0.08	0.08
0.00	0.05	0.33	0.33	0.00	0.00	0.02	0.02	0.00	0.01	0.08	0.08
0.05	0.00	0.33	0.33	0.00	0.00	0.02	0.02	0.01	0.00	0.08	0.08
0.00	0.05	0.33	0.33	0.00	0.00	0.02	0.02	0.00	0.01	0.08	0.08
0.10	0.00	0.33	0.33	0.01	0.00	0.02	0.02	0.03	0.00	0.08	0.08
0.00	0.05	0.33	0.33	0.00	0.00	0.02	0.02	0.00	0.01	0.08	0.08
0.10	0.10	0.33	0.36	0.01	0.01	0.02	0.02	0.03	0.03	0.08	0.09
0.10	0.10	0.36	0.36	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.00	0.05	0.36	0.30	0.00	0.00	0.02	0.02	0.00	0.01	0.09	0.08
0.05	0.00	0.36	0.36	0.00	0.00	0.02	0.02	0.01	0.00	0.09	0.09
0.00	0.05	0.36	0.16	0.00	0.00	0.02	0.01	0.00	0.01	0.09	0.04
0.15	0.15	0.16	0.09	0.01	0.01	0.01	0.00	0.04	0.04	0.04	0.02
0.05	0.05	0.09	0.09	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02
0.10	0.05	0.09	0.09	0.01	0.00	0.00	0.00	0.03	0.01	0.02	0.02
0.00	0.05	0.09	0.35	0.00	0.00	0.00	0.02	0.00	0.01	0.02	0.09
0.05	0.05	0.35	0.35	0.00	0.00	0.02	0.02	0.01	0.01	0.09	0.09
0.10	0.10	0.29	0.35	0.01	0.01	0.01	0.02	0.03	0.03	0.07	0.09
0.05	0.05	0.29	0.18	0.00	0.00	0.01	0.01	0.01	0.01	0.07	0.05
0.05	0.10	0.28	0.29	0.00	0.01	0.01	0.01	0.01	0.03	0.07	0.07
0.05	0.20	0.26	0.28	0.00	0.01	0.01	0.01	0.01	0.05	0.07	0.07
0.05	0.05	0.59	0.00	0.00	0.00	0.03	0.00	0.01	0.01	0.15	0.00
0.10	0.10	0.30	0.59	0.01	0.01	0.02	0.03	0.03	0.03	0.08	0.15
0.10	0.10	0.39	0.11	0.01	0.01	0.02	0.01	0.03	0.03	0.10	0.03
0.10	0.05	0.10	0.39	0.01	0.00	0.01	0.02	0.03	0.01	0.03	0.10
0.31	0.31	0.10	0.05	0.02	0.02	0.01	0.00	0.08	0.08	0.03	0.01
0.05	0.05	0.30	0.05	0.00	0.00	0.02	0.00	0.01	0.01	0.08	0.01
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.05	0.05	0.34	0.34	0.00	0.00	0.02	0.02	0.01	0.01	0.09	0.09
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.15	0.15	0.34	0.34	0.01	0.01	0.02	0.02	0.04	0.04	0.09	0.09
0.05	0.05	0.34	0.34	0.00	0.00	0.02	0.02	0.01	0.01	0.09	0.09
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.05	0.05	0.34	0.34	0.00	0.00	0.02	0.02	0.01	0.01	0.09	0.09
0.37	0.37	0.31	0.23	0.02	0.02	0.02	0.01	0.09	0.09	0.08	0.06
0.05	0.05	0.27	0.31	0.00	0.00	0.01	0.02	0.01	0.01	0.07	0.08
0.10	0.10	0.30	0.27	0.01	0.01	0.02	0.01	0.03	0.03	0.08	0.07
0.05	0.05	0.21	0.30	0.00	0.00	0.01	0.02	0.01	0.01	0.05	0.08
0.10	0.10	0.21	0.21	0.01	0.01	0.01	0.01	0.03	0.03	0.05	0.05
0.15	0.15	0.09	0.21	0.01	0.01	0.00	0.01	0.04	0.04	0.02	0.05
0.05	0.05	0.05	0.09	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02
0.10	0.10	0.17	0.05	0.01	0.01	0.01	0.00	0.03	0.03	0.04	0.01
0.10	0.10	0.26	0.17	0.01	0.01	0.01	0.01	0.03	0.03	0.07	0.04
0.37	0.31	0.10	0.10	0.02	0.02	0.01	0.01	0.09	0.08	0.03	0.03

Existing Movement Volume

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	111	351	152	155	301	71	117	569	121	79	420	81
2	33	106	117	37	72	23	32	817	36	74	523	21
3	34	4	46	6	7	23	34	831	86	36	604	18
4	59	19	11	40	35	41	32	843	13	16	577	20
5	5	3	6	6	4	20	25	767	37	20	555	21
6	49	135	32	171	136	66	87	640	39	12	490	62
7	7	2	25	23	8	32	22	786	33	21	523	17
8	15		52					760	80	47	591	
9				4		26	31	797			598	11
10	8		14					868	16	30	602	
11				17		44	27	847			591	18
12	12		42					809	36	44	580	
13	9		37	16	1	57	54	796	14	23	557	40
14	107	78	42	32	73	35	13	645	131	32	467	28
15	11		36					708	31	38	554	
16				18		35	38	706			556	17
17	6		54					670	55	11	567	

Derectional volume				Leg Growth				Future Derectional Volume				Future Derectional Volume		
NB	SB	EB	WB	N Leg	S Leg	E Leg	W Leg	NB	SB	EB	WB	NB	SB	EB
614	527	807	580	0	0	0	0	792	690	847	626	178	163	40
256	132	885	618	0	0	0	0	269	139	956	680	13	7	71
84	36	951	658	0	0	0	0	88	38	1046	724	4	2	95
89	116	888	613	0	0	0	0	93	122	977	711	4	6	89
14	30	829	596	0	0	0	0	15	32	962	691	1	2	133
216	373	766	564	0	0	0	0	238	410	889	750	22	37	123
34	63	841	561	0	0	0	0	37	69	1119	746	3	6	278
67	0	840	638	0	0	0	0	70	0	1117	849	3	0	277
0	30	828	609	0	0	0	0	0	32	1101	810	0	2	273
22	0	884	632	0	0	0	0	23	0	1176	841	1	0	292
0	61	874	609	0	0	0	0	0	67	1162	810	0	6	288
54	0	845	624	0	0	0	0	57	0	1124	830	3	0	279
46	74	864	620	0	0	0	0	51	81	1175	825	5	7	311
227	140	789	527	0	0	0	0	250	154	1073	717	23	14	284
47	0	739	592	0	0	0	0	49	0	961	805	2	0	222
0	53	744	573	0	0	0	0	0	56	1012	779	0	3	268
60	0	725	578	0	0	0	0	63	0	841	786	3	0	116

WB
46
62
66
98
95
186
185
211
201
209
201
206
205
190
213
206
208

Movement Growth

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
13	131	22	108	108	12	30	5	27	31	3	34
5	3	7	1	1	3	15	39	15	13	25	13
2	1	2	0	0	1	19	48	19	13	33	13
2	1	4	1	1	2	14	71	14	16	38	16
0	0	0	0	0	1	18	82	18	13	59	13
7	4	20	6	6	11	21	112	21	32	56	32
2	0	2	1	1	4	37	173	37	24	115	24
3	0	3	0	0	0	0	241	21	16	183	0
0	0	0	0	0	1	21	237	0	0	175	15
1	0	1	0	0	0	0	253	22	16	181	0
0	0	0	0	0	5	44	221	0	0	154	30
2	0	2	0	0	0	0	242	21	16	179	0
3	1	3	1	1	5	39	183	39	26	139	26
15	3	15	2	2	9	35	183	35	23	122	23
2	0	2	0	0	0	0	228	17	16	156	0
0	0	0	0	0	2	19	235	0	0	181	14
1	0	5	0	0	0	0	199	11	20	81	0

Future Movement

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
124	482	174	263	409	83	147	574	148	110	423	115
38	109	124	38	73	26	47	856	51	87	548	34
36	5	48	6	7	24	53	879	105	49	637	31
61	20	15	41	36	43	46	914	27	32	615	36
5	3	6	6	4	21	43	849	55	33	614	34
56	139	52	177	142	77	108	752	60	44	546	94
9	2	27	24	9	36	59	959	70	45	638	41
18	0	55	0	0	0	0	1001	101	63	774	0
0	0	0	4	0	27	52	1034	0	0	773	26
9	0	15	0	0	0	0	1121	38	46	783	0
0	0	0	17	0	49	71	1068	0	0	745	48
14	0	44	0	0	0	0	1051	57	60	759	0
12	0	40	17	2	62	93	979	53	49	696	66
122	81	57	34	75	44	48	828	166	55	589	51
13	0	38	0	0	0	0	936	48	54	710	0
0	0	0	18	0	37	57	941	0	0	737	31
7	0	59	0	0	0	0	869	66	31	648	0

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
130	490	180	270	410	90	150	580	150	110	430	120
40	110	130	40	80	30	50	860	60	90	550	40
40	10	50	10	10	30	60	880	110	50	640	40
70	20	20	50	40	50	50	920	30	40	620	40
10	10	10	10	10	30	50	850	60	40	620	40
60	140	60	180	150	80	110	760	60	50	550	100
10	10	30	30	10	40	60	960	70	50	640	50
20	0	60	0	0	0	0	1010	110	70	780	0
0	0	0	10	0	30	60	1040	0	0	780	30
10	0	20	0	0	0	0	1130	40	50	790	0
0	0	0	20	0	50	80	1070	0	0	750	50
20	0	50	0	0	0	0	1060	60	60	760	0
20	0	40	20	10	70	100	980	60	50	700	70
130	90	60	40	80	50	50	830	170	60	590	60
20	0	40	0	0	0	0	940	50	60	710	0
0	0	0	20	0	40	60	950	0	0	740	40
10	0	60	0	0	0	0	870	70	40	650	0

135	0	185	0	0	0	0	580	155
0	115	135	40	85	0	0	0	0
45	15	55	15	15	35	65	880	115
75	25	25	55	45	50	50	920	35
15	15	15	15	15	35	50	850	60
65	145	65	180	155	80	110	760	65
15	15	35	35	15	45	65	960	70
25	5	65	5	5	5	5	1010	115
0	0	0	0	5	0	0	1040	0
15	5	25	5	5	5	5	1130	45
5	5	5	25	5	50	80	1070	5
25	5	55	5	5	5	5	1060	65
25	5	40	25	15	70	105	980	65
0	95	65	40	85	0	0	0	0
20	5	45	5	5	5	5	940	50
5	5	5	25	5	45	65	950	5
15	5	65	5	5	5	5	870	70

115	435	0
90	0	45
55	640	45
45	620	45
45	620	40
55	550	105
55	640	55
75	780	5
0	0	0
55	790	5
5	750	50
65	760	5
50	700	70
65	0	60
65	0	5
5	740	45
45	650	5

Existing Movement Volume

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	616		66					1057	1133	100	763	
2		576	83	61	1004					60		39
3	171	381	108	281	683	105	105	581	282	119	471	196
4	70	568	28	116	941	45	20	28	70	36	23	91
5	72	28	45	15	37	32	25	39	7	8	48	18
6	43	202	135	39	240	43	74	521	87	158	533	39
7	40	51	78	95	51	52	65	685	37	47	616	55
8	223	431	61	477	592	184	126	647	254	128	568	309
9					170			1106				
10	210	30	88	36	22	53	74	1025	247	59	803	43
11	34	1	37	17	2	14	10	990	59	45	783	20
12	236	528	207	227	652	246	232	555	312	243	420	194
13	66	46	22	37	35	51	40	723	68	25	566	26
14		686	237	6	920					162		15
15	5	672	51	141	801	35	39	2	5	70		104
16	42	642	110	39	795	43	57	30	28	80	22	34
17	26	624	106	177	695	38	20	67	32	77	81	149

Derectional volume				Leg Growth				Future Derectional Volume				Future Derectional Volume			
NB	SB	EB	WB	N Leg	S Leg	E Leg	W Leg	NB	SB	EB	WB	NB	SB	EB	WB
682	0	2190	863	0	1	0	0	1050	0	2913	1148	368	0	723	285
659	1065	0	99	0	0	2	0	699	1203	0	254	40	138	0	155
660	1069	968	786	0	0	0	0	884	1133	997	943	224	64	29	157
666	1102	118	150	0	0	0	0	892	1477	135	207	226	375	17	57
145	84	71	74	0	1	0	0	258	92	85	96	113	8	14	22
380	322	682	730	0	0	0	0	483	377	771	913	103	55	89	183
169	198	787	718	0	0	0	0	186	202	881	811	17	4	94	93
715	1253	1027	1005	0	0	0	0	879	1792	1171	1166	164	539	144	161
0	170	1106	0	0	0	0	1	0	204	1814	0	0	34	708	0
328	111	1346	905	0	0	0	0	469	162	1615	1023	141	51	269	118
72	33	1059	848	0	0	0	0	79	36	1123	899	7	3	64	51
971	1125	1099	857	0	0	0	0	1068	1238	1209	943	97	113	110	86
134	123	831	617	0	0	0	0	151	160	1055	703	17	37	224	86
923	926	0	177	0	0	0	0	941	1028	0	177	18	102	0	0
728	977	46	174	0	0	0	0	1048	997	46	188	320	20	0	14
794	877	115	136	0	0	0	0	897	1263	166	159	103	386	51	23
756	910	119	307	0	0	0	0	771	1028	131	396	15	118	12	89

Movement Growth

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
140	0	140	0	0	0	0	274	591	233	108	0
0	3	327	5	5	0	0	0	0	5	0	12
11	24	104	75	75	3	3	14	34	184	8	17
30	90	105	148	148	49	7	8	7	23	8	23
19	8	32	10	10	1	1	4	19	29	4	2
19	27	45	27	27	10	23	39	44	90	34	48
8	1	9	1	1	2	5	51	35	35	45	5
28	133	33	170	170	92	117	29	45	51	27	130
0	0	0	19	19	32	126	0	404	0	0	0
28	85	17	28	28	10	163	32	147	64	23	71
2	3	2	2	2	1	29	15	29	23	12	23
32	32	32	38	38	38	37	37	37	29	29	29
8	10	3	7	7	17	125	45	41	16	41	48
68	4	0	3	3	376	0	0	0	0	0	0
0	12	56	86	86	0	0	0	0	61	0	1
61	61	17	48	48	229	30	9	6	3	14	14
3	5	18	5	5	27	4	14	0	3	20	28

Future Movement

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
756	0	206	0	0	0	0	1331	1724	333	871	0
0	579	410	66	1009	0	0	0	0	65	0	51
182	405	212	356	758	108	108	595	316	303	479	213
100	658	133	264	1089	94	27	36	77	59	31	114
91	36	77	25	47	33	26	43	26	37	52	20
62	229	180	66	267	53	97	560	131	248	567	87
48	52	87	96	52	54	70	736	72	82	661	60
251	564	94	647	762	276	243	676	299	179	595	439
0	0	0	0	189	0	0	1106	0	0	0	0
238	115	105	64	50	63	237	1057	394	123	826	114
36	4	39	19	4	15	39	1005	88	68	795	43
268	560	239	265	690	284	269	592	349	272	449	223
74	56	25	44	42	68	165	768	109	41	607	74
0	690	237	9	923	0	0	0	0	162	0	15
5	684	107	227	887	35	39	2	5	131	0	105
103	703	127	87	843	272	87	39	34	83	36	48
29	629	124	182	700	65	24	81	32	80	101	177

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
760	0	210	0	0	0	0	1335	1725	335	875	0
0	580	410	70	1010	0	0	0	0	70	0	55
185	405	215	360	760	110	110	595	320	305	480	215
100	660	135	265	1090	95	30	40	80	60	35	115
95	40	80	25	50	35	30	45	30	40	55	20
65	230	180	70	270	55	100	560	135	250	570	90
50	55	90	100	55	55	75	740	75	85	665	65
255	565	95	650	765	280	245	680	300	180	600	440
0	0	0	0	190	0	0	1110	0	0	0	0
240	120	105	65	50	65	240	1060	395	125	830	115
40	5	40	20	5	15	40	1005	90	70	795	45
270	565	240	265	690	285	270	595	350	275	450	225
75	60	30	45	45	70	165	770	110	45	610	75
0	695	240	10	925	0	0	0	0	165	0	20
10	685	110	230	890	40	40	5	10	135	0	105
105	705	130	90	845	275	90	40	35	85	40	50
30	630	125	185	700	65	25	85	35	85	105	180

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
0.31	0.29	0.08	0.05	0.02	0.01	0.00	0.00	0.08	0.07	0.02	0.01
0.05	0.05	0.10	0.08	0.00	0.00	0.01	0.00	0.01	0.01	0.03	0.02
0.05	0.05	0.10	0.10	0.00	0.00	0.01	0.01	0.01	0.01	0.03	0.03
0.05	0.05	0.16	0.10	0.00	0.00	0.01	0.01	0.01	0.01	0.04	0.03
0.05	0.05	0.16	0.16	0.00	0.00	0.01	0.01	0.01	0.01	0.04	0.04
0.10	0.10	0.33	0.16	0.01	0.01	0.02	0.01	0.03	0.03	0.08	0.04
0.10	0.10	0.33	0.33	0.01	0.01	0.02	0.02	0.03	0.03	0.08	0.08
0.00	0.05	0.33	0.33	0.00	0.00	0.02	0.02	0.00	0.01	0.08	0.08
0.05	0.00	0.33	0.33	0.00	0.00	0.02	0.02	0.01	0.00	0.08	0.08
0.00	0.05	0.33	0.33	0.00	0.00	0.02	0.02	0.00	0.01	0.08	0.08
0.10	0.00	0.33	0.33	0.01	0.00	0.02	0.02	0.03	0.00	0.08	0.08
0.00	0.05	0.33	0.33	0.00	0.00	0.02	0.02	0.00	0.01	0.08	0.08
0.10	0.10	0.33	0.36	0.01	0.01	0.02	0.02	0.03	0.03	0.08	0.09
0.10	0.10	0.36	0.36	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.00	0.05	0.36	0.30	0.00	0.00	0.02	0.02	0.00	0.01	0.09	0.08
0.05	0.00	0.36	0.36	0.00	0.00	0.02	0.02	0.01	0.00	0.09	0.09
0.00	0.05	0.36	0.16	0.00	0.00	0.02	0.01	0.00	0.01	0.09	0.04
0.15	0.15	0.16	0.09	0.01	0.01	0.01	0.00	0.04	0.04	0.04	0.02
0.05	0.05	0.09	0.09	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02
0.10	0.05	0.09	0.09	0.01	0.00	0.00	0.00	0.03	0.01	0.02	0.02
0.00	0.05	0.09	0.35	0.00	0.00	0.00	0.02	0.00	0.01	0.02	0.09
0.05	0.05	0.35	0.35	0.00	0.00	0.02	0.02	0.01	0.01	0.09	0.09
0.10	0.10	0.29	0.35	0.01	0.01	0.01	0.02	0.03	0.03	0.07	0.09
0.05	0.05	0.29	0.18	0.00	0.00	0.01	0.01	0.01	0.01	0.07	0.05
0.05	0.10	0.28	0.29	0.00	0.01	0.01	0.01	0.01	0.03	0.07	0.07
0.05	0.20	0.26	0.28	0.00	0.01	0.01	0.01	0.01	0.05	0.07	0.07
0.05	0.05	0.59	0.00	0.00	0.00	0.03	0.00	0.01	0.01	0.15	0.00
0.10	0.10	0.30	0.59	0.01	0.01	0.02	0.03	0.03	0.03	0.08	0.15
0.10	0.10	0.39	0.11	0.01	0.01	0.02	0.01	0.03	0.03	0.10	0.03
0.10	0.05	0.10	0.39	0.01	0.00	0.01	0.02	0.03	0.01	0.03	0.10
0.31	0.31	0.10	0.05	0.02	0.02	0.01	0.00	0.08	0.08	0.03	0.01
0.05	0.05	0.30	0.05	0.00	0.00	0.02	0.00	0.01	0.01	0.08	0.01
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.05	0.05	0.34	0.34	0.00	0.00	0.02	0.02	0.01	0.01	0.09	0.09
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.15	0.15	0.34	0.34	0.01	0.01	0.02	0.02	0.04	0.04	0.09	0.09
0.05	0.05	0.34	0.34	0.00	0.00	0.02	0.02	0.01	0.01	0.09	0.09
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.10	0.10	0.34	0.34	0.01	0.01	0.02	0.02	0.03	0.03	0.09	0.09
0.05	0.05	0.34	0.34	0.00	0.00	0.02	0.02	0.01	0.01	0.09	0.09
0.37	0.37	0.31	0.23	0.02	0.02	0.02	0.01	0.09	0.09	0.08	0.06
0.05	0.05	0.27	0.31	0.00	0.00	0.01	0.02	0.01	0.01	0.07	0.08
0.10	0.10	0.30	0.27	0.01	0.01	0.02	0.01	0.03	0.03	0.08	0.07
0.05	0.05	0.21	0.30	0.00	0.00	0.01	0.02	0.01	0.01	0.05	0.08
0.10	0.10	0.21	0.21	0.01	0.01	0.01	0.01	0.03	0.03	0.05	0.05
0.15	0.15	0.09	0.21	0.01	0.01	0.00	0.01	0.04	0.04	0.02	0.05
0.05	0.05	0.05	0.09	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02
0.10	0.10	0.17	0.05	0.01	0.01	0.01	0.00	0.03	0.03	0.04	0.01
0.10	0.10	0.26	0.17	0.01	0.01	0.01	0.01	0.03	0.03	0.07	0.04
0.37	0.31	0.10	0.10	0.02	0.02	0.01	0.01	0.09	0.08	0.03	0.03

Existing Movement Volume

INTID	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	111	351	152	155	301	71	117	569	121	79	420	81
2	33	106	117	37	72	23	32	817	36	74	523	21
3	34	4	46	6	7	23	34	831	86	36	604	18
4	59	19	11	40	35	41	32	843	13	16	577	20
5	5	3	6	6	4	20	25	767	37	20	555	21
6	49	135	32	171	136	66	87	640	39	12	490	62
7	7	2	25	23	8	32	22	786	33	21	523	17
8	15		52					760	80	47	591	
9				4		26	31	797			598	11
10	8		14					868	16	30	602	
11				17		44	27	847			591	18
12	12		42					809	36	44	580	
13	9		37	16	1	57	54	796	14	23	557	40
14	107	78	42	32	73	35	13	645	131	32	467	28
15	11		36					708	31	38	554	
16				18		35	38	706			556	17
17	6		54					670	55	11	567	

Derectional volume				Leg Growth				Future Derectional Volume				Future Derectional Volume			
NB	SB	EB	WB	N Leg	S Leg	E Leg	W Leg	NB	SB	EB	WB	NB	SB	EB	WB
614	527	807	580	0	0	0	0	792	690	847	626	178	163	40	46
256	132	885	618	0	0	0	0	269	139	956	680	13	7	71	62
84	36	951	658	0	0	0	0	88	38	1046	724	4	2	95	66
89	116	888	613	0	0	0	0	93	122	977	711	4	6	89	98
14	30	829	596	0	0	0	0	15	32	962	691	1	2	133	95
216	373	766	564	0	0	0	0	238	410	889	750	22	37	123	186
34	63	841	561	0	0	0	0	37	69	1119	746	3	6	278	185
67	0	840	638	0	0	0	0	70	0	1117	849	3	0	277	211
0	30	828	609	0	0	0	0	0	32	1101	810	0	2	273	201
22	0	884	632	0	0	0	0	23	0	1176	841	1	0	292	209
0	61	874	609	0	0	0	0	0	67	1162	810	0	6	288	201
54	0	845	624	0	0	0	0	57	0	1124	830	3	0	279	206
46	74	864	620	0	0	0	0	51	81	1175	825	5	7	311	205
227	140	789	527	0	0	0	0	250	154	1073	717	23	14	284	190
47	0	739	592	0	0	0	0	49	0	961	805	2	0	222	213
0	53	744	573	0	0	0	0	0	56	1012	779	0	3	268	206
60	0	725	578	0	0	0	0	63	0	841	786	3	0	116	208

Movement Growth

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
13	131	22	108	108	12	30	5	27	31	3	34
5	3	7	1	1	3	15	39	15	13	25	13
2	1	2	0	0	1	19	48	19	13	33	13
2	1	4	1	1	2	14	71	14	16	38	16
0	0	0	0	0	1	18	82	18	13	59	13
7	4	20	6	6	11	21	112	21	32	56	32
2	0	2	1	1	4	37	173	37	24	115	24
3	0	3	0	0	0	0	241	21	16	183	0
0	0	0	0	0	1	21	237	0	0	175	15
1	0	1	0	0	0	0	253	22	16	181	0
0	0	0	0	0	5	44	221	0	0	154	30
2	0	2	0	0	0	0	242	21	16	179	0
3	1	3	1	1	5	39	183	39	26	139	26
15	3	15	2	2	9	35	183	35	23	122	23
2	0	2	0	0	0	0	228	17	16	156	0
0	0	0	0	0	2	19	235	0	0	181	14
1	0	5	0	0	0	0	199	11	20	81	0

Future Movement

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
124	482	174	263	409	83	147	574	148	110	423	115
38	109	124	38	73	26	47	856	51	87	548	34
36	5	48	6	7	24	53	879	105	49	637	31
61	20	15	41	36	43	46	914	27	32	615	36
5	3	6	6	4	21	43	849	55	33	614	34
56	139	52	177	142	77	108	752	60	44	546	94
9	2	27	24	9	36	59	959	70	45	638	41
18	0	55	0	0	0	0	1001	101	63	774	0
0	0	0	4	0	27	52	1034	0	0	773	26
9	0	15	0	0	0	0	1121	38	46	783	0
0	0	0	17	0	49	71	1068	0	0	745	48
14	0	44	0	0	0	0	1051	57	60	759	0
12	0	40	17	2	62	93	979	53	49	696	66
122	81	57	34	75	44	48	828	166	55	589	51
13	0	38	0	0	0	0	936	48	54	710	0
0	0	0	18	0	37	57	941	0	0	737	31
7	0	59	0	0	0	0	869	66	31	648	0

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
130	490	180	270	410	90	150	580	150	110	430	120
40	110	130	40	80	30	50	860	60	90	550	40
40	10	50	10	10	30	60	880	110	50	640	40
70	20	20	50	40	50	50	920	30	40	620	40
10	10	10	10	10	30	50	850	60	40	620	40
60	140	60	180	150	80	110	760	60	50	550	100
10	10	30	30	10	40	60	960	70	50	640	50
20	0	60	0	0	0	0	1010	110	70	780	0
0	0	0	10	0	30	60	1040	0	0	780	30
10	0	20	0	0	0	0	1130	40	50	790	0
0	0	0	20	0	50	80	1070	0	0	750	50
20	0	50	0	0	0	0	1060	60	60	760	0
20	0	40	20	10	70	100	980	60	50	700	70
130	90	60	40	80	50	50	830	170	60	590	60
20	0	40	0	0	0	0	940	50	60	710	0
0	0	0	20	0	40	60	950	0	0	740	40
10	0	60	0	0	0	0	870	70	40	650	0

NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR
135	0	185	0	0	0	0	585	155
0	115	135	45	85	0	0	0	0
45	15	55	15	15	35	65	880	115
75	25	25	55	45	55	50	920	35
15	15	15	15	15	35	50	850	60
65	145	65	180	155	80	110	760	65
15	15	35	35	15	45	65	960	75
25	5	65	5	5	5	5	1010	115
0	0	0	0	5	0	0	1045	0
15	5	25	5	5	5	5	1130	45
5	5	5	25	5	50	80	1070	5
25	5	55	5	5	5	5	1060	65
25	5	40	25	15	75	105	980	65
0	95	65	40	85	0	0	0	0
20	5	45	5	5	5	5	940	50
5	5	5	25	5	45	65	950	5
15	5	65	5	5	5	5	870	70

WBL	WBT	WBR
115	435	0
90	0	45
55	640	45
45	620	45
45	620	40
55	555	100
55	645	55
75	780	5
0	0	0
55	795	5
5	755	50
65	760	5
50	700	75
65	0	60
65	0	5
5	740	45
45	650	5

APPENDIX F

PEAK HOUR INTERSECTION LOS WORKSHEETS FUTURE YEAR BASE CONDITIONS

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑	↰↰	↱
Volume (vph)	650	495	235	1225	1300	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	714	544	258	1346	1429	154
RTOR Reduction (vph)	0	13	0	0	0	68
Lane Group Flow (vph)	714	531	258	1346	1429	86
Turn Type	NA	pm+ov	Prot	NA	NA	Perm
Protected Phases	2	3	1	6	3	
Permitted Phases		2				3
Actuated Green, G (s)	32.4	89.1	22.0	58.4	56.7	56.7
Effective Green, g (s)	34.5	89.9	22.4	60.9	57.1	57.1
Actuated g/C Ratio	0.27	0.71	0.18	0.48	0.45	0.45
Clearance Time (s)	6.1	4.4	4.4	6.5	4.4	4.4
Vehicle Extension (s)	4.3	2.0	2.0	4.8	2.0	2.0
Lane Grp Cap (vph)	969	1129	315	1711	1556	717
v/s Ratio Prot	0.20	0.21	0.15	c0.38	c0.42	
v/s Ratio Perm		0.12				0.05
v/c Ratio	0.74	0.47	0.82	0.79	0.92	0.12
Uniform Delay, d1	41.6	7.8	49.8	27.1	32.3	19.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	0.1	14.5	3.7	8.8	0.0
Delay (s)	46.6	7.9	64.3	30.9	41.1	19.9
Level of Service	D	A	E	C	D	B
Approach Delay (s)	29.9			36.2	39.0	
Approach LOS	C			D	D	

Intersection Summary			
HCM Average Control Delay	35.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	126.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Volume (vph)	65	150	1150	144	50	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	68	156	1198	150	52	484
RTOR Reduction (vph)	0	135	0	130	0	0
Lane Group Flow (vph)	68	21	1198	20	52	484
Turn Type	NA	Perm	NA	Over	Prot	NA
Protected Phases	3		2	3	1	6
Permitted Phases		3				
Actuated Green, G (s)	9.4	9.4	43.5	9.4	4.6	52.1
Effective Green, g (s)	9.4	9.4	44.0	9.4	4.6	52.6
Actuated g/C Ratio	0.13	0.13	0.63	0.13	0.07	0.75
Clearance Time (s)	4.0	4.0	4.5	4.0	4.0	4.5
Vehicle Extension (s)	2.0	2.0	3.7	2.0	2.0	3.7
Lane Grp Cap (vph)	238	213	2225	213	116	2659
v/s Ratio Prot	c0.04		c0.34	0.01	c0.03	0.14
v/s Ratio Perm		0.01				
v/c Ratio	0.29	0.10	0.54	0.09	0.45	0.18
Uniform Delay, d1	27.3	26.6	7.3	26.6	31.5	2.5
Progression Factor	1.00	1.00	1.73	2.35	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.6	0.0	1.0	0.2
Delay (s)	27.5	26.7	13.2	62.5	32.5	2.7
Level of Service	C	C	B	E	C	A
Approach Delay (s)	26.9		18.7			5.5
Approach LOS	C		B			A

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Volume (vph)	160	330	140	175	400	435	245	700	260	140	305	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3395		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3395		1770	3539	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	170	351	149	186	426	463	261	745	277	149	324	96
RTOR Reduction (vph)	0	0	102	0	0	201	0	27	0	0	0	63
Lane Group Flow (vph)	170	351	47	186	426	262	261	995	0	149	324	33
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	16.0	44.5	44.5	16.8	44.0	44.0	14.0	46.2		14.8	47.1	47.1
Effective Green, g (s)	16.4	44.4	44.4	17.2	45.2	45.2	14.4	47.2		15.2	48.0	48.0
Actuated g/C Ratio	0.12	0.32	0.32	0.12	0.32	0.32	0.10	0.34		0.11	0.34	0.34
Clearance Time (s)	4.4	3.9	3.9	4.4	5.2	5.2	4.4	5.0		4.4	4.9	4.9
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Lane Grp Cap (vph)	207	1122	502	217	1143	511	353	1145		192	1213	543
v/s Ratio Prot	0.10	0.10		c0.11	0.12		0.08	c0.29		c0.08	0.09	
v/s Ratio Perm			0.03			c0.17						0.02
v/c Ratio	0.82	0.31	0.09	0.86	0.37	0.51	0.74	0.87		0.78	0.27	0.06
Uniform Delay, d1	60.4	36.2	33.6	60.2	36.5	38.5	61.0	43.5		60.7	33.3	30.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.97	0.94	0.88
Incremental Delay, d2	21.3	0.7	0.4	25.9	0.9	3.6	6.8	7.4		16.1	0.1	0.1
Delay (s)	81.7	37.0	34.0	86.1	37.4	42.1	67.8	50.9		75.0	31.4	27.1
Level of Service	F	D	C	F	D	D	E	D		E	C	C
Approach Delay (s)		47.7			47.9			54.3			42.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	40	75	40	90	65	150	80	985	225	175	395	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.93		1.00	0.97		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1775			1714		1770	3440		1770	3485	
Flt Permitted		0.79			0.80		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1418			1390		1770	3440		1770	3485	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	88	47	106	76	176	94	1159	265	206	465	53
RTOR Reduction (vph)	0	14	0	0	39	0	0	18	0	0	7	0
Lane Group Flow (vph)	0	168	0	0	319	0	94	1406	0	206	511	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		26.3			26.3		8.1	44.2		14.9	50.8	
Effective Green, g (s)		27.2			27.2		8.5	45.5		15.3	52.3	
Actuated g/C Ratio		0.27			0.27		0.08	0.46		0.15	0.52	
Clearance Time (s)		4.9			4.9		4.4	5.3		4.4	5.5	
Vehicle Extension (s)		3.0			3.0		2.0	2.1		2.0	2.1	
Lane Grp Cap (vph)		386			378		150	1565		271	1823	
v/s Ratio Prot							0.05	c0.41		c0.12	0.15	
v/s Ratio Perm		0.12			c0.23							
v/c Ratio		0.44			0.84		0.63	0.90		0.76	0.28	
Uniform Delay, d1		30.1			34.4		44.2	25.1		40.6	13.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			15.6		5.8	8.6		10.7	0.4	
Delay (s)		30.9			50.0		50.0	33.7		51.3	13.7	
Level of Service		C			D		D	C		D	B	
Approach Delay (s)		30.9			50.0			34.7			24.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

5: 54th Pl & Orange Av

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	80	30	20	120	20	65	25	105	55	25	35
Peak Hour Factor	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Hourly flow rate (vph)	43	174	65	43	261	43	141	54	228	120	54	76

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	283	348	424	250
Volume Left (vph)	43	43	141	120
Volume Right (vph)	65	43	228	76
Hadj (s)	-0.07	-0.02	-0.22	-0.05
Departure Headway (s)	7.3	7.1	6.7	7.4
Degree Utilization, x	0.57	0.69	0.79	0.51
Capacity (veh/h)	441	465	507	420
Control Delay (s)	19.6	24.6	30.8	18.0
Approach Delay (s)	19.6	24.6	30.8	18.0
Approach LOS	C	C	D	C

Intersection Summary			
Delay	24.3		
HCM Level of Service	C		
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		

6: Euclid Ave & University Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Volume (vph)	50	365	60	185	470	95	65	235	145	50	180	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.94		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3464		1770	3450		1770	1756		1770	1802	
Flt Permitted	0.95	1.00		0.95	1.00		0.47	1.00		0.24	1.00	
Satd. Flow (perm)	1770	3464		1770	3450		875	1756		443	1802	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	392	65	199	505	102	70	253	156	54	194	54
RTOR Reduction (vph)	0	13	0	0	13	0	0	34	0	0	16	0
Lane Group Flow (vph)	54	444	0	199	594	0	70	375	0	54	232	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.0	32.2		15.1	42.3		24.5	24.5		24.5	24.5	
Effective Green, g (s)	5.4	33.1		15.5	43.2		25.4	25.4		25.4	25.4	
Actuated g/C Ratio	0.06	0.38		0.18	0.50		0.30	0.30		0.30	0.30	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.1		2.0	2.3		3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	111	1333		319	1733		258	519		131	532	
v/s Ratio Prot	0.03	0.13		c0.11	c0.17			c0.21			0.13	
v/s Ratio Perm							0.08			0.12		
v/c Ratio	0.49	0.33		0.62	0.34		0.27	0.72		0.41	0.44	
Uniform Delay, d1	39.0	18.7		32.6	12.9		23.2	27.1		24.3	24.5	
Progression Factor	1.00	1.00		0.76	0.97		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.7		2.6	0.5		0.7	5.2		3.2	0.9	
Delay (s)	40.2	19.3		27.4	13.0		23.9	32.3		27.5	25.4	
Level of Service	D	B		C	B		C	C		C	C	
Approach Delay (s)		21.5			16.6			31.1			25.8	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

7: 52nd Street & University Ave

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			↰↑↱			↰↑↱	
Volume (vph)	75	430	45	70	600	110	55	55	95	65	45	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.98			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.98	
Frt	1.00	0.99		1.00	0.98			0.94			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3440		1770	3405			1600			1611	
Flt Permitted	0.95	1.00		0.95	1.00			0.79			0.69	
Satd. Flow (perm)	1770	3440		1770	3405			1283			1125	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	82	473	49	77	659	121	60	60	104	71	49	88
RTOR Reduction (vph)	0	5	0	0	10	0	0	50	0	0	43	0
Lane Group Flow (vph)	82	517	0	77	770	0	0	174	0	0	165	0
Confl. Peds. (#/hr)	30		48	48		30	78		113	113		78
Confl. Bikes (#/hr)			24			5			2			17
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.4	50.4		7.2	50.2			15.5			15.5	
Effective Green, g (s)	7.4	51.3		7.2	51.1			15.5			15.5	
Actuated g/C Ratio	0.09	0.60		0.08	0.59			0.18			0.18	
Clearance Time (s)	4.0	4.9		4.0	4.9			4.0			4.0	
Vehicle Extension (s)	2.0	4.1		2.0	4.1			2.0			2.0	
Lane Grp Cap (vph)	152	2052		148	2023			231			203	
v/s Ratio Prot	c0.05	0.15		0.04	c0.23							
v/s Ratio Perm								0.14			c0.15	
v/c Ratio	0.54	0.25		0.52	0.38			0.75			0.81	
Uniform Delay, d1	37.7	8.2		37.7	9.2			33.4			33.9	
Progression Factor	0.89	1.78		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.7	0.3		1.5	0.5			11.6			20.6	
Delay (s)	35.3	15.0		39.3	9.7			45.1			54.4	
Level of Service	D	B		D	A			D			D	
Approach Delay (s)		17.7			12.4			45.1			54.4	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	22.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

2035 Base AM
8: 54th St & University Ave

11/3/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Volume (vph)	175	365	115	75	435	345	235	635	65	210	365	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.94	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1509	1770	3539	1538	1770	3539	1492	3433	3539	1556
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1509	1770	3539	1538	1770	3539	1492	3433	3539	1556
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	180	376	119	77	448	356	242	655	67	216	376	186
RTOR Reduction (vph)	0	0	79	0	0	0	0	0	43	0	0	0
Lane Group Flow (vph)	180	376	40	77	448	356	242	655	24	216	376	186
Confl. Peds. (#/hr)			44			18			54			18
Turn Type	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Actuated Green, G (s)	11.3	28.3	28.3	5.0	22.0	86.3	14.6	24.8	24.8	9.4	19.6	86.3
Effective Green, g (s)	11.7	29.3	29.3	5.4	23.0	86.3	15.0	25.8	25.8	9.8	20.6	86.3
Actuated g/C Ratio	0.14	0.34	0.34	0.06	0.27	1.00	0.17	0.30	0.30	0.11	0.24	1.00
Clearance Time (s)	4.4	5.0	5.0	4.4	5.0		4.4	5.0	5.0	4.4	5.0	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.7		3.0	3.5	3.5	2.0	3.5	
Lane Grp Cap (vph)	240	1202	512	111	943	1538	308	1058	446	390	845	1556
v/s Ratio Prot	c0.10	0.11		0.04	c0.13		c0.14	c0.19		0.06	0.11	
v/s Ratio Perm			0.03			0.23			0.02			0.12
v/c Ratio	0.75	0.31	0.08	0.69	0.48	0.23	0.79	0.62	0.05	0.55	0.44	0.12
Uniform Delay, d1	35.9	21.1	19.3	39.6	26.6	0.0	34.1	26.0	21.6	36.2	28.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.1	0.2	0.1	14.1	0.5	0.4	12.4	1.1	0.1	1.0	0.4	0.2
Delay (s)	47.0	21.2	19.4	53.7	27.1	0.4	46.5	27.2	21.6	37.2	28.4	0.2
Level of Service	D	C	B	D	C	A	D	C	C	D	C	A
Approach Delay (s)		27.8			18.6			31.6			24.1	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	86.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑	
Volume (veh/h)	0	600	0	0	0	0	0	0	0	0	140	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	645	0	0	0	0	0	0	0	0	151	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			645			720	645	323	323	645	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			645			720	645	323	323	645	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	*7.4	3.3
p0 queue free %	100			100			100	100	100	100	45	100
cM capacity (veh/h)	1622			936			177	389	673	607	272	1084

Direction, Lane #	EB 1	EB 2	SB 1
Volume Total	323	323	151
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	272
Volume to Capacity	0.19	0.19	0.55
Queue Length 95th (ft)	0	0	77
Control Delay (s)	0.0	0.0	33.5
Lane LOS			D
Approach Delay (s)	0.0		33.5
Approach LOS			D

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑	↱		✥			✥	
Volume (vph)	60	580	160	95	600	95	245	155	110	65	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.95		0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98			0.98	
Satd. Flow (prot)	1770	5085	1545	1770	3539	1505		1752			1728	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.75			0.74	
Satd. Flow (perm)	1770	5085	1545	1770	3539	1505		1354			1310	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	624	172	102	645	102	263	167	118	70	54	65
RTOR Reduction (vph)	0	0	0	0	0	65	0	0	0	0	0	0
Lane Group Flow (vph)	65	624	172	102	645	37	0	548	0	0	189	0
Confl. Peds. (#/hr)			8			12	9		17	17		9
Confl. Bikes (#/hr)									2			6
Turn Type	Prot	NA	Free	Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases			Free			6	4			4		
Actuated Green, G (s)	6.5	24.2	80.0	7.9	25.8	25.8		33.5			33.5	
Effective Green, g (s)	6.9	25.3	80.0	8.3	26.7	26.7		34.4			34.4	
Actuated g/C Ratio	0.09	0.32	1.00	0.10	0.33	0.33		0.43			0.43	
Clearance Time (s)	4.4	5.1		4.4	4.9	4.9		4.9			4.9	
Vehicle Extension (s)	2.0	3.5		2.0	3.5	3.5		2.0			2.0	
Lane Grp Cap (vph)	153	1608	1545	184	1181	502		582			563	
v/s Ratio Prot	0.04	0.12		c0.06	c0.18							
v/s Ratio Perm			c0.11			0.02		c0.40			0.14	
v/c Ratio	0.42	0.39	0.11	0.55	0.55	0.07		0.94			0.34	
Uniform Delay, d1	34.7	21.3	0.0	34.1	21.7	18.2		21.8			15.2	
Progression Factor	1.00	1.00	1.00	1.23	0.91	0.87		1.00			1.00	
Incremental Delay, d2	0.7	0.7	0.1	2.0	1.8	0.3		23.5			0.1	
Delay (s)	35.4	22.0	0.1	43.8	21.7	16.1		45.3			15.3	
Level of Service	D	C	A	D	C	B		D			B	
Approach Delay (s)		18.7			23.7			45.3			15.3	
Approach LOS		B			C			D			B	

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

11: 60th st & University Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↱			✥			✥	
Volume (vph)	20	630	45	50	685	30	70	5	25	20	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.97			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5026		1770	3514			1725			1690	
Flt Permitted	0.95	1.00		0.95	1.00			0.79			0.86	
Satd. Flow (perm)	1770	5026		1770	3514			1407			1485	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	22	692	49	55	753	33	77	5	27	22	5	22
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	22	741	0	55	786	0	0	109	0	0	49	0
Confl. Peds. (#/hr)			4			1	4		13	13		4
Confl. Bikes (#/hr)			1			1			4			5
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.0	48.0		4.1	50.3			13.5			13.5	
Effective Green, g (s)	2.4	49.1		4.5	51.2			14.4			14.4	
Actuated g/C Ratio	0.03	0.61		0.06	0.64			0.18			0.18	
Clearance Time (s)	4.4	5.1		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	4.7		2.0	3.9			2.0			2.0	
Lane Grp Cap (vph)	53	3085		100	2249			253			267	
v/s Ratio Prot	0.01	0.15		c0.03	c0.22							
v/s Ratio Perm								c0.08			0.03	
v/c Ratio	0.42	0.24		0.55	0.35			0.43			0.18	
Uniform Delay, d1	38.1	7.0		36.8	6.7			29.2			27.8	
Progression Factor	1.30	0.54		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.9	0.2		3.7	0.4			0.4			0.1	
Delay (s)	51.3	4.0		40.4	7.1			29.6			27.9	
Level of Service	D	A		D	A			C			C	
Approach Delay (s)		5.3			9.3			29.6			27.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	9.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Volume (vph)	165	400	135	165	465	165	215	855	195	145	365	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1526	1770	3373		1770	3415		1770	3392	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1526	1770	3373		1770	3415		1770	3392	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	181	440	148	181	511	181	236	940	214	159	401	121
RTOR Reduction (vph)	0	0	109	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	181	440	39	181	692	0	236	1154	0	159	522	0
Confl. Peds. (#/hr)			22			16			20			13
Confl. Bikes (#/hr)						1			8			5
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	15.0	25.8	25.8	15.0	26.0		16.6	28.4		13.3	23.8	
Effective Green, g (s)	15.4	26.9	26.9	15.4	26.9		17.0	29.6		13.7	26.3	
Actuated g/C Ratio	0.15	0.26	0.26	0.15	0.26		0.17	0.29		0.13	0.26	
Clearance Time (s)	4.4	5.1	5.1	4.4	4.9		4.4	5.2		4.4	6.5	
Vehicle Extension (s)	2.0	3.7	3.7	2.0	3.7		2.0	3.2		2.0	3.6	
Lane Grp Cap (vph)	268	937	404	268	893		296	995		239	878	
v/s Ratio Prot	c0.10	0.12		0.10	c0.21		c0.13	c0.34		0.09	0.15	
v/s Ratio Perm			0.03									
v/c Ratio	0.68	0.47	0.10	0.68	0.77		0.80	1.16		0.67	0.59	
Uniform Delay, d1	40.7	31.4	28.2	40.7	34.5		40.6	36.0		41.8	33.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.2	0.5	0.1	5.2	4.4		13.0	83.3		5.3	1.2	
Delay (s)	45.9	31.8	28.3	45.9	39.0		53.6	119.3		47.1	34.2	
Level of Service	D	C	C	D	D		D	F		D	C	
Approach Delay (s)		34.5			40.4			108.1			37.2	
Approach LOS		C			D			F			D	

Intersection Summary			
HCM Average Control Delay	63.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	101.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✣			✣	
Volume (vph)	95	490	55	35	545	65	80	40	30	30	35	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.98			0.97			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.99	
Satd. Flow (prot)	1770	3477		1770	3475			1750			1715	
Flt Permitted	0.95	1.00		0.95	1.00			0.75			0.90	
Satd. Flow (perm)	1770	3477		1770	3475			1346			1559	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	100	516	58	37	574	68	84	42	32	32	37	47
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	100	574	0	37	642	0	0	158	0	0	116	0
Confl. Peds. (#/hr)			5			1	5		20	20		5
Confl. Bikes (#/hr)			1			1			3			6
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	8.3	54.7		4.5	50.9			16.6			16.6	
Effective Green, g (s)	8.7	55.6		4.9	51.8			17.5			17.5	
Actuated g/C Ratio	0.10	0.62		0.05	0.58			0.19			0.19	
Clearance Time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.6			2.0			2.0	
Lane Grp Cap (vph)	171	2148		96	2000			262			303	
v/s Ratio Prot	c0.06	c0.17		0.02	c0.18							
v/s Ratio Perm								c0.12			0.07	
v/c Ratio	0.58	0.27		0.39	0.32			0.60			0.38	
Uniform Delay, d1	38.9	7.9		41.1	9.9			33.1			31.5	
Progression Factor	1.00	1.00		1.33	0.64			1.00			1.00	
Incremental Delay, d2	3.3	0.3		0.9	0.4			2.7			0.3	
Delay (s)	42.2	8.2		55.7	6.8			35.8			31.8	
Level of Service	D	A		E	A			D			C	
Approach Delay (s)		13.2			9.4			35.8			31.8	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱		↰↑
Volume (veh/h)	145	15	850	200	50	490
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	151	16	885	208	52	510
Pedestrians	5		3			2
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			602			
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1253	450			890	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	992	69			576	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	23	98			94	
cM capacity (veh/h)	197	848			861	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	151	16	443	443	208	222	340
Volume Left	151	0	0	0	0	52	0
Volume Right	0	16	0	0	208	0	0
cSH	197	848	1700	1700	1700	861	1700
Volume to Capacity	0.77	0.02	0.26	0.26	0.12	0.06	0.20
Queue Length 95th (ft)	130	1	0	0	0	5	0
Control Delay (s)	66.0	9.3	0.0	0.0	0.0	2.7	0.0
Lane LOS	F	A				A	
Approach Delay (s)	60.6		0.0			1.1	
Approach LOS	F						

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↑↱		↰	↑↱	
Volume (vph)	50	10	10	145	15	160	5	710	75	85	465	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1788	1554		1782	1551	1770	3474		1770	3513	
Flt Permitted		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1788	1554		1782	1551	1770	3474		1770	3513	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	57	11	11	165	17	182	6	807	85	97	528	23
RTOR Reduction (vph)	0	0	10	0	0	147	0	7	0	0	2	0
Lane Group Flow (vph)	0	68	1	0	182	35	6	885	0	97	549	0
Confl. Peds. (#/hr)	3		2	2		3	5		11	11		5
Confl. Bikes (#/hr)			2			3			11			5
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8						
Actuated Green, G (s)		10.2	10.2		18.2	18.2	1.2	46.1		9.2	54.4	
Effective Green, g (s)		12.1	12.1		20.1	20.1	1.6	48.2		9.6	56.2	
Actuated g/C Ratio		0.11	0.11		0.19	0.19	0.02	0.45		0.09	0.53	
Clearance Time (s)		5.9	5.9		5.9	5.9	4.4	6.1		4.4	5.8	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.0	3.3		2.0	3.3	
Lane Grp Cap (vph)		204	177		338	294	27	1580		160	1863	
v/s Ratio Prot		c0.04			c0.10		0.00	c0.25		c0.05	0.16	
v/s Ratio Perm			0.00			0.02						
v/c Ratio		0.33	0.01		0.54	0.12	0.22	0.56		0.61	0.29	
Uniform Delay, d1		43.2	41.6		38.8	35.6	51.6	21.1		46.4	13.9	
Progression Factor		1.00	1.00		1.00	1.00	1.06	0.80		1.00	1.00	
Incremental Delay, d2		1.0	0.0		1.7	0.2	1.5	1.4		4.4	0.4	
Delay (s)		44.2	41.6		40.4	35.8	56.0	18.3		50.8	14.3	
Level of Service		D	D		D	D	E	B		D	B	
Approach Delay (s)		43.8			38.1			18.5			19.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

16: 54th St & Redwood St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	85	30	30	85	40	55	75	655	75	45	475	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.96		1.00	0.98		1.00	0.97	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1759			1744		1770	3485		1770	3429	
Flt Permitted		0.66			0.77		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1194			1372		1770	3485		1770	3429	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	88	31	31	88	41	57	77	675	77	46	490	129
RTOR Reduction (vph)	0	11	0	0	19	0	0	4	0	0	12	0
Lane Group Flow (vph)	0	139	0	0	167	0	77	748	0	46	607	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		17.4			17.4		8.0	67.9		6.3	65.6	
Effective Green, g (s)		18.3			18.3		8.4	69.0		6.7	67.3	
Actuated g/C Ratio		0.17			0.17		0.08	0.65		0.06	0.63	
Clearance Time (s)		4.9			4.9		4.4	5.1		4.4	5.7	
Vehicle Extension (s)		2.0			2.0		2.0	4.7		2.0	4.7	
Lane Grp Cap (vph)		206			237		140	2269		112	2177	
v/s Ratio Prot							c0.04	c0.21		0.03	0.18	
v/s Ratio Perm		0.12			c0.12							
v/c Ratio		0.68			0.70		0.55	0.33		0.41	0.28	
Uniform Delay, d1		41.1			41.3		47.0	8.2		47.8	8.6	
Progression Factor		1.00			1.00		1.06	0.60		1.24	1.13	
Incremental Delay, d2		6.7			7.5		2.5	0.4		0.9	0.3	
Delay (s)		47.8			48.8		52.3	5.3		60.0	10.0	
Level of Service		D			D		D	A		E	B	
Approach Delay (s)		47.8			48.8			9.7			13.5	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱		↰	↰↑	↱	↰	↑↑↱		↰	↑↑↱	
Volume (vph)	45	55	40	130	110	235	20	495	80	85	495	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt		0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98		0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1762		1681	1753	1583	1770	3465		1770	3514	
Flt Permitted		0.98		0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1762		1681	1753	1583	1770	3465		1770	3514	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	48	59	43	140	118	253	22	532	86	91	532	27
RTOR Reduction (vph)	0	13	0	0	0	212	0	10	0	0	2	0
Lane Group Flow (vph)	0	137	0	113	145	41	22	608	0	91	557	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)		13.3		15.3	15.3	15.3	2.9	47.4		9.7	54.1	
Effective Green, g (s)		14.2		17.0	17.0	17.0	3.3	48.7		10.1	55.5	
Actuated g/C Ratio		0.13		0.16	0.16	0.16	0.03	0.46		0.10	0.52	
Clearance Time (s)		4.9		5.7	5.7	5.7	4.4	5.3		4.4	5.4	
Vehicle Extension (s)		3.6		2.6	2.6	2.6	2.0	5.0		2.0	4.7	
Lane Grp Cap (vph)		236		270	281	254	55	1592		169	1840	
v/s Ratio Prot		c0.08		0.07	c0.08		0.01	c0.18		c0.05	0.16	
v/s Ratio Perm						0.03						
v/c Ratio		0.58		0.42	0.52	0.16	0.40	0.38		0.54	0.30	
Uniform Delay, d1		43.1		40.1	40.7	38.3	50.4	18.8		45.7	14.3	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.38	0.46	
Incremental Delay, d2		3.9		0.8	1.3	0.2	1.7	0.7		1.6	0.4	
Delay (s)		47.0		40.9	42.0	38.6	52.1	19.5		64.5	7.0	
Level of Service		D		D	D	D	D	B		E	A	
Approach Delay (s)		47.0			40.1			20.6			15.1	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	55	20	55	70	20	15	30	985	65	50	565	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.94			0.98		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1721			1768		1770	3506		1770	3517	
Flt Permitted		0.82			0.63		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1449			1154		1770	3506		1770	3517	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	59	22	59	75	22	16	32	1059	70	54	608	27
RTOR Reduction (vph)	0	28	0	0	6	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	112	0	0	107	0	32	1126	0	54	633	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Actuated Green, G (s)		13.8			13.8		5.1	70.2		7.5	72.6	
Effective Green, g (s)		14.3			14.3		5.6	70.7		8.0	73.1	
Actuated g/C Ratio		0.14			0.14		0.05	0.67		0.08	0.70	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		197			157		94	2361		135	2449	
v/s Ratio Prot							0.02	c0.32		c0.03	0.18	
v/s Ratio Perm		0.08			c0.09							
v/c Ratio		0.57			0.68		0.34	0.48		0.40	0.26	
Uniform Delay, d1		42.5			43.2		47.9	8.3		46.2	5.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.9			11.5		2.2	0.7		1.9	0.3	
Delay (s)		46.4			54.7		50.1	8.9		48.2	6.2	
Level of Service		D			D		D	A		D	A	
Approach Delay (s)		46.4			54.7			10.1			9.5	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑	↰↰	↱
Volume (vph)	1635	1390	160	1000	735	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1703	1448	167	1042	766	115
RTOR Reduction (vph)	0	18	0	0	0	80
Lane Group Flow (vph)	1703	1430	167	1042	766	35
Turn Type	NA	pm+ov	Prot	NA	NA	Perm
Protected Phases	2	3	1	6	3	
Permitted Phases		2				3
Actuated Green, G (s)	75.5	112.7	12.4	91.9	37.2	37.2
Effective Green, g (s)	77.6	113.5	12.8	94.4	37.6	37.6
Actuated g/C Ratio	0.55	0.81	0.09	0.67	0.27	0.27
Clearance Time (s)	6.1	4.4	4.4	6.5	4.4	4.4
Vehicle Extension (s)	4.3	2.0	2.0	4.8	2.0	2.0
Lane Grp Cap (vph)	1962	1283	162	2386	922	425
v/s Ratio Prot	0.48	c0.30	c0.09	0.29	0.22	
v/s Ratio Perm		0.60				0.02
v/c Ratio	0.87	1.11	1.03	0.44	0.83	0.08
Uniform Delay, d1	26.8	13.2	63.6	10.5	48.2	38.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.5	62.7	79.1	0.6	6.2	0.0
Delay (s)	32.3	75.9	142.7	11.1	54.4	38.3
Level of Service	C	E	F	B	D	D
Approach Delay (s)	52.4			29.3	52.3	
Approach LOS	D			C	D	

Intersection Summary			
HCM Average Control Delay	47.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Volume (vph)	80	55	695	180	70	1300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	60	755	196	76	1413
RTOR Reduction (vph)	0	54	0	177	0	0
Lane Group Flow (vph)	87	6	755	19	76	1413
Turn Type	NA	Perm	NA	Over	Prot	NA
Protected Phases	3		2	3	1	6
Permitted Phases		3				
Actuated Green, G (s)	11.6	11.6	87.4	11.6	8.5	99.9
Effective Green, g (s)	11.6	11.6	87.9	11.6	8.5	100.4
Actuated g/C Ratio	0.10	0.10	0.73	0.10	0.07	0.84
Clearance Time (s)	4.0	4.0	4.5	4.0	4.0	4.5
Vehicle Extension (s)	2.0	2.0	3.7	2.0	2.0	3.7
Lane Grp Cap (vph)	171	153	2592	153	125	2961
v/s Ratio Prot	c0.05		0.21	0.01	c0.04	c0.40
v/s Ratio Perm		0.00				
v/c Ratio	0.51	0.04	0.29	0.12	0.61	0.48
Uniform Delay, d1	51.5	49.1	5.5	49.6	54.1	2.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.0	0.3	0.1	5.6	0.6
Delay (s)	52.4	49.2	5.7	49.7	59.8	3.2
Level of Service	D	D	A	D	E	A
Approach Delay (s)	51.1		14.8			6.1
Approach LOS	D		B			A

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

3: 54th St & El Cajon Bl

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Volume (vph)	140	595	305	290	480	215	175	525	205	360	910	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3390		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3390		1770	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	146	620	318	302	500	224	182	547	214	375	948	115
RTOR Reduction (vph)	0	0	199	0	0	160	0	30	0	0	0	60
Lane Group Flow (vph)	146	620	119	302	500	64	182	731	0	375	948	55
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	14.8	30.2	30.2	24.8	38.9	38.9	11.3	33.8		33.5	56.1	56.1
Effective Green, g (s)	15.2	30.1	30.1	25.2	40.1	40.1	11.7	34.8		33.9	57.0	57.0
Actuated g/C Ratio	0.11	0.22	0.22	0.18	0.29	0.29	0.08	0.25		0.24	0.41	0.41
Clearance Time (s)	4.4	3.9	3.9	4.4	5.2	5.2	4.4	5.0		4.4	4.9	4.9
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Lane Grp Cap (vph)	192	761	340	319	1014	453	287	843		429	1441	645
v/s Ratio Prot	0.08	c0.18		c0.17	0.14		0.05	c0.22		c0.21	0.27	
v/s Ratio Perm			0.08			0.04						0.03
v/c Ratio	0.76	0.81	0.35	0.95	0.49	0.14	0.63	0.87		0.87	0.66	0.09
Uniform Delay, d1	60.6	52.3	46.7	56.7	41.5	37.1	62.1	50.4		51.0	33.6	25.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	14.7	9.4	2.8	35.8	1.7	0.7	3.3	9.6		17.1	1.2	0.1
Delay (s)	75.3	61.6	49.5	92.6	43.2	37.8	65.4	60.0		68.1	34.8	25.6
Level of Service	E	E	D	F	D	D	E	E		E	C	C
Approach Delay (s)		59.9			56.6			61.0			42.7	
Approach LOS		E			E			E			D	

Intersection Summary			
HCM Average Control Delay	53.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	50	40	90	55	35	115	90	690	125	265	1110	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.92		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1713			1699		1770	3458		1770	3497	
Flt Permitted		0.71			0.74		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1235			1267		1770	3458		1770	3497	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	43	96	59	37	122	96	734	133	282	1181	101
RTOR Reduction (vph)	0	49	0	0	62	0	0	10	0	0	3	0
Lane Group Flow (vph)	0	143	0	0	156	0	96	857	0	282	1279	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.2			19.2		10.9	49.9		36.3	75.1	
Effective Green, g (s)		20.1			20.1		11.3	51.2		36.7	76.6	
Actuated g/C Ratio		0.17			0.17		0.09	0.43		0.31	0.64	
Clearance Time (s)		4.9			4.9		4.4	5.3		4.4	5.5	
Vehicle Extension (s)		3.0			3.0		2.0	2.1		2.0	2.1	
Lane Grp Cap (vph)		207			212		167	1475		541	2232	
v/s Ratio Prot							0.05	0.25		c0.16	c0.37	
v/s Ratio Perm		0.12			c0.12							
v/c Ratio		0.69			0.73		0.57	0.58		0.52	0.57	
Uniform Delay, d1		47.0			47.4		52.0	26.2		34.4	12.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		9.5			12.3		3.0	1.7		0.4	1.1	
Delay (s)		56.5			59.8		55.0	27.9		34.8	13.5	
Level of Service		E			E		E	C		C	B	
Approach Delay (s)		56.5			59.8			30.6			17.3	
Approach LOS		E			E			C			B	

Intersection Summary			
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

5: 54th Place & Orange St

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	45	30	40	65	20	90	40	70	25	50	35
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	51	34	45	74	23	102	45	80	28	57	40

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	119	142	227	125
Volume Left (vph)	34	45	102	28
Volume Right (vph)	34	23	80	40
Hadj (s)	-0.08	0.00	-0.09	-0.11
Departure Headway (s)	4.9	4.9	4.6	4.7
Degree Utilization, x	0.16	0.19	0.29	0.16
Capacity (veh/h)	674	675	734	703
Control Delay (s)	8.8	9.1	9.5	8.7
Approach Delay (s)	8.8	9.1	9.5	8.7
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.1		
HCM Level of Service	A		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

2035 Base PM
6: Euclid Ave & University Ave

11/3/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Volume (vph)	100	630	135	240	550	80	65	230	165	55	270	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.94		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3445		1770	3472		1770	1746		1770	1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.31	1.00		0.21	1.00	
Satd. Flow (perm)	1770	3445		1770	3472		584	1746		391	1815	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	670	144	255	585	85	69	245	176	59	287	59
RTOR Reduction (vph)	0	16	0	0	8	0	0	32	0	0	9	0
Lane Group Flow (vph)	106	798	0	255	662	0	69	389	0	59	337	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	10.3	36.6		20.6	46.9		28.6	28.6		28.6	28.6	
Effective Green, g (s)	10.7	37.5		21.0	47.8		29.5	29.5		29.5	29.5	
Actuated g/C Ratio	0.11	0.38		0.21	0.48		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.1		2.0	2.3		3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	189	1292		372	1660		172	515		115	535	
v/s Ratio Prot	0.06	c0.23		c0.14	0.19			c0.22			0.19	
v/s Ratio Perm							0.12			0.15		
v/c Ratio	0.56	0.62		0.69	0.40		0.40	0.75		0.51	0.63	
Uniform Delay, d1	42.4	25.4		36.5	16.8		28.2	32.0		29.3	30.5	
Progression Factor	1.00	1.00		1.11	0.42		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	2.2		3.9	0.7		1.9	6.5		5.6	2.8	
Delay (s)	44.7	27.6		44.3	7.7		30.1	38.4		34.8	33.3	
Level of Service	D	C		D	A		C	D		C	C	
Approach Delay (s)		29.6			17.8			37.3			33.5	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM Average Control Delay	27.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

7: 52nd Street & University Ave

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱			✣			✣	
Volume (vph)	75	760	75	75	750	55	50	55	85	105	55	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99			0.95			0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.97	
Frt	1.00	0.99		1.00	0.99			0.94			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3418		1770	3462			1622			1657	
Flt Permitted	0.95	1.00		0.95	1.00			0.85			0.63	
Satd. Flow (perm)	1770	3418		1770	3462			1392			1074	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	76	768	76	76	758	56	51	56	86	106	56	56
RTOR Reduction (vph)	0	4	0	0	3	0	0	38	0	0	17	0
Lane Group Flow (vph)	76	840	0	76	811	0	0	155	0	0	201	0
Confl. Peds. (#/hr)	49		72	72		49	86		74	74		86
Confl. Bikes (#/hr)			15			17			7			11
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.7	59.1		7.7	59.1			20.3			20.3	
Effective Green, g (s)	7.7	60.0		7.7	60.0			20.3			20.3	
Actuated g/C Ratio	0.08	0.60		0.08	0.60			0.20			0.20	
Clearance Time (s)	4.0	4.9		4.0	4.9			4.0			4.0	
Vehicle Extension (s)	2.0	4.1		2.0	4.1			2.0			2.0	
Lane Grp Cap (vph)	136	2051		136	2077			283			218	
v/s Ratio Prot	c0.04	c0.25		0.04	0.23							
v/s Ratio Perm								0.11			c0.19	
v/c Ratio	0.56	0.41		0.56	0.39			0.55			0.92	
Uniform Delay, d1	44.5	10.6		44.5	10.4			35.7			39.1	
Progression Factor	1.30	0.52		0.80	1.78			1.00			1.00	
Incremental Delay, d2	2.3	0.5		2.4	0.5			1.2			39.6	
Delay (s)	60.0	6.0		38.2	19.1			36.9			78.7	
Level of Service	E	A		D	B			D			E	
Approach Delay (s)		10.4			20.7			36.9			78.7	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

2035 Base PM
8: University Ave & 54th St

2/19/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Volume (vph)	175	650	290	180	630	320	245	555	95	510	640	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.94	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1500	1770	3539	1538	1770	3539	1481	3433	3539	1556
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1500	1770	3539	1538	1770	3539	1481	3433	3539	1556
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	184	684	305	189	663	337	258	584	100	537	674	221
RTOR Reduction (vph)	0	0	194	0	0	0	0	0	72	0	0	0
Lane Group Flow (vph)	184	684	111	189	663	337	258	584	28	537	674	221
Confl. Peds. (#/hr)			44			18			54			18
Turn Type	Prot		Perm	Prot		Free	Prot		Perm	Prot		Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Actuated Green, G (s)	11.7	28.9	28.9	9.8	27.0	100.0	17.8	26.8	26.8	15.7	24.7	100.0
Effective Green, g (s)	12.1	29.9	29.9	10.2	28.0	100.0	18.2	27.8	27.8	16.1	25.7	100.0
Actuated g/C Ratio	0.12	0.30	0.30	0.10	0.28	1.00	0.18	0.28	0.28	0.16	0.26	1.00
Clearance Time (s)	4.4	5.0	5.0	4.4	5.0		4.4	5.0	5.0	4.4	5.0	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.7		3.0	3.5	3.5	2.0	3.5	
Lane Grp Cap (vph)	214	1058	449	181	991	1538	322	984	412	553	910	1556
v/s Ratio Prot	0.10	c0.19		c0.11	0.19		c0.15	0.17		c0.16	c0.19	
v/s Ratio Perm			0.07			c0.22			0.02			0.14
v/c Ratio	0.86	0.65	0.25	1.04	0.67	0.22	0.80	0.59	0.07	0.97	0.74	0.14
Uniform Delay, d1	43.1	30.5	26.5	44.9	31.9	0.0	39.2	31.2	26.6	41.7	34.1	0.0
Progression Factor	1.14	0.74	0.35	1.10	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.7	2.9	1.3	73.3	3.0	0.3	13.3	1.0	0.1	30.7	3.4	0.2
Delay (s)	74.8	25.5	10.5	122.5	37.9	0.3	52.5	32.2	26.6	72.5	37.5	0.2
Level of Service	E	C	B	F	D	A	D	C	C	E	D	A
Approach Delay (s)		29.3			40.7			37.2			44.8	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	38.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

9: Chollas Pkwy & University Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑									↑	
Volume (veh/h)	0	1200	0	0	0	0	0	0	0	0	205	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	1290	0	0	0	0	0	0	0	0	220	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			1290			1401	1290	645	645	1290	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			1290			1401	1290	645	645	1290	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	*7.4	3.3
p0 queue free %	100			100			0	100	100	100	0	100
cM capacity (veh/h)	1622			533			0	162	415	357	133	1084

Direction, Lane #	EB 1	EB 2	SB 1
Volume Total	645	645	220
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	133
Volume to Capacity	0.38	0.38	1.66
Queue Length 95th (ft)	0	0	401
Control Delay (s)	0.0	0.0	384.1
Lane LOS			F
Approach Delay (s)	0.0		384.1
Approach LOS			F

Intersection Summary			
Average Delay	56.0		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑	↱		✥			✥	
Volume (vph)	110	1045	315	90	850	75	230	120	105	70	50	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94		0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98			0.98	
Satd. Flow (prot)	1770	5085	1545	1770	3539	1493		1743			1732	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.74			0.73	
Satd. Flow (perm)	1770	5085	1545	1770	3539	1493		1315			1296	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	1100	332	95	895	79	242	126	111	74	53	58
RTOR Reduction (vph)	0	0	0	0	0	30	0	0	0	0	0	0
Lane Group Flow (vph)	116	1100	332	95	895	49	0	479	0	0	185	0
Confl. Peds. (#/hr)			8			12	9		17	17		9
Confl. Bikes (#/hr)									2			6
Turn Type	Prot		Free	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			4			4	
Permitted Phases			Free			6	4			4		
Actuated Green, G (s)	9.3	39.0	100.0	7.1	37.0	37.0		39.5			39.5	
Effective Green, g (s)	9.7	40.1	100.0	7.5	37.9	37.9		40.4			40.4	
Actuated g/C Ratio	0.10	0.40	1.00	0.08	0.38	0.38		0.40			0.40	
Clearance Time (s)	4.4	5.1		4.4	4.9	4.9		4.9			4.9	
Vehicle Extension (s)	2.0	3.5		2.0	3.5	3.5		2.0			2.0	
Lane Grp Cap (vph)	172	2039	1545	133	1341	566		531			524	
v/s Ratio Prot	c0.07	0.22		0.05	c0.25							
v/s Ratio Perm			c0.21			0.03		c0.36			0.14	
v/c Ratio	0.67	0.54	0.21	0.71	0.67	0.09		0.90			0.35	
Uniform Delay, d1	43.6	22.9	0.0	45.2	25.8	19.9		27.9			20.7	
Progression Factor	1.03	0.72	1.00	0.99	0.97	0.93		1.00			1.00	
Incremental Delay, d2	6.6	0.8	0.3	13.5	2.5	0.3		18.1			0.1	
Delay (s)	51.6	17.3	0.3	58.2	27.7	18.9		46.1			20.9	
Level of Service	D	B	A	E	C	B		D			C	
Approach Delay (s)		16.2			29.7			46.1			20.9	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↱			✥			✥	
Volume (vph)	35	1020	85	70	820	45	35	5	40	20	5	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	5016		1770	3508			1674			1678	
Flt Permitted	0.95	1.00		0.95	1.00			0.86			0.88	
Satd. Flow (perm)	1770	5016		1770	3508			1479			1511	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	1074	89	74	863	47	37	5	42	21	5	26
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	37	1163	0	74	910	0	0	84	0	0	52	0
Confl. Peds. (#/hr)			4			1	4		13	13		4
Confl. Bikes (#/hr)			1			1			4			5
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	4.6	60.0		7.6	63.2			18.0			18.0	
Effective Green, g (s)	5.0	61.1		8.0	64.1			18.9			18.9	
Actuated g/C Ratio	0.05	0.61		0.08	0.64			0.19			0.19	
Clearance Time (s)	4.4	5.1		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	4.7		2.0	3.9			2.0			2.0	
Lane Grp Cap (vph)	89	3065		142	2249			280			286	
v/s Ratio Prot	0.02	0.23		c0.04	c0.26							
v/s Ratio Perm								c0.06			0.03	
v/c Ratio	0.42	0.38		0.52	0.40			0.30			0.18	
Uniform Delay, d1	46.1	9.8		44.2	8.7			34.9			34.1	
Progression Factor	1.21	0.43		1.01	1.12			1.00			1.00	
Incremental Delay, d2	1.0	0.3		0.6	0.2			0.2			0.1	
Delay (s)	56.9	4.5		45.4	10.0			35.1			34.2	
Level of Service	E	A		D	A			D			C	
Approach Delay (s)		6.1			12.6			35.1			34.2	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM Average Control Delay	10.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Volume (vph)	260	565	340	275	435	225	255	565	240	265	690	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1526	1770	3323		1770	3341		1770	3362	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1526	1770	3323		1770	3341		1770	3362	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	274	595	358	289	458	237	268	595	253	279	726	284
RTOR Reduction (vph)	0	0	219	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	274	595	139	289	695	0	268	848	0	279	1010	0
Confl. Peds. (#/hr)			22			16			20			13
Confl. Bikes (#/hr)						1			8			5
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	13.7	25.5	25.5	12.6	24.6		14.1	27.9		14.9	27.4	
Effective Green, g (s)	14.1	26.6	26.6	13.0	25.5		14.5	29.1		15.3	29.9	
Actuated g/C Ratio	0.14	0.27	0.27	0.13	0.26		0.14	0.29		0.15	0.30	
Clearance Time (s)	4.4	5.1	5.1	4.4	4.9		4.4	5.2		4.4	6.5	
Vehicle Extension (s)	2.0	3.7	3.7	2.0	3.7		2.0	3.2		2.0	3.6	
Lane Grp Cap (vph)	250	941	406	230	847		257	972		271	1005	
v/s Ratio Prot	0.15	0.17		c0.16	c0.21		0.15	0.25		c0.16	c0.30	
v/s Ratio Perm			0.09									
v/c Ratio	1.10	0.63	0.34	1.26	0.82		1.04	0.87		1.03	1.00	
Uniform Delay, d1	43.0	32.4	29.6	43.5	35.1		42.8	33.7		42.4	35.0	
Progression Factor	0.96	0.71	1.59	0.96	1.05		1.00	1.00		1.00	1.00	
Incremental Delay, d2	83.9	1.4	0.6	145.4	6.5		67.8	10.7		62.5	29.6	
Delay (s)	125.1	24.4	47.7	187.3	43.3		110.5	44.4		104.9	64.7	
Level of Service	F	C	D	F	D		F	D		F	E	
Approach Delay (s)		53.7			85.6			60.2			73.4	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM Average Control Delay	67.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

13: University Ave & Rolando Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Volume (vph)	50	750	105	45	585	75	70	60	30	45	45	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.98			0.97			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3464		1770	3470			1763			1714	
Flt Permitted	0.95	1.00		0.95	1.00			0.72			0.84	
Satd. Flow (perm)	1770	3464		1770	3470			1294			1460	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	781	109	47	609	78	73	62	31	47	47	62
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	890	0	47	687	0	0	166	0	0	156	0
Confl. Peds. (#/hr)			5			1	5		20	20		5
Confl. Bikes (#/hr)			1			1			3			6
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	6.5	63.2		5.1	61.8			17.5			17.5	
Effective Green, g (s)	6.9	64.1		5.5	62.7			18.4			18.4	
Actuated g/C Ratio	0.07	0.64		0.06	0.63			0.18			0.18	
Clearance Time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.6			2.0			2.0	
Lane Grp Cap (vph)	122	2220		97	2176			238			269	
v/s Ratio Prot	c0.03	c0.26		0.03	0.20							
v/s Ratio Perm								c0.13			0.11	
v/c Ratio	0.43	0.40		0.48	0.32			0.70			0.58	
Uniform Delay, d1	44.7	8.7		45.9	8.7			38.2			37.3	
Progression Factor	0.93	0.89		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.8	0.5		1.4	0.4			7.0			1.9	
Delay (s)	42.4	8.2		47.3	9.1			45.2			39.2	
Level of Service	D	A		D	A			D			D	
Approach Delay (s)		10.1			11.5			45.2			39.2	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

14: 54th St & Chollas Pkwy

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱		↰↑
Volume (veh/h)	220	40	710	270	20	960
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	229	42	740	281	21	1000
Pedestrians	5		3			2
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			602			
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1289	377			745	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1026	0			397	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	96			98	
cM capacity (veh/h)	194	934			999	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	229	42	370	370	281	354	667
Volume Left	229	0	0	0	0	21	0
Volume Right	0	42	0	0	281	0	0
cSH	194	934	1700	1700	1700	999	1700
Volume to Capacity	1.18	0.04	0.22	0.22	0.17	0.02	0.39
Queue Length 95th (ft)	292	3	0	0	0	2	0
Control Delay (s)	170.5	9.0	0.0	0.0	0.0	0.7	0.0
Lane LOS	F	A				A	
Approach Delay (s)	145.7		0.0			0.3	
Approach LOS	F						

Intersection Summary			
Average Delay	17.2		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

2035 Base PM

15: 54th St & Streamview Dr

11/3/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↑↱		↰	↑↱	
Volume (vph)	40	5	10	135	10	155	10	750	75	220	890	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1784	1560		1780	1583	1770	3477		1770	3511	
Flt Permitted		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1784	1560		1780	1583	1770	3477		1770	3511	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	46	6	11	155	11	178	11	862	86	253	1023	46
RTOR Reduction (vph)	0	0	10	0	0	148	0	8	0	0	2	0
Lane Group Flow (vph)	0	52	1	0	166	30	11	940	0	253	1067	0
Confl. Peds. (#/hr)			2	2			16		16	16		16
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8						
Actuated Green, G (s)		9.7	9.7		16.0	16.0	1.3	31.9		26.1	57.0	
Effective Green, g (s)		11.6	11.6		17.9	17.9	1.7	34.0		26.5	58.8	
Actuated g/C Ratio		0.11	0.11		0.17	0.17	0.02	0.32		0.25	0.55	
Clearance Time (s)		5.9	5.9		5.9	5.9	4.4	6.1		4.4	5.8	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.0	3.3		2.0	3.3	
Lane Grp Cap (vph)		195	171		301	267	28	1115		443	1948	
v/s Ratio Prot		c0.03			c0.09		0.01	c0.27		c0.14	0.30	
v/s Ratio Perm			0.00			0.02						
v/c Ratio		0.27	0.01		0.55	0.11	0.39	0.84		0.57	0.55	
Uniform Delay, d1		43.3	42.1		40.4	37.3	51.6	33.5		34.8	15.1	
Progression Factor		1.00	1.00		1.00	1.00	1.31	0.65		1.00	1.00	
Incremental Delay, d2		0.7	0.0		2.2	0.2	3.1	7.4		1.1	1.1	
Delay (s)		44.0	42.1		42.6	37.5	70.7	29.4		35.9	16.2	
Level of Service		D	D		D	D	E	C		D	B	
Approach Delay (s)		43.7			39.9			29.8			20.0	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	60	40	35	85	40	35	105	730	130	80	885	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.97		1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1758			1761		1770	3459		1770	3495	
Flt Permitted		0.76			0.71		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1375			1278		1770	3459		1770	3495	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	63	42	37	89	42	37	111	768	137	84	932	84
RTOR Reduction (vph)	0	15	0	0	12	0	0	7	0	0	4	0
Lane Group Flow (vph)	0	127	0	0	156	0	111	898	0	84	1012	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		17.0			17.0		11.0	66.2		8.4	63.0	
Effective Green, g (s)		17.9			17.9		11.4	67.3		8.8	64.7	
Actuated g/C Ratio		0.17			0.17		0.11	0.63		0.08	0.61	
Clearance Time (s)		4.9			4.9		4.4	5.1		4.4	5.7	
Vehicle Extension (s)		2.0			2.0		2.0	4.7		2.0	4.7	
Lane Grp Cap (vph)		232			216		190	2196		147	2133	
v/s Ratio Prot							c0.06	c0.26		0.05	c0.29	
v/s Ratio Perm		0.09			c0.12							
v/c Ratio		0.55			0.72		0.58	0.41		0.57	0.47	
Uniform Delay, d1		40.3			41.7		45.0	9.5		46.8	11.3	
Progression Factor		1.00			1.00		1.09	0.39		1.39	0.46	
Incremental Delay, d2		1.4			9.7		2.3	0.4		2.9	0.7	
Delay (s)		41.8			51.4		51.2	4.1		68.0	5.9	
Level of Service		D			D		D	A		E	A	
Approach Delay (s)		41.8			51.4			9.3			10.6	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

17: 54th St & College Grove Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣		↰	↰↑	↱	↰	↑↑↱		↰	↑↑↱	
Volume (vph)	35	85	35	85	105	160	30	750	125	185	780	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt		0.97		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1786		1681	1770	1583	1770	3463		1770	3504	
Flt Permitted		0.99		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1786		1681	1770	1583	1770	3463		1770	3504	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	90	37	90	112	170	32	798	133	197	830	59
RTOR Reduction (vph)	0	10	0	0	0	145	0	12	0	0	4	0
Lane Group Flow (vph)	0	154	0	90	112	25	32	919	0	197	885	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)		12.1		13.8	13.8	13.8	4.5	38.5		21.3	55.2	
Effective Green, g (s)		13.0		15.5	15.5	15.5	4.9	39.8		21.7	56.6	
Actuated g/C Ratio		0.12		0.15	0.15	0.15	0.05	0.38		0.20	0.53	
Clearance Time (s)		4.9		5.7	5.7	5.7	4.4	5.3		4.4	5.4	
Vehicle Extension (s)		3.6		2.6	2.6	2.6	2.0	5.0		2.0	4.7	
Lane Grp Cap (vph)		219		246	259	231	82	1300		362	1871	
v/s Ratio Prot		c0.09		0.05	c0.06		0.02	c0.27		c0.11	0.25	
v/s Ratio Perm						0.02						
v/c Ratio		0.70		0.37	0.43	0.11	0.39	0.71		0.54	0.47	
Uniform Delay, d1		44.7		40.8	41.2	39.3	49.1	28.1		37.7	15.4	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.35	0.73	
Incremental Delay, d2		10.3		0.7	0.9	0.2	1.1	3.3		0.8	0.8	
Delay (s)		54.9		41.5	42.1	39.4	50.2	31.4		51.9	12.0	
Level of Service		D		D	D	D	D	C		D	B	
Approach Delay (s)		54.9			40.8			32.0			19.2	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

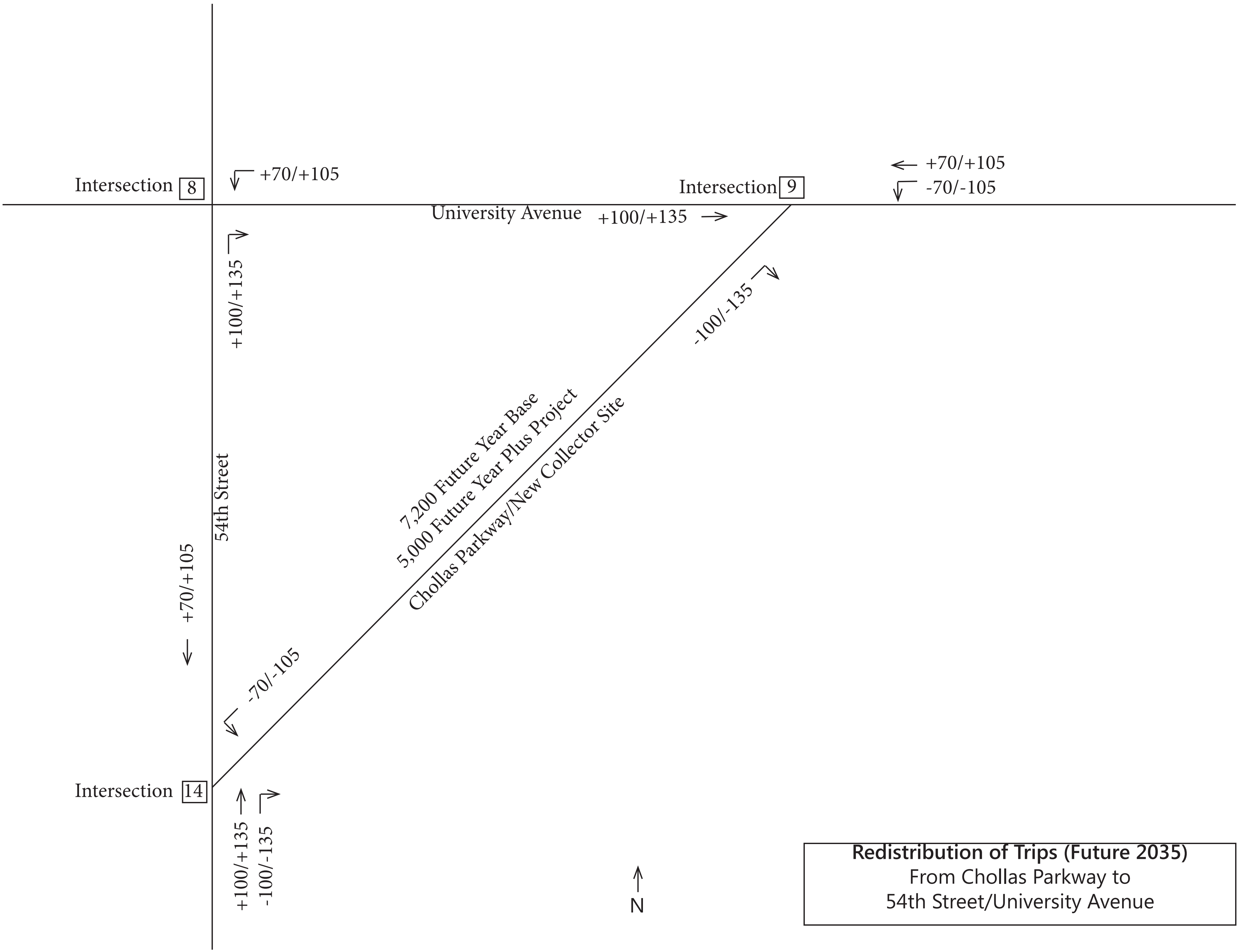
19: Lea Drive & 54th St

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	35	5	50	50	20	40	50	825	155	20	1060	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.92			0.95		1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1690			1733		1770	3455		1770	3515	
Flt Permitted		0.79			0.76		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1365			1353		1770	3455		1770	3515	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	38	5	54	54	22	43	54	887	167	22	1140	54
RTOR Reduction (vph)	0	48	0	0	21	0	0	10	0	0	2	0
Lane Group Flow (vph)	0	49	0	0	98	0	54	1044	0	22	1192	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Actuated Green, G (s)		12.0			12.0		7.5	76.3		3.2	72.0	
Effective Green, g (s)		12.5			12.5		8.0	76.8		3.7	72.5	
Actuated g/C Ratio		0.12			0.12		0.08	0.73		0.04	0.69	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		163			161		135	2527		62	2427	
v/s Ratio Prot							c0.03	0.30		0.01	c0.34	
v/s Ratio Perm		0.04			c0.07							
v/c Ratio		0.30			0.61		0.40	0.41		0.35	0.49	
Uniform Delay, d1		42.3			43.9		46.2	5.4		49.5	7.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1			6.4		1.9	0.5		3.5	0.7	
Delay (s)		43.3			50.3		48.2	5.9		53.0	8.3	
Level of Service		D			D		D	A		D	A	
Approach Delay (s)		43.3			50.3			8.0			9.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX G

REDISTRIBUTION OF TRIPS FROM CHOLLAS PARKWAY



Redistribution of Trips (Future 2035)
From Chollas Parkway to
54th Street/University Avenue

APPENDIX H

PEAK HOUR INTERSECTION LOS WORKSHEETS FUTURE YEAR BASE PLUS PROJECT CONDITIONS

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑	↰↰	↱
Volume (vph)	650	510	240	1225	1325	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	714	560	264	1346	1456	165
RTOR Reduction (vph)	0	12	0	0	0	71
Lane Group Flow (vph)	714	548	264	1346	1456	94
Turn Type	NA	pm+ov	Prot	NA	NA	Perm
Protected Phases	2	3	1	6	3	
Permitted Phases		2				3
Actuated Green, G (s)	32.8	90.0	21.1	57.9	57.2	57.2
Effective Green, g (s)	34.9	90.8	21.5	60.4	57.6	57.6
Actuated g/C Ratio	0.28	0.72	0.17	0.48	0.46	0.46
Clearance Time (s)	6.1	4.4	4.4	6.5	4.4	4.4
Vehicle Extension (s)	4.3	2.0	2.0	4.8	2.0	2.0
Lane Grp Cap (vph)	980	1141	302	1696	1569	724
v/s Ratio Prot	0.20	0.22	c0.15	c0.38	c0.42	
v/s Ratio Perm		0.13				0.06
v/c Ratio	0.73	0.48	0.87	0.79	0.93	0.13
Uniform Delay, d1	41.3	7.5	50.9	27.6	32.2	19.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	0.1	22.7	3.9	9.7	0.0
Delay (s)	46.0	7.6	73.6	31.5	42.0	19.8
Level of Service	D	A	E	C	D	B
Approach Delay (s)	29.1			38.4	39.7	
Approach LOS	C			D	D	

Intersection Summary			
HCM Average Control Delay	36.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	126.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

2035 with Project AM
2: 54th St & Collwood Bl

11/3/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Volume (vph)	70	150	1185	150	50	485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	73	156	1234	156	52	505
RTOR Reduction (vph)	0	135	0	135	0	0
Lane Group Flow (vph)	73	21	1234	21	52	505
Turn Type	NA	Perm	NA	Over	Prot	NA
Protected Phases	3		2	3	1	6
Permitted Phases		3				
Actuated Green, G (s)	9.5	9.5	43.4	9.5	4.6	52.0
Effective Green, g (s)	9.5	9.5	43.9	9.5	4.6	52.5
Actuated g/C Ratio	0.14	0.14	0.63	0.14	0.07	0.75
Clearance Time (s)	4.0	4.0	4.5	4.0	4.0	4.5
Vehicle Extension (s)	2.0	2.0	3.7	2.0	2.0	3.7
Lane Grp Cap (vph)	240	215	2219	215	116	2654
v/s Ratio Prot	c0.04		c0.35	0.01	c0.03	0.14
v/s Ratio Perm		0.01				
v/c Ratio	0.30	0.10	0.56	0.10	0.45	0.19
Uniform Delay, d1	27.3	26.5	7.5	26.5	31.5	2.6
Progression Factor	1.00	1.00	1.74	2.47	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.6	0.0	1.0	0.2
Delay (s)	27.5	26.6	13.6	65.5	32.5	2.7
Level of Service	C	C	B	E	C	A
Approach Delay (s)	26.9		19.5			5.5
Approach LOS	C		B			A

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

2035 with Project AM
3: 54th St & El Cajon Bl

11/3/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Volume (vph)	160	330	145	180	400	435	255	740	270	140	325	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3397		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3397		1770	3539	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	170	351	154	191	426	463	271	787	287	149	346	96
RTOR Reduction (vph)	0	0	107	0	0	201	0	26	0	0	0	62
Lane Group Flow (vph)	170	351	47	191	426	262	271	1048	0	149	346	34
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	16.0	42.4	42.4	17.2	42.3	42.3	14.3	47.9		14.8	48.5	48.5
Effective Green, g (s)	16.4	42.3	42.3	17.6	43.5	43.5	14.7	48.9		15.2	49.4	49.4
Actuated g/C Ratio	0.12	0.30	0.30	0.13	0.31	0.31	0.10	0.35		0.11	0.35	0.35
Clearance Time (s)	4.4	3.9	3.9	4.4	5.2	5.2	4.4	5.0		4.4	4.9	4.9
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Lane Grp Cap (vph)	207	1069	478	223	1100	492	360	1187		192	1249	559
v/s Ratio Prot	0.10	0.10		c0.11	0.12		0.08	c0.31		c0.08	0.10	
v/s Ratio Perm			0.03			c0.17						0.02
v/c Ratio	0.82	0.33	0.10	0.86	0.39	0.53	0.75	0.88		0.78	0.28	0.06
Uniform Delay, d1	60.4	37.8	35.1	60.0	37.8	39.8	60.9	42.9		60.7	32.5	30.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.97	0.95	0.88
Incremental Delay, d2	21.3	0.8	0.4	25.3	1.0	4.1	7.7	8.2		16.1	0.2	0.1
Delay (s)	81.7	38.7	35.5	85.2	38.8	43.9	68.6	51.1		74.9	30.9	26.4
Level of Service	F	D	D	F	D	D	E	D		E	C	C
Approach Delay (s)		48.8			49.2			54.6			41.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	49.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

	⤴	→	⤵	⤶	←	↖	↰	↑	↱	↳	↓	↲
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	40	75	45	95	65	150	85	1045	235	175	425	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.93		1.00	0.97		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1770			1715		1770	3442		1770	3488	
Flt Permitted		0.80			0.79		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1433			1368		1770	3442		1770	3488	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	88	53	112	76	176	100	1229	276	206	500	53
RTOR Reduction (vph)	0	16	0	0	37	0	0	18	0	0	7	0
Lane Group Flow (vph)	0	172	0	0	327	0	100	1487	0	206	546	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		27.0			27.0		8.4	43.5		14.9	49.8	
Effective Green, g (s)		27.9			27.9		8.8	44.8		15.3	51.3	
Actuated g/C Ratio		0.28			0.28		0.09	0.45		0.15	0.51	
Clearance Time (s)		4.9			4.9		4.4	5.3		4.4	5.5	
Vehicle Extension (s)		3.0			3.0		2.0	2.1		2.0	2.1	
Lane Grp Cap (vph)		400			382		156	1542		271	1789	
v/s Ratio Prot							0.06	c0.43		c0.12	0.16	
v/s Ratio Perm		0.12			c0.24							
v/c Ratio		0.43			0.85		0.64	0.96		0.76	0.31	
Uniform Delay, d1		29.5			34.1		44.1	26.8		40.6	14.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			16.8		6.6	15.8		10.7	0.4	
Delay (s)		30.3			50.9		50.6	42.7		51.3	14.5	
Level of Service		C			D		D	D		D	B	
Approach Delay (s)		30.3			50.9			43.2			24.5	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	38.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

2035 with Project AM
5: 54th Pl & Orange Av

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	80	30	20	125	20	70	25	110	55	25	35
Peak Hour Factor	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Hourly flow rate (vph)	43	174	65	43	272	43	152	54	239	120	54	76

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	283	359	446	250
Volume Left (vph)	43	43	152	120
Volume Right (vph)	65	43	239	76
Hadj (s)	-0.07	-0.01	-0.22	-0.05
Departure Headway (s)	7.6	7.4	6.9	7.7
Degree Utilization, x	0.60	0.74	0.86	0.53
Capacity (veh/h)	425	457	501	419
Control Delay (s)	21.1	28.2	38.7	19.2
Approach Delay (s)	21.1	28.2	38.7	19.2
Approach LOS	C	D	E	C

Intersection Summary			
Delay	28.5		
HCM Level of Service	D		
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↑↱		↰	↑↱	
Volume (vph)	50	375	60	195	490	105	65	235	150	55	180	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.94		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3465		1770	3445		1770	1754		1770	1802	
Flt Permitted	0.95	1.00		0.95	1.00		0.47	1.00		0.23	1.00	
Satd. Flow (perm)	1770	3465		1770	3445		878	1754		437	1802	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	403	65	210	527	113	70	253	161	59	194	54
RTOR Reduction (vph)	0	13	0	0	15	0	0	35	0	0	15	0
Lane Group Flow (vph)	54	455	0	210	626	0	70	379	0	59	233	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.0	31.0		16.1	42.1		24.7	24.7		24.7	24.7	
Effective Green, g (s)	5.4	31.9		16.5	43.0		25.6	25.6		25.6	25.6	
Actuated g/C Ratio	0.06	0.37		0.19	0.50		0.30	0.30		0.30	0.30	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.1		2.0	2.3		3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	111	1285		340	1723		261	522		130	536	
v/s Ratio Prot	0.03	0.13		c0.12	c0.18			c0.22			0.13	
v/s Ratio Perm							0.08			0.13		
v/c Ratio	0.49	0.35		0.62	0.36		0.27	0.73		0.45	0.43	
Uniform Delay, d1	39.0	19.6		31.9	13.1		23.1	27.1		24.5	24.4	
Progression Factor	1.00	1.00		0.74	0.96		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.8		2.2	0.6		0.7	5.2		3.8	0.9	
Delay (s)	40.2	20.4		25.8	13.1		23.7	32.3		28.3	25.2	
Level of Service	D	C		C	B		C	C		C	C	
Approach Delay (s)		22.4			16.2			31.0			25.8	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Volume (vph)	75	460	45	80	650	120	55	55	100	70	45	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.98			0.94			0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.98	
Frt	1.00	0.99		1.00	0.98			0.94			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3445		1770	3404			1595			1613	
Flt Permitted	0.95	1.00		0.95	1.00			0.80			0.66	
Satd. Flow (perm)	1770	3445		1770	3404			1295			1090	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	82	505	49	88	714	132	60	60	110	77	49	88
RTOR Reduction (vph)	0	5	0	0	10	0	0	53	0	0	40	0
Lane Group Flow (vph)	82	549	0	88	836	0	0	177	0	0	174	0
Confl. Peds. (#/hr)	30		48	48		30	78		113	113		78
Confl. Bikes (#/hr)			24			5			2			17
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.4	49.6		7.6	49.8			15.9			15.9	
Effective Green, g (s)	7.4	50.5		7.6	50.7			15.9			15.9	
Actuated g/C Ratio	0.09	0.59		0.09	0.59			0.18			0.18	
Clearance Time (s)	4.0	4.9		4.0	4.9			4.0			4.0	
Vehicle Extension (s)	2.0	4.1		2.0	4.1			2.0			2.0	
Lane Grp Cap (vph)	152	2023		156	2007			239			202	
v/s Ratio Prot	0.05	0.16		c0.05	c0.25							
v/s Ratio Perm								0.14			c0.16	
v/c Ratio	0.54	0.27		0.56	0.42			0.74			0.86	
Uniform Delay, d1	37.7	8.7		37.6	9.6			33.1			34.0	
Progression Factor	0.89	1.80		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.7	0.3		2.8	0.6			10.3			28.5	
Delay (s)	35.3	16.0		40.4	10.2			43.4			62.5	
Level of Service	D	B		D	B			D			E	
Approach Delay (s)		18.5			13.1			43.4			62.5	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Volume (vph)	175	410	120	145	510	430	240	645	195	265	375	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1509	1770	3539	1556	1770	3539	1492	3433	3539	1556
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1509	1770	3539	1556	1770	3539	1492	3433	3539	1556
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	180	423	124	149	526	443	247	665	201	273	387	186
RTOR Reduction (vph)	0	0	87	0	0	0	0	0	128	0	0	0
Lane Group Flow (vph)	180	423	37	149	526	443	247	665	73	273	387	186
Confl. Peds. (#/hr)			44			18			54			18
Turn Type	Prot		Perm	Prot		Free	Prot		Perm	Prot		Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Actuated Green, G (s)	11.5	25.2	25.2	8.6	22.3	86.8	14.1	24.7	24.7	9.5	20.1	86.8
Effective Green, g (s)	11.9	26.2	26.2	9.0	23.3	86.8	14.5	25.7	25.7	9.9	21.1	86.8
Actuated g/C Ratio	0.14	0.30	0.30	0.10	0.27	1.00	0.17	0.30	0.30	0.11	0.24	1.00
Clearance Time (s)	4.4	5.0	5.0	4.4	5.0		4.4	5.0	5.0	4.4	5.0	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.7		3.0	3.5	3.5	2.0	3.5	
Lane Grp Cap (vph)	243	1068	455	184	950	1556	296	1048	442	392	860	1556
v/s Ratio Prot	c0.10	0.12		0.08	c0.15		c0.14	c0.19		0.08	0.11	
v/s Ratio Perm			0.02			c0.28			0.05			0.12
v/c Ratio	0.74	0.40	0.08	0.81	0.55	0.28	0.83	0.63	0.16	0.70	0.45	0.12
Uniform Delay, d1	36.0	24.0	21.7	38.1	27.3	0.0	35.0	26.5	22.6	37.0	27.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.1	0.3	0.1	21.3	0.8	0.5	18.0	1.3	0.2	4.3	0.4	0.2
Delay (s)	46.1	24.3	21.8	59.4	28.1	0.5	53.0	27.8	22.8	41.3	28.4	0.2
Level of Service	D	C	C	E	C	A	D	C	C	D	C	A
Approach Delay (s)		29.3			21.3			32.5			26.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	86.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

10: 58th st & University Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑	↱		✥			✥	
Volume (vph)	65	630	165	95	630	95	250	155	110	65	50	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.95		0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98			0.98	
Satd. Flow (prot)	1770	5085	1545	1770	3539	1505		1752			1724	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.75			0.75	
Satd. Flow (perm)	1770	5085	1545	1770	3539	1505		1345			1313	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	70	677	177	102	677	102	269	167	118	70	54	70
RTOR Reduction (vph)	0	0	0	0	0	63	0	0	0	0	0	0
Lane Group Flow (vph)	70	677	177	102	677	39	0	554	0	0	194	0
Confl. Peds. (#/hr)			8			12	9		17	17		9
Confl. Bikes (#/hr)									2			6
Turn Type	Prot	NA	Free	Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases			Free			6	4			4		
Actuated Green, G (s)	6.7	23.9	80.0	7.9	25.3	25.3		33.8			33.8	
Effective Green, g (s)	7.1	25.0	80.0	8.3	26.2	26.2		34.7			34.7	
Actuated g/C Ratio	0.09	0.31	1.00	0.10	0.33	0.33		0.43			0.43	
Clearance Time (s)	4.4	5.1		4.4	4.9	4.9		4.9			4.9	
Vehicle Extension (s)	2.0	3.5		2.0	3.5	3.5		2.0			2.0	
Lane Grp Cap (vph)	157	1589	1545	184	1159	493		583			570	
v/s Ratio Prot	0.04	0.13		c0.06	c0.19							
v/s Ratio Perm			c0.11			0.03		c0.41			0.15	
v/c Ratio	0.45	0.43	0.11	0.55	0.58	0.08		0.95			0.34	
Uniform Delay, d1	34.6	21.8	0.0	34.1	22.4	18.6		21.8			15.0	
Progression Factor	1.25	1.33	1.00	1.21	0.91	0.92		1.00			1.00	
Incremental Delay, d2	0.6	0.7	0.1	2.0	2.1	0.3		25.2			0.1	
Delay (s)	44.0	29.8	0.1	43.2	22.4	17.4		47.1			15.2	
Level of Service	D	C	A	D	C	B		D			B	
Approach Delay (s)		25.2			24.3			47.1			15.2	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

2035 with Project AM

11: 60th st & University Ave 11/3/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↱			✥			✥	
Volume (vph)	25	675	50	50	710	30	75	5	25	20	5	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1770	5023		1770	3514			1727			1680	
Flt Permitted	0.95	1.00		0.95	1.00			0.80			0.87	
Satd. Flow (perm)	1770	5023		1770	3514			1428			1499	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	742	55	55	780	33	82	5	27	22	5	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	27	797	0	55	813	0	0	114	0	0	54	0
Confl. Peds. (#/hr)			4			1	4		13	13		4
Confl. Bikes (#/hr)			1			1			4			5
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.1	47.8		4.1	50.0			13.7			13.7	
Effective Green, g (s)	2.5	48.9		4.5	50.9			14.6			14.6	
Actuated g/C Ratio	0.03	0.61		0.06	0.64			0.18			0.18	
Clearance Time (s)	4.4	5.1		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	4.7		2.0	3.9			2.0			2.0	
Lane Grp Cap (vph)	55	3070		100	2236			261			274	
v/s Ratio Prot	0.02	0.16		c0.03	c0.23							
v/s Ratio Perm								c0.08			0.04	
v/c Ratio	0.49	0.26		0.55	0.36			0.44			0.20	
Uniform Delay, d1	38.1	7.2		36.8	6.9			29.0			27.7	
Progression Factor	1.30	0.70		1.00	1.00			1.00			1.00	
Incremental Delay, d2	2.5	0.2		3.7	0.5			0.4			0.1	
Delay (s)	51.9	5.3		40.4	7.3			29.5			27.9	
Level of Service	D	A		D	A			C			C	
Approach Delay (s)		6.8			9.4			29.5			27.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

2035 with Project AM
12: College ave & University Ave

11/3/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Volume (vph)	175	425	145	165	480	165	220	855	195	145	365	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1525	1770	3376		1770	3415		1770	3387	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1525	1770	3376		1770	3415		1770	3387	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	192	467	159	181	527	181	242	940	214	159	401	126
RTOR Reduction (vph)	0	0	116	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	192	467	43	181	708	0	242	1154	0	159	527	0
Confl. Peds. (#/hr)			22			16			20			13
Confl. Bikes (#/hr)						1			8			5
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	15.6	26.9	26.9	15.1	26.6		17.0	28.4		13.4	23.5	
Effective Green, g (s)	16.0	28.0	28.0	15.5	27.5		17.4	29.6		13.8	26.0	
Actuated g/C Ratio	0.16	0.27	0.27	0.15	0.27		0.17	0.29		0.13	0.25	
Clearance Time (s)	4.4	5.1	5.1	4.4	4.9		4.4	5.2		4.4	6.5	
Vehicle Extension (s)	2.0	3.7	3.7	2.0	3.7		2.0	3.2		2.0	3.6	
Lane Grp Cap (vph)	275	963	415	267	902		299	982		237	856	
v/s Ratio Prot	c0.11	0.13		0.10	c0.21		c0.14	c0.34		0.09	0.16	
v/s Ratio Perm			0.03									
v/c Ratio	0.70	0.48	0.10	0.68	0.78		0.81	1.18		0.67	0.62	
Uniform Delay, d1	41.2	31.4	28.1	41.3	35.0		41.2	36.7		42.4	34.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.1	0.5	0.1	5.3	4.7		14.1	89.6		5.8	1.4	
Delay (s)	47.3	31.9	28.2	46.6	39.7		55.2	126.3		48.1	35.4	
Level of Service	D	C	C	D	D		E	F		D	D	
Approach Delay (s)		34.8			41.1			114.0			38.4	
Approach LOS		C			D			F			D	

Intersection Summary			
HCM Average Control Delay	66.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	102.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

13: Rolando Blvd & University Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱			✥			✥	
Volume (vph)	100	505	60	35	555	65	85	40	30	30	35	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.98			0.97			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.99	
Satd. Flow (prot)	1770	3474		1770	3476			1751			1708	
Flt Permitted	0.95	1.00		0.95	1.00			0.73			0.90	
Satd. Flow (perm)	1770	3474		1770	3476			1310			1558	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	532	63	37	584	68	89	42	32	32	37	53
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	105	595	0	37	652	0	0	163	0	0	122	0
Confl. Peds. (#/hr)			5			1	5		20	20		5
Confl. Bikes (#/hr)			1			1			3			6
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	8.6	54.4		4.5	50.3			16.9			16.9	
Effective Green, g (s)	9.0	55.3		4.9	51.2			17.8			17.8	
Actuated g/C Ratio	0.10	0.61		0.05	0.57			0.20			0.20	
Clearance Time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.6			2.0			2.0	
Lane Grp Cap (vph)	177	2135		96	1977			259			308	
v/s Ratio Prot	c0.06	0.17		0.02	c0.19							
v/s Ratio Perm								c0.12			0.08	
v/c Ratio	0.59	0.28		0.39	0.33			0.63			0.40	
Uniform Delay, d1	38.7	8.1		41.1	10.3			33.1			31.4	
Progression Factor	1.00	1.00		1.21	0.59			1.00			1.00	
Incremental Delay, d2	3.5	0.3		0.9	0.4			3.4			0.3	
Delay (s)	42.3	8.4		50.8	6.5			36.5			31.7	
Level of Service	D	A		D	A			D			C	
Approach Delay (s)		13.5			8.9			36.5			31.7	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

15: 54th St & Streamview Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↑↱		↰	↑↱	
Volume (vph)	65	10	10	145	15	165	5	755	75	95	550	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.9	5.9		5.9	5.9	4.4	6.1		4.4	5.8	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1785	1553		1782	1552	1770	3477		1770	3517	
Flt Permitted		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1785	1553		1782	1552	1770	3477		1770	3517	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	74	11	11	165	17	188	6	858	85	108	625	23
RTOR Reduction (vph)	0	0	10	0	0	151	0	7	0	0	2	0
Lane Group Flow (vph)	0	85	1	0	182	37	6	936	0	108	646	0
Confl. Peds. (#/hr)	3		2	2		3	5		11	11		5
Confl. Bikes (#/hr)			2			3			11			5
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8						
Actuated Green, G (s)		10.9	10.9		20.9	20.9	1.2	41.7		10.2	51.0	
Effective Green, g (s)		10.9	10.9		20.9	20.9	1.2	41.7		10.2	51.0	
Actuated g/C Ratio		0.10	0.10		0.20	0.20	0.01	0.39		0.10	0.48	
Clearance Time (s)		5.9	5.9		5.9	5.9	4.4	6.1		4.4	5.8	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.0	3.3		2.0	3.3	
Lane Grp Cap (vph)		184	160		351	306	20	1368		170	1692	
v/s Ratio Prot		c0.05			c0.10		0.00	c0.27		c0.06	0.18	
v/s Ratio Perm			0.00			0.02						
v/c Ratio		0.46	0.01		0.52	0.12	0.30	0.68		0.64	0.38	
Uniform Delay, d1		44.8	42.7		38.1	35.0	52.0	26.7		46.1	17.5	
Progression Factor		1.00	1.00		1.00	1.00	1.09	0.85		1.30	0.59	
Incremental Delay, d2		1.8	0.0		1.3	0.2	2.9	2.7		5.3	0.6	
Delay (s)		46.6	42.7		39.3	35.2	59.6	25.4		65.1	10.9	
Level of Service		D	D		D	D	E	C		E	B	
Approach Delay (s)		46.2			37.2			25.7			18.7	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	22.3
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

16: 54th St & Redwood St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	95	30	30	85	40	60	75	680	75	55	520	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	5.1		4.4	5.7	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.96		1.00	0.99		1.00	0.97	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1760			1741		1770	3486		1770	3423	
Flt Permitted		0.64			0.77		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1158			1379		1770	3486		1770	3423	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	33	33	92	43	65	82	739	82	60	565	158
RTOR Reduction (vph)	0	10	0	0	20	0	0	4	0	0	14	0
Lane Group Flow (vph)	0	159	0	0	180	0	82	817	0	60	709	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		18.2			18.2		8.2	66.3		7.1	64.6	
Effective Green, g (s)		19.1			19.1		8.6	66.3		7.1	64.6	
Actuated g/C Ratio		0.18			0.18		0.08	0.63		0.07	0.61	
Clearance Time (s)		4.9			4.9		4.4	5.1		4.4	5.7	
Vehicle Extension (s)		2.0			2.0		2.0	4.7		2.0	4.7	
Lane Grp Cap (vph)		209			248		144	2180		119	2086	
v/s Ratio Prot							c0.05	c0.23		0.03	0.21	
v/s Ratio Perm		c0.14			0.13							
v/c Ratio		0.76			0.72		0.57	0.37		0.50	0.34	
Uniform Delay, d1		41.3			41.0		46.9	9.7		47.8	10.2	
Progression Factor		1.00			1.00		1.08	0.60		1.31	0.64	
Incremental Delay, d2		13.7			8.5		2.9	0.5		1.2	0.4	
Delay (s)		54.9			49.5		53.7	6.3		63.9	7.0	
Level of Service		D			D		D	A		E	A	
Approach Delay (s)		54.9			49.5			10.6			11.3	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

	⤴	→	⤵	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥		↰	↰↑	↱	↰	↑↑↱		↰	↑↑↱	
Volume (vph)	50	55	40	130	110	245	20	510	80	100	520	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt		0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98		0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1763		1681	1760	1583	1770	3467		1770	3505	
Flt Permitted		0.98		0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1763		1681	1760	1583	1770	3467		1770	3505	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	59	43	140	118	263	22	548	86	108	559	38
RTOR Reduction (vph)	0	12	0	0	0	222	0	10	0	0	3	0
Lane Group Flow (vph)	0	144	0	126	132	41	22	624	0	108	594	0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)		13.7		14.7	14.7	14.7	2.9	46.5		10.8	54.3	
Effective Green, g (s)		14.6		16.4	16.4	16.4	3.3	47.8		11.2	55.7	
Actuated g/C Ratio		0.14		0.15	0.15	0.15	0.03	0.45		0.11	0.53	
Clearance Time (s)		4.9		5.7	5.7	5.7	4.4	5.3		4.4	5.4	
Vehicle Extension (s)		3.6		2.6	2.6	2.6	2.0	5.0		2.0	4.7	
Lane Grp Cap (vph)		243		260	272	245	55	1563		187	1842	
v/s Ratio Prot		c0.08		0.07	c0.07		0.01	c0.18		c0.06	0.17	
v/s Ratio Perm						0.03						
v/c Ratio		0.59		0.48	0.49	0.17	0.40	0.40		0.58	0.32	
Uniform Delay, d1		42.9		40.9	40.9	38.9	50.4	19.5		45.1	14.4	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.32	0.44	
Incremental Delay, d2		4.1		1.1	1.1	0.3	1.7	0.8		2.6	0.4	
Delay (s)		47.1		42.1	42.0	39.1	52.1	20.2		62.1	6.8	
Level of Service		D		D	D	D	D	C		E	A	
Approach Delay (s)		47.1			40.6			21.3			15.3	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Volume (vph)	25	785	5	75	870	15	20	20	70	50	25	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.0			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.91			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3536		1770	3530			1689			1750	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.44	
Satd. Flow (perm)	1770	3536		1770	3530			1551			783	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	844	5	81	935	16	22	22	75	54	27	32
RTOR Reduction (vph)	0	1	0	0	1	0	0	67	0	0	18	0
Lane Group Flow (vph)	27	848	0	81	950	0	0	52	0	0	95	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			3	
Permitted Phases							4			3		
Actuated Green, G (s)	1.6	33.9		7.1	39.4			8.2			12.8	
Effective Green, g (s)	1.6	33.9		7.6	39.9			8.2			12.8	
Actuated g/C Ratio	0.02	0.42		0.09	0.50			0.10			0.16	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	35	1498		168	1760			158			125	
v/s Ratio Prot	0.02	0.24		c0.05	c0.27							
v/s Ratio Perm								c0.03			c0.12	
v/c Ratio	0.77	0.57		0.48	0.54			0.33			0.76	
Uniform Delay, d1	39.0	17.5		34.3	13.8			33.3			32.1	
Progression Factor	1.51	1.51		0.72	1.02			1.00			1.00	
Incremental Delay, d2	62.5	1.4		1.7	0.9			1.2			22.6	
Delay (s)	121.5	27.9		26.5	15.0			34.6			54.7	
Level of Service	F	C		C	B			C			D	
Approach Delay (s)		30.8			15.9			34.6			54.7	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	55	20	55	175	20	15	30	1045	70	50	565	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.94			0.99		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1721			1771		1770	3506		1770	3517	
Flt Permitted		0.83			0.65		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1459			1195		1770	3506		1770	3517	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	59	22	59	188	22	16	32	1124	75	54	608	27
RTOR Reduction (vph)	0	22	0	0	2	0	0	6	0	0	4	0
Lane Group Flow (vph)	0	118	0	0	224	0	32	1193	0	54	631	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Actuated Green, G (s)		29.5			29.5		4.3	55.1		6.9	57.7	
Effective Green, g (s)		30.0			30.0		4.8	55.6		7.4	58.2	
Actuated g/C Ratio		0.29			0.29		0.05	0.53		0.07	0.55	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		417			341		81	1857		125	1949	
v/s Ratio Prot							0.02	c0.34		c0.03	c0.18	
v/s Ratio Perm		0.08			c0.19							
v/c Ratio		0.28			0.66		0.40	0.64		0.43	0.32	
Uniform Delay, d1		29.1			33.0		48.7	17.6		46.8	12.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			4.5		3.2	1.7		2.4	0.4	
Delay (s)		29.5			37.5		51.8	19.3		49.2	13.2	
Level of Service		C			D		D	B		D	B	
Approach Delay (s)		29.5			37.5			20.2			16.0	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

20: University Ave & Street B

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↱		↰	↑↑	Y	
Volume (vph)	770	100	45	875	160	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.98		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3478		1770	3539	1726	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	3478		1770	3539	1726	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	828	108	48	941	172	75
RTOR Reduction (vph)	10	0	0	0	22	0
Lane Group Flow (vph)	926	0	48	941	225	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases						
Actuated Green, G (s)	46.1		4.9	55.5	15.5	
Effective Green, g (s)	46.1		4.9	55.5	15.5	
Actuated g/C Ratio	0.58		0.06	0.69	0.19	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2004		108	2455	334	
v/s Ratio Prot	c0.27		0.03	c0.27	c0.13	
v/s Ratio Perm						
v/c Ratio	0.46		0.44	0.38	0.67	
Uniform Delay, d1	9.8		36.2	5.1	29.9	
Progression Factor	1.00		1.09	0.30	1.00	
Incremental Delay, d2	0.8		2.5	0.4	5.3	
Delay (s)	10.6		42.1	1.9	35.2	
Level of Service	B		D	A	D	
Approach Delay (s)	10.6			3.9	35.2	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

2035 w/ Project AM
21: 54th St & Street C

1/7/2014

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↱		↰	↑↑
Volume (veh/h)	0	15	1010	65	15	635
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	16	1086	70	16	683
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			825			841
pX, platoon unblocked	0.70	0.67			0.67	
vC, conflicting volume	1495	578			1156	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	487	0			264	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			98	
cM capacity (veh/h)	352	731			874	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	16	724	432	16	341	341
Volume Left	0	0	0	16	0	0
Volume Right	16	0	70	0	0	0
cSH	731	1700	1700	874	1700	1700
Volume to Capacity	0.02	0.43	0.25	0.02	0.20	0.20
Queue Length 95th (ft)	2	0	0	1	0	0
Control Delay (s)	10.0	0.0	0.0	9.2	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	10.0	0.0		0.2		
Approach LOS	B					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑	↰↰	↱
Volume (vph)	1635	1425	175	1000	760	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	3433	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1703	1484	182	1042	792	125
RTOR Reduction (vph)	0	15	0	0	0	85
Lane Group Flow (vph)	1703	1469	182	1042	792	40
Turn Type		pm+ov	Prot			Perm
Protected Phases	2	3	1	6	3	
Permitted Phases		2				3
Actuated Green, G (s)	75.5	112.7	12.4	91.9	37.2	37.2
Effective Green, g (s)	77.6	113.5	12.8	94.4	37.6	37.6
Actuated g/C Ratio	0.55	0.81	0.09	0.67	0.27	0.27
Clearance Time (s)	6.1	4.4	4.4	6.5	4.4	4.4
Vehicle Extension (s)	4.3	2.0	2.0	4.8	2.0	2.0
Lane Grp Cap (vph)	1962	1283	162	2386	922	425
v/s Ratio Prot	0.48	c0.31	c0.10	0.29	0.23	
v/s Ratio Perm		0.62				0.03
v/c Ratio	0.87	1.15	1.12	0.44	0.86	0.09
Uniform Delay, d1	26.8	13.2	63.6	10.5	48.7	38.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.5	75.0	107.7	0.6	7.7	0.0
Delay (s)	32.3	88.3	171.3	11.1	56.4	38.5
Level of Service	C	F	F	B	E	D
Approach Delay (s)	58.4			34.9	54.0	
Approach LOS	E			C	D	

Intersection Summary			
HCM Average Control Delay	52.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

2: 54th St & Collwood Bl

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Volume (vph)	90	55	730	190	70	1350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.5
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	60	793	207	76	1467
RTOR Reduction (vph)	0	54	0	186	0	0
Lane Group Flow (vph)	98	6	793	21	76	1467
Turn Type		Perm		Over	Prot	
Protected Phases	3		2	3	1	6
Permitted Phases		3				
Actuated Green, G (s)	12.1	12.1	86.9	12.1	8.5	99.4
Effective Green, g (s)	12.1	12.1	86.9	12.1	8.5	99.4
Actuated g/C Ratio	0.10	0.10	0.72	0.10	0.07	0.83
Clearance Time (s)	4.0	4.0	4.5	4.0	4.0	4.5
Vehicle Extension (s)	2.0	2.0	3.7	2.0	2.0	3.7
Lane Grp Cap (vph)	178	160	2563	160	125	2931
v/s Ratio Prot	c0.06		0.22	0.01	c0.04	c0.41
v/s Ratio Perm		0.00				
v/c Ratio	0.55	0.04	0.31	0.13	0.61	0.50
Uniform Delay, d1	51.4	48.7	5.9	49.2	54.1	3.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.0	0.3	0.1	5.6	0.6
Delay (s)	53.4	48.7	6.2	49.3	59.8	3.6
Level of Service	D	D	A	D	E	A
Approach Delay (s)	51.7		15.1			6.4
Approach LOS	D		B			A

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

3: El Cajon Bl & 54th St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱
Volume (vph)	140	595	320	305	480	215	185	565	215	360	970	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3393		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3393		1770	3539	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	146	620	333	318	500	224	193	589	224	375	1010	115
RTOR Reduction (vph)	0	0	191	0	0	160	0	28	0	0	0	57
Lane Group Flow (vph)	146	620	142	318	500	64	193	785	0	375	1010	58
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	14.8	31.8	31.8	23.2	38.9	38.9	11.8	35.2		32.1	55.6	55.6
Effective Green, g (s)	15.2	31.7	31.7	23.6	40.1	40.1	12.2	36.2		32.5	56.5	56.5
Actuated g/C Ratio	0.11	0.23	0.23	0.17	0.29	0.29	0.09	0.26		0.23	0.40	0.40
Clearance Time (s)	4.4	3.9	3.9	4.4	5.2	5.2	4.4	5.0		4.4	4.9	4.9
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Lane Grp Cap (vph)	192	801	358	298	1014	453	299	877		411	1428	639
v/s Ratio Prot	0.08	c0.18		c0.18	0.14		0.06	c0.23		c0.21	0.29	
v/s Ratio Perm			0.09			0.04						0.04
v/c Ratio	0.76	0.77	0.40	1.07	0.49	0.14	0.65	0.89		0.91	0.71	0.09
Uniform Delay, d1	60.6	50.8	46.0	58.2	41.5	37.1	61.8	50.1		52.4	34.8	25.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	14.7	7.2	3.3	71.0	1.7	0.7	3.6	11.8		23.8	1.7	0.1
Delay (s)	75.3	58.0	49.3	129.2	43.2	37.8	65.4	61.9		76.2	36.6	25.9
Level of Service	E	E	D	F	D	D	E	E		E	D	C
Approach Delay (s)		57.6			68.3			62.5			45.6	
Approach LOS		E			E			E			D	

Intersection Summary			
HCM Average Control Delay	57.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

2035 w/ Project PM
4: Trojan Ave & 54th St

2/19/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	50	40	100	70	35	115	100	750	135	265	1200	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.93		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1708			1704		1770	3458		1770	3500	
Flt Permitted		0.75			0.69		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1306			1197		1770	3458		1770	3500	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	43	106	74	37	122	106	798	144	282	1277	101
RTOR Reduction (vph)	0	53	0	0	53	0	0	11	0	0	3	0
Lane Group Flow (vph)	0	149	0	0	180	0	106	931	0	282	1375	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		21.1			21.1		11.7	48.0		36.3	72.4	
Effective Green, g (s)		22.0			22.0		12.1	49.3		36.7	73.9	
Actuated g/C Ratio		0.18			0.18		0.10	0.41		0.31	0.62	
Clearance Time (s)		4.9			4.9		4.4	5.3		4.4	5.5	
Vehicle Extension (s)		3.0			3.0		2.0	2.1		2.0	2.1	
Lane Grp Cap (vph)		239			219		178	1421		541	2155	
v/s Ratio Prot							c0.06	0.27		0.16	c0.39	
v/s Ratio Perm		0.11			c0.15							
v/c Ratio		0.62			0.82		0.60	0.66		0.52	0.64	
Uniform Delay, d1		45.2			47.1		51.6	28.5		34.4	14.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.0			21.3		3.5	2.4		0.4	1.5	
Delay (s)		50.2			68.4		55.1	30.9		34.8	16.0	
Level of Service		D			E		E	C		C	B	
Approach Delay (s)		50.2			68.4			33.3			19.2	
Approach LOS		D			E			C			B	

Intersection Summary			
HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

5: Orange Av & 54th Pl

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	45	30	40	75	20	95	40	80	25	50	35
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	51	34	45	85	23	108	45	91	28	57	40

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	119	153	244	125
Volume Left (vph)	34	45	108	28
Volume Right (vph)	34	23	91	40
Hadj (s)	-0.08	0.00	-0.10	-0.11
Departure Headway (s)	4.9	5.0	4.7	4.8
Degree Utilization, x	0.16	0.21	0.32	0.17
Capacity (veh/h)	663	665	730	690
Control Delay (s)	8.9	9.3	9.8	8.8
Approach Delay (s)	8.9	9.3	9.8	8.8
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.3		
HCM Level of Service	A		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		

2035 w/ Project PM
6: University Ave & Euclid Ave 2/19/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Volume (vph)	100	660	135	250	570	90	65	230	180	70	270	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.93		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3449		1770	3467		1770	1740		1770	1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.34	1.00		0.22	1.00	
Satd. Flow (perm)	1770	3449		1770	3467		628	1740		401	1815	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	702	144	266	606	96	69	245	191	74	287	59
RTOR Reduction (vph)	0	20	0	0	11	0	0	42	0	0	11	0
Lane Group Flow (vph)	106	826	0	266	691	0	69	394	0	74	335	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	8.4	25.1		21.4	38.1		25.3	25.3		25.3	25.3	
Effective Green, g (s)	8.8	26.0		21.8	39.0		26.2	26.2		26.2	26.2	
Actuated g/C Ratio	0.10	0.30		0.25	0.45		0.30	0.30		0.30	0.30	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.1		2.0	2.3		3.7	3.7		4.2	4.2	
Lane Grp Cap (vph)	181	1043		449	1572		191	530		122	553	
v/s Ratio Prot	0.06	c0.24		c0.15	0.20			c0.23			0.18	
v/s Ratio Perm							0.11			0.18		
v/c Ratio	0.59	0.79		0.59	0.44		0.36	0.74		0.61	0.61	
Uniform Delay, d1	36.9	27.5		28.2	16.0		23.4	26.9		25.5	25.5	
Progression Factor	1.00	1.00		0.67	1.09		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	6.2		1.3	0.8		1.5	5.8		10.0	2.3	
Delay (s)	40.0	33.7		20.2	18.3		24.8	32.7		35.5	27.8	
Level of Service	D	C		C	B		C	C		D	C	
Approach Delay (s)		34.4			18.9			31.6			29.1	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Volume (vph)	75	840	75	85	805	65	50	55	100	120	55	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99			0.94			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.96	
Frt	1.00	0.99		1.00	0.99			0.93			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	3452		1770	3474			1595			1649	
Flt Permitted	0.95	1.00		0.95	1.00			0.87			0.62	
Satd. Flow (perm)	1770	3452		1770	3474			1402			1054	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	76	848	76	86	813	66	51	56	101	121	56	56
RTOR Reduction (vph)	0	5	0	0	4	0	0	52	0	0	17	0
Lane Group Flow (vph)	76	919	0	86	875	0	0	156	0	0	216	0
Confl. Peds. (#/hr)	30		48	48		30	78		113	113		78
Confl. Bikes (#/hr)			24			5			2			17
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.1	46.6		7.6	47.1			18.9			18.9	
Effective Green, g (s)	7.1	47.5		7.6	48.0			18.9			18.9	
Actuated g/C Ratio	0.08	0.55		0.09	0.56			0.22			0.22	
Clearance Time (s)	4.0	4.9		4.0	4.9			4.0			4.0	
Vehicle Extension (s)	2.0	4.1		2.0	4.1			2.0			2.0	
Lane Grp Cap (vph)	146	1907		156	1939			308			232	
v/s Ratio Prot	0.04	c0.27		c0.05	0.25							
v/s Ratio Perm								0.11			c0.20	
v/c Ratio	0.52	0.48		0.55	0.45			0.51			0.93	
Uniform Delay, d1	37.8	11.7		37.6	11.2			29.4			32.9	
Progression Factor	0.71	1.70		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.1	0.6		2.4	0.8			0.5			39.9	
Delay (s)	27.8	20.6		39.9	12.0			29.9			72.8	
Level of Service	C	C		D	B			C			E	
Approach Delay (s)		21.1			14.5			29.9			72.8	
Approach LOS		C			B			C			E	

Intersection Summary			
HCM Average Control Delay	24.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

8: University Ave & 54th St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Volume (vph)	175	755	415	285	770	400	255	570	195	670	655	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.98	1.00	1.00	0.93	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1491	1770	3539	1556	1770	3539	1468	3433	3539	1556
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1491	1770	3539	1556	1770	3539	1468	3433	3539	1556
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	184	795	437	300	811	421	268	600	205	705	689	221
RTOR Reduction (vph)	0	0	191	0	0	0	0	0	118	0	0	0
Lane Group Flow (vph)	184	795	246	300	811	421	268	600	87	705	689	221
Confl. Peds. (#/hr)			44			18			54			18
Turn Type	Prot		Perm	Prot		Free	Prot		Perm	Prot		Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			Free			8			Free
Actuated Green, G (s)	14.3	30.3	30.3	17.7	33.7	114.8	20.2	27.2	27.2	20.8	27.8	114.8
Effective Green, g (s)	14.7	31.3	31.3	18.1	34.7	114.8	20.6	28.2	28.2	21.2	28.8	114.8
Actuated g/C Ratio	0.13	0.27	0.27	0.16	0.30	1.00	0.18	0.25	0.25	0.18	0.25	1.00
Clearance Time (s)	4.4	5.0	5.0	4.4	5.0		4.4	5.0	5.0	4.4	5.0	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.7		3.0	3.5	3.5	2.0	3.5	
Lane Grp Cap (vph)	227	965	407	279	1070	1556	318	869	361	634	888	1556
v/s Ratio Prot	0.10	c0.22		c0.17	0.23		0.15	0.17		c0.21	c0.19	
v/s Ratio Perm			0.16			c0.27			0.06			0.14
v/c Ratio	0.81	0.82	0.60	1.08	0.76	0.27	0.84	0.69	0.24	1.11	0.78	0.14
Uniform Delay, d1	48.7	39.2	36.4	48.3	36.2	0.0	45.5	39.3	34.7	46.8	40.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.4	5.9	2.7	75.3	3.3	0.4	18.0	2.5	0.4	70.5	4.4	0.2
Delay (s)	67.1	45.1	39.0	123.7	39.5	0.4	63.5	41.8	35.1	117.3	44.4	0.2
Level of Service	E	D	D	F	D	A	E	D	D	F	D	A
Approach Delay (s)		46.1			45.3			46.0			70.2	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	52.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	114.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱	↰	↑↑	↱		✥			✥	
Volume (vph)	120	1100	325	90	930	75	240	120	105	70	50	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94		0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97			0.98	
Satd. Flow (prot)	1770	5085	1545	1770	3539	1493		1743			1724	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.72			0.74	
Satd. Flow (perm)	1770	5085	1545	1770	3539	1493		1296			1304	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	1158	342	95	979	79	253	126	111	74	53	68
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	0	0	0	0
Lane Group Flow (vph)	126	1158	342	95	979	51	0	490	0	0	195	0
Confl. Peds. (#/hr)			8			12	9		17	17		9
Confl. Bikes (#/hr)									2			6
Turn Type	Prot		Free	Prot		Perm	Perm			Perm		
Protected Phases	5	2		1	6			4			4	
Permitted Phases			Free			6	4			4		
Actuated Green, G (s)	9.4	38.2	100.0	7.0	36.0	36.0		40.4			40.4	
Effective Green, g (s)	9.8	39.3	100.0	7.4	36.9	36.9		41.3			41.3	
Actuated g/C Ratio	0.10	0.39	1.00	0.07	0.37	0.37		0.41			0.41	
Clearance Time (s)	4.4	5.1		4.4	4.9	4.9		4.9			4.9	
Vehicle Extension (s)	2.0	3.5		2.0	3.5	3.5		2.0			2.0	
Lane Grp Cap (vph)	173	1998	1545	131	1306	551		535			539	
v/s Ratio Prot	c0.07	0.23		0.05	c0.28							
v/s Ratio Perm			c0.22			0.03		c0.38			0.15	
v/c Ratio	0.73	0.58	0.22	0.73	0.75	0.09		0.92			0.36	
Uniform Delay, d1	43.8	23.9	0.0	45.3	27.5	20.6		27.7			20.3	
Progression Factor	0.67	1.39	1.00	1.06	0.98	1.10		1.00			1.00	
Incremental Delay, d2	4.2	0.4	0.1	14.9	3.8	0.3		20.1			0.2	
Delay (s)	33.6	33.5	0.1	62.9	30.8	23.0		47.8			20.4	
Level of Service	C	C	A	E	C	C		D			C	
Approach Delay (s)		26.5			32.9			47.8			20.4	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	31.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↱			✥			✥	
Volume (vph)	40	1070	90	70	890	45	40	5	40	20	5	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.1		4.4	4.9			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.94			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	5014		1770	3510			1679			1668	
Flt Permitted	0.95	1.00		0.95	1.00			0.84			0.89	
Satd. Flow (perm)	1770	5014		1770	3510			1447			1505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	42	1126	95	74	937	47	42	5	42	21	5	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	42	1221	0	74	984	0	0	89	0	0	58	0
Confl. Peds. (#/hr)			4			1	4		13	13		4
Confl. Bikes (#/hr)			1			1			4			5
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	4.8	60.1		7.3	62.8			18.2			18.2	
Effective Green, g (s)	4.8	60.1		7.3	62.8			18.2			18.2	
Actuated g/C Ratio	0.05	0.60		0.07	0.63			0.18			0.18	
Clearance Time (s)	4.4	5.1		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	4.7		2.0	3.9			2.0			2.0	
Lane Grp Cap (vph)	85	3013		129	2204			263			274	
v/s Ratio Prot	0.02	0.24		c0.04	c0.28							
v/s Ratio Perm								c0.06			0.04	
v/c Ratio	0.49	0.41		0.57	0.45			0.34			0.21	
Uniform Delay, d1	46.4	10.5		44.8	9.6			35.7			34.8	
Progression Factor	0.96	1.08		0.99	1.17			1.00			1.00	
Incremental Delay, d2	1.5	0.4		1.2	0.2			0.3			0.1	
Delay (s)	45.9	11.8		45.7	11.4			35.9			34.9	
Level of Service	D	B		D	B			D			C	
Approach Delay (s)		12.9			13.8			35.9			34.9	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Volume (vph)	270	595	350	275	475	225	270	565	240	265	690	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1526	1770	3335		1770	3341		1770	3355	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1526	1770	3335		1770	3341		1770	3355	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	284	626	368	289	500	237	284	595	253	279	726	300
RTOR Reduction (vph)	0	0	217	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	284	626	151	289	737	0	284	848	0	279	1026	0
Confl. Peds. (#/hr)			22			16			20			13
Confl. Bikes (#/hr)						1			8			5
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	13.7	26.0	26.0	12.6	25.1		13.6	27.9		14.4	27.4	
Effective Green, g (s)	14.1	27.1	27.1	13.0	26.0		14.0	29.1		14.8	29.9	
Actuated g/C Ratio	0.14	0.27	0.27	0.13	0.26		0.14	0.29		0.15	0.30	
Clearance Time (s)	4.4	5.1	5.1	4.4	4.9		4.4	5.2		4.4	6.5	
Vehicle Extension (s)	2.0	3.7	3.7	2.0	3.7		2.0	3.2		2.0	3.6	
Lane Grp Cap (vph)	250	959	414	230	867		248	972		262	1003	
v/s Ratio Prot	0.16	0.18		c0.16	c0.22		c0.16	0.25		0.16	c0.31	
v/s Ratio Perm			0.10									
v/c Ratio	1.14	0.65	0.36	1.26	0.85		1.15	0.87		1.06	1.02	
Uniform Delay, d1	43.0	32.3	29.5	43.5	35.1		43.0	33.7		42.6	35.0	
Progression Factor	1.05	0.74	1.48	0.96	1.05		1.00	1.00		1.00	1.00	
Incremental Delay, d2	97.3	1.6	0.7	145.3	8.1		102.0	10.7		73.8	34.4	
Delay (s)	142.6	25.5	44.3	187.1	45.1		145.0	44.4		116.4	69.4	
Level of Service	F	C	D	F	D		F	D		F	E	
Approach Delay (s)		56.9			85.1			69.6			79.5	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM Average Control Delay	72.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

13: University Ave & Rolando Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Volume (vph)	60	770	110	45	610	75	75	60	30	45	45	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.98			0.98			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3462		1770	3473			1763			1705	
Flt Permitted	0.95	1.00		0.95	1.00			0.69			0.85	
Satd. Flow (perm)	1770	3462		1770	3473			1241			1469	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	62	802	115	47	635	78	78	62	31	47	47	73
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	62	917	0	47	713	0	0	171	0	0	167	0
Confl. Peds. (#/hr)			5			1	5		20	20		5
Confl. Bikes (#/hr)			1			1			3			6
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	7.0	62.8		5.1	60.9			17.9			17.9	
Effective Green, g (s)	7.4	63.7		5.5	61.8			18.8			18.8	
Actuated g/C Ratio	0.07	0.64		0.06	0.62			0.19			0.19	
Clearance Time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	3.6		2.0	3.6			2.0			2.0	
Lane Grp Cap (vph)	131	2205		97	2146			233			276	
v/s Ratio Prot	c0.04	c0.26		0.03	0.21							
v/s Ratio Perm								c0.14			0.11	
v/c Ratio	0.47	0.42		0.48	0.33			0.73			0.61	
Uniform Delay, d1	44.4	9.0		45.9	9.2			38.2			37.2	
Progression Factor	0.92	0.86		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	0.4		1.4	0.4			9.8			2.6	
Delay (s)	41.5	8.0		47.3	9.6			48.1			39.8	
Level of Service	D	A		D	A			D			D	
Approach Delay (s)		10.2			11.9			48.1			39.8	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↑↱		↰	↑↱	
Volume (vph)	40	5	10	135	10	170	10	880	75	230	980	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1784	1554		1780	1550	1770	3485		1770	3515	
Flt Permitted		0.96	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1784	1554		1780	1550	1770	3485		1770	3515	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	46	6	11	155	11	195	11	1011	86	264	1126	46
RTOR Reduction (vph)	0	0	10	0	0	162	0	6	0	0	2	0
Lane Group Flow (vph)	0	52	1	0	166	33	11	1091	0	264	1170	0
Confl. Peds. (#/hr)	3		2	2		3	5		11	11		5
Confl. Bikes (#/hr)			2			3			11			5
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8						
Actuated Green, G (s)		9.7	9.7		16.0	16.0	1.3	36.0		22.0	57.0	
Effective Green, g (s)		11.6	11.6		17.9	17.9	1.7	38.1		22.4	58.8	
Actuated g/C Ratio		0.11	0.11		0.17	0.17	0.02	0.36		0.21	0.55	
Clearance Time (s)		5.9	5.9		5.9	5.9	4.4	6.1		4.4	5.8	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	2.0	3.3		2.0	3.3	
Lane Grp Cap (vph)		195	170		301	262	28	1253		374	1950	
v/s Ratio Prot		c0.03			c0.09		0.01	c0.31		c0.15	0.33	
v/s Ratio Perm			0.00			0.02						
v/c Ratio		0.27	0.01		0.55	0.13	0.39	0.87		0.71	0.60	
Uniform Delay, d1		43.3	42.1		40.4	37.4	51.6	31.6		38.7	15.7	
Progression Factor		1.00	1.00		1.00	1.00	1.22	0.58		1.33	0.45	
Incremental Delay, d2		0.7	0.0		2.2	0.2	3.1	7.9		4.2	1.2	
Delay (s)		44.0	42.1		42.6	37.6	66.2	26.2		55.5	8.3	
Level of Service		D	D		D	D	E	C		E	A	
Approach Delay (s)		43.7			39.9			26.6			17.0	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↑↑↱		↰	↑↑↱	
Volume (vph)	90	40	35	85	40	50	105	800	130	90	935	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.96		1.00	0.98		1.00	0.99	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1761			1748		1770	3465		1770	3488	
Flt Permitted		0.68			0.74		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1235			1324		1770	3465		1770	3488	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	42	37	89	42	53	111	842	137	95	984	105
RTOR Reduction (vph)	0	12	0	0	17	0	0	7	0	0	4	0
Lane Group Flow (vph)	0	162	0	0	167	0	111	972	0	95	1085	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		17.7			17.7		11.0	65.0		8.9	62.3	
Effective Green, g (s)		18.6			18.6		11.4	66.1		9.3	64.0	
Actuated g/C Ratio		0.18			0.18		0.11	0.62		0.09	0.60	
Clearance Time (s)		4.9			4.9		4.4	5.1		4.4	5.7	
Vehicle Extension (s)		2.0			2.0		2.0	4.7		2.0	4.7	
Lane Grp Cap (vph)		217			232		190	2161		155	2106	
v/s Ratio Prot							c0.06	0.28		0.05	c0.31	
v/s Ratio Perm		c0.13			0.13							
v/c Ratio		0.75			0.72		0.58	0.45		0.61	0.52	
Uniform Delay, d1		41.5			41.2		45.0	10.4		46.6	12.1	
Progression Factor		1.00			1.00		1.05	0.48		1.16	0.88	
Incremental Delay, d2		11.6			8.5		2.2	0.5		4.2	0.8	
Delay (s)		53.1			49.8		49.5	5.5		58.5	11.4	
Level of Service		D			D		D	A		E	B	
Approach Delay (s)		53.1			49.8			10.0			15.2	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥		↰	↰↑	↱	↰	↑↱		↰	↑↱	
Volume (vph)	50	85	35	85	105	180	30	785	125	200	805	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt		0.97		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.99		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1785		1681	1770	1583	1770	3466		1770	3500	
Flt Permitted		0.99		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1785		1681	1770	1583	1770	3466		1770	3500	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	90	37	90	112	191	32	835	133	213	856	69
RTOR Reduction (vph)	0	9	0	0	0	163	0	12	0	0	4	0
Lane Group Flow (vph)	0	171	0	90	112	28	32	956	0	213	921	0
Turn Type	Split			Split		Perm	Prot			Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)		10.9		13.8	13.8	13.8	4.5	37.8		23.2	56.4	
Effective Green, g (s)		11.8		15.5	15.5	15.5	4.9	39.1		23.6	57.8	
Actuated g/C Ratio		0.11		0.15	0.15	0.15	0.05	0.37		0.22	0.55	
Clearance Time (s)		4.9		5.7	5.7	5.7	4.4	5.3		4.4	5.4	
Vehicle Extension (s)		3.6		2.6	2.6	2.6	2.0	5.0		2.0	4.7	
Lane Grp Cap (vph)		199		246	259	231	82	1278		394	1908	
v/s Ratio Prot		c0.10		0.05	c0.06		0.02	c0.28		c0.12	0.26	
v/s Ratio Perm						0.02						
v/c Ratio		0.86		0.37	0.43	0.12	0.39	0.75		0.54	0.48	
Uniform Delay, d1		46.3		40.8	41.2	39.3	49.1	29.2		36.4	14.9	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00		1.37	0.58	
Incremental Delay, d2		29.6		0.7	0.9	0.2	1.1	4.0		0.7	0.8	
Delay (s)		75.8		41.5	42.1	39.5	50.2	33.2		50.6	9.4	
Level of Service		E		D	D	D	D	C		D	A	
Approach Delay (s)		75.8			40.7			33.7			17.1	
Approach LOS		E			D			C			B	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

2035 w/ Project PM
18: Lea Street & University Avenue

1/7/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Volume (vph)	50	1355	20	110	1155	10	20	30	180	50	50	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.89			0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.98	
Satd. Flow (prot)	1770	3531		1770	3535			1659			1765	
Flt Permitted	0.95	1.00		0.95	1.00			0.96			0.42	
Satd. Flow (perm)	1770	3531		1770	3535			1604			748	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	1457	22	118	1242	11	22	32	194	54	54	38
RTOR Reduction (vph)	0	1	0	0	1	0	0	129	0	0	12	0
Lane Group Flow (vph)	54	1478	0	118	1252	0	0	119	0	0	134	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			3	
Permitted Phases							4			3		
Actuated Green, G (s)	4.4	41.7		6.7	44.0			16.1			17.5	
Effective Green, g (s)	4.9	42.2		7.2	44.5			16.6			18.0	
Actuated g/C Ratio	0.05	0.42		0.07	0.44			0.17			0.18	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	86	1490		127	1573			266			134	
v/s Ratio Prot	0.03	c0.42		c0.07	0.35							
v/s Ratio Perm								c0.07			c0.18	
v/c Ratio	0.63	0.99		0.93	0.80			0.45			1.00	
Uniform Delay, d1	46.7	28.7		46.1	23.9			37.6			41.0	
Progression Factor	1.00	0.95		1.02	0.86			1.00			1.00	
Incremental Delay, d2	6.5	14.0		44.1	2.8			5.3			77.2	
Delay (s)	52.9	41.2		91.3	23.4			42.9			118.1	
Level of Service	D	D		F	C			D			F	
Approach Delay (s)		41.6			29.3			42.9			118.1	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	40.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

2035 w/ Project PM
19: Lea Drive & 54th St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↑↱		↰	↑↱	
Volume (vph)	35	5	50	205	20	40	50	1010	175	20	1060	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.92			0.98		1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1690			1757		1770	3461		1770	3515	
Flt Permitted		0.91			0.68		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1567			1243		1770	3461		1770	3515	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	38	5	54	220	22	43	54	1086	188	22	1140	54
RTOR Reduction (vph)	0	43	0	0	6	0	0	12	0	0	3	0
Lane Group Flow (vph)	0	54	0	0	279	0	54	1262	0	22	1191	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Actuated Green, G (s)		16.4			16.4		5.9	72.9		2.2	69.2	
Effective Green, g (s)		16.9			16.9		6.4	73.4		2.7	69.7	
Actuated g/C Ratio		0.16			0.16		0.06	0.70		0.03	0.66	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		252			200		108	2419		46	2333	
v/s Ratio Prot							c0.03	c0.36		0.01	0.34	
v/s Ratio Perm		0.03			c0.22							
v/c Ratio		0.22			1.40		0.50	0.52		0.48	0.51	
Uniform Delay, d1		38.3			44.0		47.8	7.5		50.5	9.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			205.5		3.6	0.8		7.6	0.8	
Delay (s)		38.7			249.6		51.4	8.3		58.1	9.8	
Level of Service		D			F		D	A		E	A	
Approach Delay (s)		38.7			249.6			10.0			10.7	
Approach LOS		D			F			B			B	

Intersection Summary			
HCM Average Control Delay	34.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

2035 w/ Project PM
20: University Ave & Street B

1/7/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↱		↰	↑↑	↰↱	
Volume (vph)	1310	300	130	1145	230	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.97		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3440		1770	3539	1728	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	3440		1770	3539	1728	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1409	323	140	1231	247	102
RTOR Reduction (vph)	19	0	0	0	14	0
Lane Group Flow (vph)	1713	0	140	1231	335	0
Turn Type	NA		Prot	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases						
Actuated Green, G (s)	56.8		10.2	71.5	19.5	
Effective Green, g (s)	56.8		10.2	71.5	19.5	
Actuated g/C Ratio	0.57		0.10	0.72	0.20	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1953		180	2530	336	
v/s Ratio Prot	c0.50		c0.08	0.35	c0.19	
v/s Ratio Perm						
v/c Ratio	0.88		0.78	0.49	1.00	
Uniform Delay, d1	18.6		43.8	6.2	40.2	
Progression Factor	1.00		1.30	0.12	1.00	
Incremental Delay, d2	5.9		12.8	0.4	47.6	
Delay (s)	24.5		69.8	1.2	87.8	
Level of Service	C		E	A	F	
Approach Delay (s)	24.5			8.2	87.8	
Approach LOS	C			A	F	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

21: 54th St & Street C

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↱	↑↱		↰	↑↑
Volume (veh/h)	0	25	200	145	25	1110
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	27	215	156	27	1194
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			764			811
pX, platoon unblocked	0.84					
vC, conflicting volume	944	185			371	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	546	185			371	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			98	
cM capacity (veh/h)	383	825			1184	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	27	143	228	27	597	597
Volume Left	0	0	0	27	0	0
Volume Right	27	0	156	0	0	0
cSH	825	1700	1700	1184	1700	1700
Volume to Capacity	0.03	0.08	0.13	0.02	0.35	0.35
Queue Length 95th (ft)	3	0	0	2	0	0
Control Delay (s)	9.5	0.0	0.0	8.1	0.0	0.0
Lane LOS	A			A		
Approach Delay (s)	9.5	0.0		0.2		
Approach LOS	A					

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX I

FAIR SHARE CONTRIBUTION CALCULATIONS

Intersection Fair-Share Calculation

								AM													PM						
Scenario	Int#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
EX	3 - 54th Street & El Cajon Boulevard	235	642	113	104	290	73	57	259	128	90	388	316	2695	171	381	108	281	683	105	105	581	282	119	471	196	3483
Horizon w/o Project	3 - 54th Street & El Cajon Boulevard	245	700	260	140	305	90	160	330	140	175	400	435	3380	175	525	205	360	910	110	140	595	305	290	480	215	4310
Horizon w Project	3 - 54th Street & El Cajon Boulevard	255	740	270	140	325	90	160	330	145	180	400	435	3470	185	565	215	360	970	110	140	595	320	305	480	215	4460

=(4460-4310)/(4460-3483)*100 = 15%

								AM													PM						
Scenario	Int#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total
EX	12 - College Avenue & University Avenue	180	815	156	125	345	93	150	355	121	140	419	137	3036	236	528	207	227	652	246	232	555	312	243	420	194	4052
Horizon w/o Project	12 - College Avenue & University Avenue	215	855	195	145	365	110	165	400	135	165	465	165	3380	255	565	240	265	690	270	260	565	340	275	435	225	4385
Horizon w Project	12 - College Avenue & University Avenue	220	855	195	145	365	115	175	425	145	165	480	165	3450	270	565	240	265	690	285	270	595	350	275	475	225	4505

=(4505-4385)/(4505-4052)*100= 26%

Segment Fair-Share Calculations

No.	Street	Segment	EX	Horizon W/O Project	Horizon W Project	Fair-share Calculation
2	Collwood Blvd	Montezuma Rd to 54th St	24,178	32,300	33,000	=(33000-32300)/(33000-24178)*100 = 8%
12	University Ave	54th St to 58th St	23,126	25,300	29,730	=(29730-25300)/(29730-23126)*100 = 67%

APPENDIX J

PEAK HOUR ARTERIAL ANALYSIS

Arterial Level of Service: EB Montezuma Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collwood Bl	II	40	65.0	38.7	103.7	0.72	25.1	C
Total	II		65.0	38.7	103.7	0.72	25.1	C

Arterial Level of Service: WB Montezuma Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collwood Bl	III	30	64.7	27.6	92.3	0.54	21.0	C
Total	III		64.7	27.6	92.3	0.54	21.0	C

Arterial Level of Service: EB Montezuma Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collwood Bl	II	40	57.8	45.6	103.4	0.64	22.4	C
Total	II		57.8	45.6	103.4	0.64	22.4	C

Arterial Level of Service: WB Montezuma Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collwood Bl	III	30	64.7	10.8	75.5	0.54	25.7	B
Total	III		64.7	10.8	75.5	0.54	25.7	B

APPENDIX K

PEAK HOUR INTERSECTION WORKSHEETS – HORIZON YEAR BASE PLUS PROJECT CONDITIONS (MITIGATION)

2035 with Project AM Mitigation
3: 54th St & El Cajon Bl

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰↰	↑↱	
Volume (vph)	160	330	145	180	400	435	255	740	270	140	325	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3397		3433	3424	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3397		3433	3424	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	170	351	154	191	426	463	271	787	287	149	346	96
RTOR Reduction (vph)	0	0	104	0	0	157	0	27	0	0	18	0
Lane Group Flow (vph)	170	351	50	191	426	306	271	1047	0	149	424	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	16.4	45.7	45.7	18.7	46.7	46.7	14.6	48.6		9.3	43.4	
Effective Green, g (s)	16.8	45.6	45.6	19.1	47.9	47.9	15.0	49.6		9.7	44.3	
Actuated g/C Ratio	0.12	0.33	0.33	0.14	0.34	0.34	0.11	0.35		0.07	0.32	
Clearance Time (s)	4.4	3.9	3.9	4.4	5.2	5.2	4.4	5.0		4.4	4.9	
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	
Lane Grp Cap (vph)	212	1153	516	241	1211	542	368	1204		238	1083	
v/s Ratio Prot	0.10	0.10		c0.11	0.12		c0.08	c0.31		0.04	0.12	
v/s Ratio Perm			0.03			c0.19						
v/c Ratio	0.80	0.30	0.10	0.79	0.35	0.57	0.74	0.87		0.63	0.39	
Uniform Delay, d1	60.0	35.3	32.9	58.5	34.4	37.6	60.6	42.2		63.4	37.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.96	0.95	
Incremental Delay, d2	18.3	0.7	0.4	15.2	0.8	4.2	6.5	7.1		3.6	0.3	
Delay (s)	78.2	36.0	33.2	73.7	35.2	41.8	67.1	49.3		64.6	35.9	
Level of Service	E	D	C	E	D	D	E	D		E	D	
Approach Delay (s)		46.0			44.9			52.9			43.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	47.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰↰	↑↱		↰↰	↑↱	
Volume (vph)	175	425	145	165	480	165	220	855	195	145	365	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1522	1770	3375		3433	3415		3433	3387	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1522	1770	3375		3433	3415		3433	3387	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	192	467	159	181	527	181	242	940	214	159	401	126
RTOR Reduction (vph)	0	0	117	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	192	467	42	181	708	0	242	1154	0	159	527	0
Confl. Peds. (#/hr)			22			16			20			13
Confl. Bikes (#/hr)						1			8			5
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	14.8	28.1	28.1	14.5	28.0		11.7	41.4		7.4	35.8	
Effective Green, g (s)	15.2	29.2	29.2	14.9	28.9		12.1	42.6		7.8	38.3	
Actuated g/C Ratio	0.14	0.26	0.26	0.13	0.26		0.11	0.39		0.07	0.35	
Clearance Time (s)	4.4	5.1	5.1	4.4	4.9		4.4	5.2		4.4	6.5	
Vehicle Extension (s)	2.0	3.7	3.7	2.0	3.7		2.0	3.2		2.0	3.6	
Lane Grp Cap (vph)	243	935	402	239	883		376	1317		242	1174	
v/s Ratio Prot	c0.11	0.13		0.10	c0.21		c0.07	c0.34		0.05	0.16	
v/s Ratio Perm			0.03									
v/c Ratio	0.79	0.50	0.10	0.76	0.80		0.64	0.88		0.66	0.45	
Uniform Delay, d1	46.1	34.5	30.8	46.1	38.1		47.1	31.5		50.0	27.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.9	0.5	0.1	11.5	5.5		2.8	6.9		4.8	0.3	
Delay (s)	61.0	35.0	30.9	57.5	43.6		50.0	38.4		54.9	28.3	
Level of Service	E	C	C	E	D		D	D		D	C	
Approach Delay (s)		40.3			46.5			40.4			34.4	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

2035 with Project PM Mitigation
3: 54th St & El Cajon Bl

11/3/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰↰	↑↱	
Volume (vph)	140	595	320	305	480	215	185	565	215	360	970	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3393		3433	3485	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3393		3433	3485	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	149	633	340	324	511	229	197	601	229	383	1032	117
RTOR Reduction (vph)	0	0	189	0	0	156	0	26	0	0	6	0
Lane Group Flow (vph)	149	633	151	324	511	73	197	804	0	383	1143	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	15.0	32.1	32.1	27.9	43.7	43.7	11.9	42.8		19.5	50.5	
Effective Green, g (s)	15.4	32.0	32.0	28.3	44.9	44.9	12.3	43.8		19.9	51.4	
Actuated g/C Ratio	0.11	0.23	0.23	0.20	0.32	0.32	0.09	0.31		0.14	0.37	
Clearance Time (s)	4.4	3.9	3.9	4.4	5.2	5.2	4.4	5.0		4.4	4.9	
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	
Lane Grp Cap (vph)	195	809	362	358	1135	508	302	1062		488	1279	
v/s Ratio Prot	0.08	c0.18		c0.18	0.14		0.06	0.24		c0.11	c0.33	
v/s Ratio Perm			0.10			0.05						
v/c Ratio	0.76	0.78	0.42	0.91	0.45	0.14	0.65	0.76		0.78	0.89	
Uniform Delay, d1	60.5	50.7	46.0	54.5	37.8	33.9	61.8	43.3		58.0	41.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.7	7.4	3.5	24.8	1.3	0.6	3.8	3.3		7.5	8.5	
Delay (s)	75.2	58.2	49.6	79.4	39.0	34.5	65.6	46.6		65.5	50.2	
Level of Service	E	E	D	E	D	C	E	D		E	D	
Approach Delay (s)		57.8			50.3			50.2			54.0	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	53.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

2035 with Project PM Mitigation
12: College ave & University Ave

11/3/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰↰	↑↱		↰↰	↑↱	
Volume (vph)	270	595	350	275	475	225	270	565	240	265	690	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1526	1770	3335		3433	3341		3433	3355	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1526	1770	3335		3433	3341		3433	3355	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	297	654	385	302	522	247	297	621	264	291	758	313
RTOR Reduction (vph)	0	0	163	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	297	654	222	302	769	0	297	885	0	291	1071	0
Confl. Peds. (#/hr)			22			16			20			13
Confl. Bikes (#/hr)						1			8			5
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	16.5	26.1	26.1	16.0	25.8		9.3	29.4		9.4	28.2	
Effective Green, g (s)	16.9	27.2	27.2	16.4	26.7		9.7	30.6		9.8	30.7	
Actuated g/C Ratio	0.17	0.27	0.27	0.16	0.27		0.10	0.31		0.10	0.31	
Clearance Time (s)	4.4	5.1	5.1	4.4	4.9		4.4	5.2		4.4	6.5	
Vehicle Extension (s)	2.0	3.7	3.7	2.0	3.7		2.0	3.2		2.0	3.6	
Lane Grp Cap (vph)	299	963	415	290	890		333	1022		336	1030	
v/s Ratio Prot	0.17	0.18		c0.17	c0.23		c0.09	0.26		0.08	c0.32	
v/s Ratio Perm			0.15									
v/c Ratio	0.99	0.68	0.53	1.04	0.86		0.89	0.87		0.87	1.04	
Uniform Delay, d1	41.5	32.5	31.0	41.8	34.9		44.6	32.8		44.5	34.6	
Progression Factor	0.96	0.80	1.12	0.96	1.04		1.00	1.00		1.00	1.00	
Incremental Delay, d2	48.6	1.9	1.5	63.6	8.8		24.0	9.8		19.6	38.9	
Delay (s)	88.5	27.8	36.2	103.7	45.2		68.6	42.6		64.0	73.6	
Level of Service	F	C	D	F	D		E	D		E	E	
Approach Delay (s)		43.7			61.7			49.1			71.5	
Approach LOS		D			E			D			E	

Intersection Summary				
HCM Average Control Delay	56.5	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	85.7%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

APPPENDIX L

PEAK HOUR INTERSECTION WORKSHEETS –
HORIZON YEAR BASE PLUS PROJECT CONDITIONS (OPERATIONAL)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✥			✥	
Volume (vph)	25	780	5	70	860	15	20	20	70	50	25	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.0	4.0			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.91			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3536		1770	3530			1689			1750	
Flt Permitted	0.95	1.00		0.95	1.00			0.86			0.79	
Satd. Flow (perm)	1770	3536		1770	3530			1465			1413	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	839	5	75	925	16	22	22	75	54	27	32
RTOR Reduction (vph)	0	1	0	0	1	0	0	67	0	0	21	0
Lane Group Flow (vph)	27	843	0	75	940	0	0	52	0	0	92	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			3	
Permitted Phases							4			3		
Actuated Green, G (s)	3.1	32.9		5.9	35.7			8.2			10.0	
Effective Green, g (s)	3.1	32.9		6.4	36.2			8.2			10.0	
Actuated g/C Ratio	0.04	0.44		0.09	0.48			0.11			0.13	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	73	1551		151	1704			160			188	
v/s Ratio Prot	0.02	c0.24		0.04	c0.27							
v/s Ratio Perm								c0.04			c0.07	
v/c Ratio	0.37	0.54		0.50	0.55			0.33			0.49	
Uniform Delay, d1	35.0	15.5		32.8	13.7			30.8			30.1	
Progression Factor	1.00	1.00		1.00	1.00			0.99			1.00	
Incremental Delay, d2	3.1	1.4		2.6	1.3			1.0			2.0	
Delay (s)	38.1	16.9		35.3	15.0			31.6			32.1	
Level of Service	D	B		D	B			C			C	
Approach Delay (s)		17.6			16.5			31.6			32.1	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

2035 w/ Project PM Operational Improvements
18: University Ave & Lea Street

6/18/2013

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱			✣			✣	
Volume (vph)	50	1330	20	100	1125	10	20	30	170	50	50	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.90			0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.98	
Satd. Flow (prot)	1770	3531		1770	3534			1661			1765	
Flt Permitted	0.95	1.00		0.95	1.00			0.96			0.42	
Satd. Flow (perm)	1770	3531		1770	3534			1599			761	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	1430	22	108	1210	11	22	32	183	54	54	38
RTOR Reduction (vph)	0	1	0	0	1	0	0	122	0	0	13	0
Lane Group Flow (vph)	54	1451	0	108	1220	0	0	115	0	0	133	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			3	
Permitted Phases							4			3		
Actuated Green, G (s)	4.4	41.7		6.7	44.0			13.1			20.5	
Effective Green, g (s)	4.9	42.2		7.2	44.5			13.6			21.0	
Actuated g/C Ratio	0.05	0.42		0.07	0.44			0.14			0.21	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	87	1490		127	1573			217			160	
v/s Ratio Prot	0.03	c0.41		0.06	c0.35							
v/s Ratio Perm								c0.07			c0.18	
v/c Ratio	0.62	0.97		0.85	0.78			0.53			0.83	
Uniform Delay, d1	46.6	28.4		45.9	23.5			40.2			37.8	
Progression Factor	0.75	0.60		0.67	1.04			1.00			1.00	
Incremental Delay, d2	8.3	13.2		27.0	2.4			9.0			37.5	
Delay (s)	43.3	30.1		57.7	26.8			49.2			75.4	
Level of Service	D	C		E	C			D			E	
Approach Delay (s)		30.6			29.3			49.2			75.4	
Approach LOS		C			C			D			E	

Intersection Summary				
HCM Average Control Delay	33.5	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	73.1%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

2035 w/ Project AM Operational Improvements
19: Lea Drive & 54th St

3/27/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	35	5	50	205	20	40	50	1010	175	20	1060	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.92			0.98		1.00	0.98		1.00	0.99	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1690			1757		1770	3461		1770	3515	
Flt Permitted		0.86			0.76		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1474			1391		1770	3461		1770	3515	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	38	5	54	220	22	43	54	1086	188	22	1140	54
RTOR Reduction (vph)	0	40	0	0	11	0	0	20	0	0	5	0
Lane Group Flow (vph)	0	57	0	0	274	0	54	1254	0	22	1189	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Actuated Green, G (s)		14.8			14.8		2.6	30.9		0.8	29.1	
Effective Green, g (s)		15.3			15.3		3.1	31.4		1.3	29.6	
Actuated g/C Ratio		0.26			0.26		0.05	0.52		0.02	0.49	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		376			355		91	1811		38	1734	
v/s Ratio Prot							c0.03	c0.36		0.01	0.34	
v/s Ratio Perm		0.04			c0.20							
v/c Ratio		0.15			0.77		0.59	0.69		0.58	0.69	
Uniform Delay, d1		17.3			20.7		27.8	10.7		29.1	11.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			10.0		10.0	2.2		19.6	2.2	
Delay (s)		17.5			30.7		37.8	12.9		48.7	13.9	
Level of Service		B			C		D	B		D	B	
Approach Delay (s)		17.5			30.7			13.9			14.5	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Volume (vph)	55	20	55	175	20	15	30	1045	70	50	565	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.94			0.99		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1721			1771		1770	3506		1770	3517	
Flt Permitted		0.84			0.69		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1480			1277		1770	3506		1770	3517	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	59	22	59	188	22	16	32	1124	75	54	608	27
RTOR Reduction (vph)	0	45	0	0	5	0	0	7	0	0	4	0
Lane Group Flow (vph)	0	95	0	0	221	0	32	1192	0	54	631	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4			4								
Actuated Green, G (s)		14.0			14.0		2.0	29.6		2.9	30.5	
Effective Green, g (s)		14.5			14.5		2.5	30.1		3.4	31.0	
Actuated g/C Ratio		0.24			0.24		0.04	0.50		0.06	0.52	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		358			309		74	1759		100	1817	
v/s Ratio Prot							0.02	c0.34		c0.03	0.18	
v/s Ratio Perm		0.06			c0.17							
v/c Ratio		0.27			0.72		0.43	0.68		0.54	0.35	
Uniform Delay, d1		18.4			20.9		28.1	11.3		27.5	8.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			7.7		4.0	2.1		5.8	0.5	
Delay (s)		18.8			28.6		32.1	13.4		33.4	9.1	
Level of Service		B			C		C	B		C	A	
Approach Delay (s)		18.8			28.6			13.9			11.0	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX M

PROJECT DRIVEWAY SIGNAL WARRANT ANALYSIS

FEHR PEERS

Sheet No 1 of 1

Project: Chollas Triangle Master Plan
Scenario: Future with Project (driveway volume
Peak Hour: AM

Major Street: University Avenue
Minor Street: Street A/Promise Hosp Dvwy

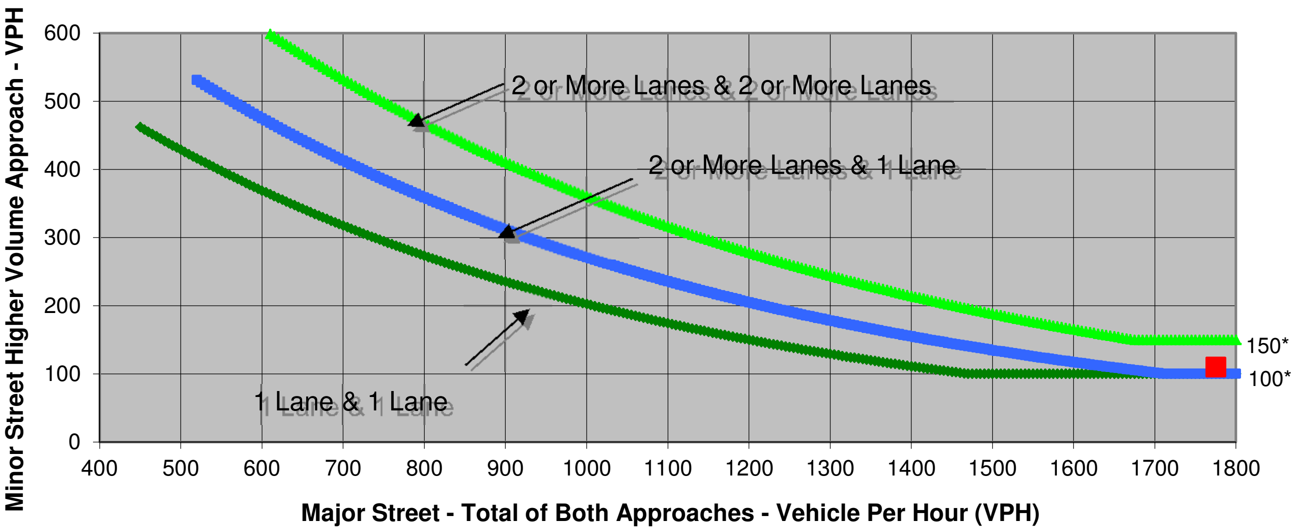
Turn Movement Volumes

	NB	SB	EB	WB
Left	20	50	25	75
Through	20	25	785	870
Right	70	30	5	15
Total	110	105	815	960

Major Street Direction

☐ North/South
☒ East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street University Avenue	**Minor Street** Street A/Promise Hosp Dvwy	**Warrant Met**
Number of Approach Lanes	**4**	**1**	**YES**
Traffic Volume (VPH) *	**1,775**	**110**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No 1 of 1

Major Street University Avenue
Minor Street Street A/Promise Hosp Dvwy

Project Chollas Triangle Master Plan
Scenario Future with Project (driveway volume
Peak Hour PM

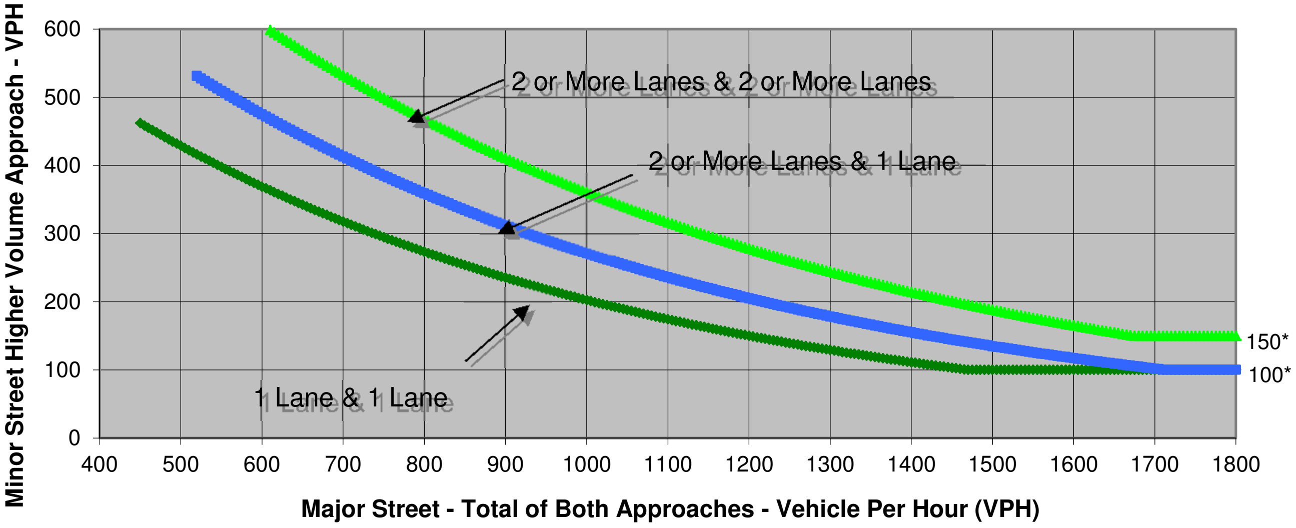
Turn Movement Volumes

	NB	SB	EB	WB
Left	20	50	50	110
Through	30	50	1,355	1,155
Right	180	35	20	10
Total	230	135	1,425	1,275

Major Street Direction

☐ North/South
☒ East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street University Avenue	**Minor Street** Street A/Promise Hosp Dvwy	**Warrant Met**
Number of Approach Lanes	**4**	**1**	**YES**
Traffic Volume (VPH) *	**2,700**	**230**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

Sheet No	1	of	1

Major Street University Avenue
Minor Street Internal Roadway Dvwy/Street B

Project Chollas Triangle Master Plan
Scenario Future with Project (driveway volume
Peak Hour AM

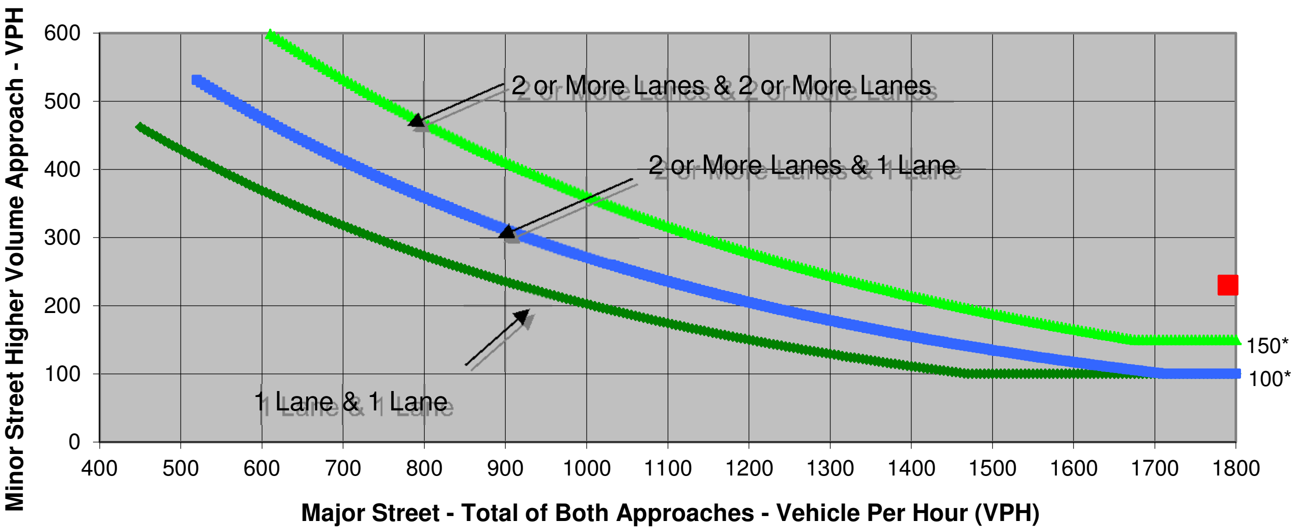
Turn Movement Volumes

	NB	SB	EB	WB
Left	160	0	0	45
Through	0	0	770	875
Right	70	0	100	0
Total	230	0	870	920

Major Street Direction

	North/South
x	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street University Avenue	**Minor Street** Internal Roadway Dvwy/Street B	**Warrant Met**
Number of Approach Lanes	**4**	**1**	**YES**
Traffic Volume (VPH) *	**1,790**	**230**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Sheet No	1	of	1	

Major Street	University Avenue
Minor Street	Internal Roadway Dvwy/Street B

Project	Chollas Triangle Master Plan
Scenario	Future with Project (driveway volume
Peak Hour	PM

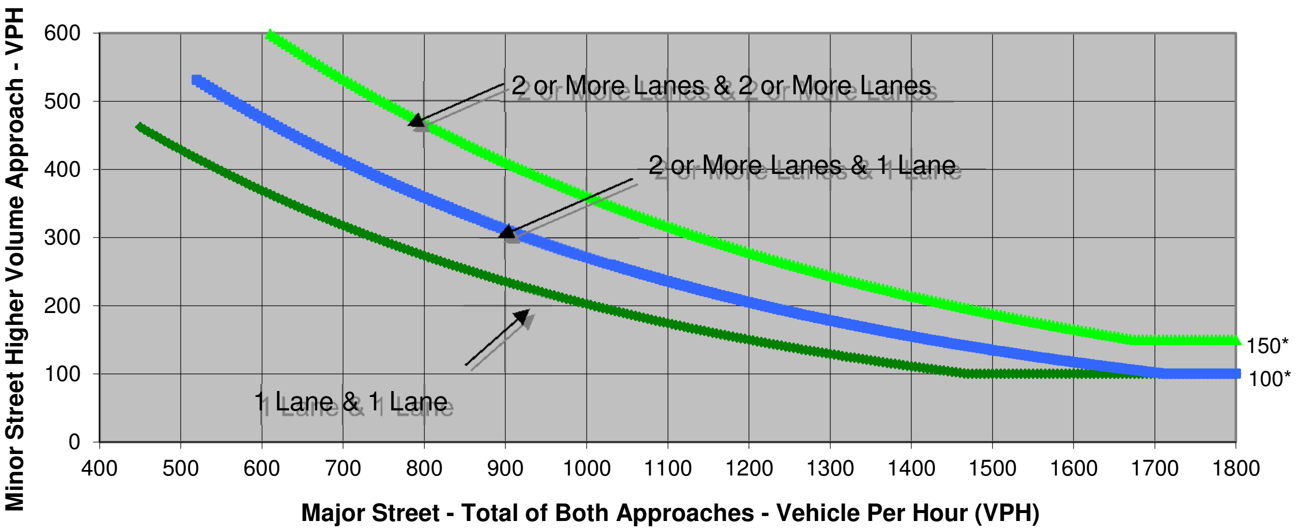
Turn Movement Volumes

	NB	SB	EB	WB
Left	230	0	0	130
Through	0	0	1,310	1,145
Right	95	0	300	0
Total	325	0	1,610	1,275

Major Street Direction

	North/South
x	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street University Avenue	**Minor Street** Internal Roadway Dvwy/Street B	**Warrant Met**
Number of Approach Lanes	**4**	**1**	**YES**
Traffic Volume (VPH) *	**2,885**	**325**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.