Waste Management Plan for the Southwest Village Specific Plan San Diego, California PRJ-614791

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Acronyms and Abbreviations

AB	Assembly Bill
C&D	Construction and Demolition
City	City of San Diego
du/ac	dwelling unit per acre
ESD	Environmental Services Department
EVA	emergency only vehicle access
Specific Plan	Southwest Village Specific Plan
SR-905	State Route 905
SWMC	Solid Waste Management Coordinator
U.S. EPA	U.S. Environmental Protection Agency
VTM	Vesting Tentative Map
WMP	Waste Management Plan

1.0 Introduction

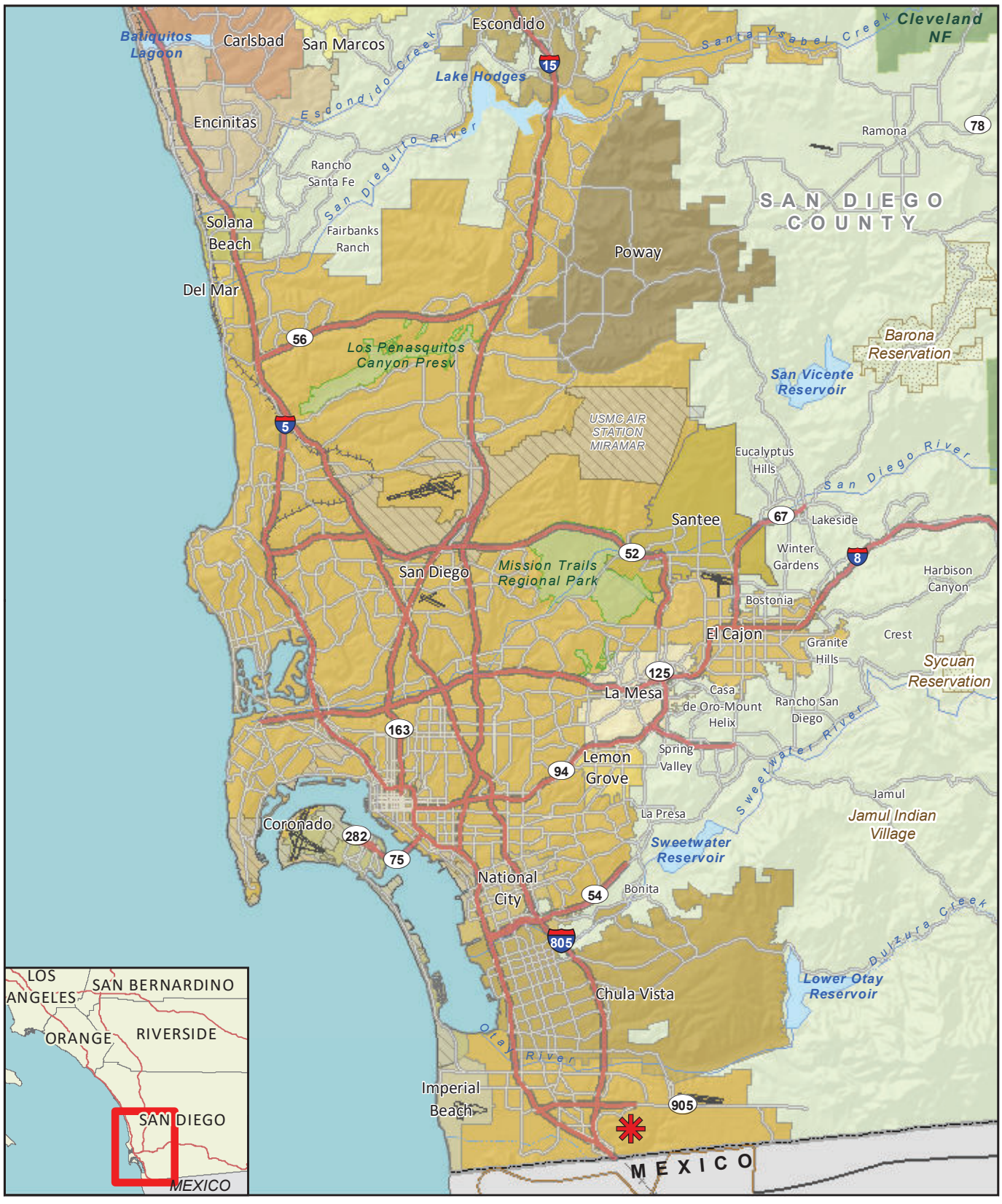
The purpose of this Waste Management Plan (WMP) is to identify the solid waste impacts that would be generated by construction and operation of the proposed Vesting Tentative Map (VTM) and associated project-level components (project) within the Southwest Village Specific Plan (Specific Plan) and identify measures to reduce those impacts. The direct impact threshold of significance for projects in the city of San Diego is 1,500.0 tons of waste per year, which would likely occur when developments are over 1 million square feet. Projects that generate more than 60.0 tons of waste per year would have the potential to result in a cumulative impact on solid waste services and are required to prepare a WMP to demonstrate how the project would reduce solid waste impacts to below a level of significance. Only the project-level components of the Specific Plan is addressed in this WMP, as future phases of development of the Specific Plan will require project-specific WMPs at the time development is proposed.

The WMP consists of four sections corresponding to the progress of site development, which are the Demolition Phase, Grading Phase, Construction Phase, and the Occupancy (post-construction) Phase. The WMP addresses each phase and describes the amount of waste that would be generated by project activities, waste reduction goals, and the recommended techniques to achieve the waste reduction goals. More specifically, for each phase, the WMP includes the following:

- Tons of waste anticipated to be generated.
- Material/type and amount of waste anticipated to be diverted.
- Project features that would reduce the amount of waste generated.
- Project features that would divert or limit the generation of waste.
- Source separation techniques for waste generated.
- How materials shall be reused on-site.
- Name and location of recycling, reuse, or landfill facilities where waste shall be taken.

2.0 Existing Conditions

The project site is located south of State Route 905 (SR-905), east of Interstate 805, west of Spring Canyon, and north of the international border, in the Otay Mesa Community Plan area, in the city of San Diego. Figure 1 shows the regional location. An aerial photograph of the project site and vicinity is shown in Figure 2. The community of San Ysidro is approximately one-half mile to the west and Brown Field Municipal Airport is approximately one mile to the northeast. The VTM is located in the northwestern portion of the Specific Plan area and the proposed Beyer Boulevard extension would cross undeveloped lands to the west of the Specific Plan area to the eastern edge of the community of San Ysidro. Off-site utility and transportation improvements are also proposed within the surrounding area. The project site is currently undeveloped.



Project Location

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FIGURE 1
Regional Location

Image Source: NearMap (Flown May 2024)

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FIGURE 2
Project Location on Aerial Photograph

3.0 Project Description

A Specific Plan is proposed that would provide a comprehensive policy framework intended to guide future development in Southwest Village, consistent with land uses envisioned in the Otay Mesa Community Plan and consistent with the City of San Diego's (City's) City of Villages Strategy. The Specific Plan encompasses approximately 490 acres, will allow up to 5,130 attached and detached residences, and will facilitate creation of a new village anchored by up to 175,000 square feet of commercial and retail uses in a mixed-use Village Core. The Specific Plan would provide public facilities including dedication of a new elementary school, approximately 36 acres of developed parks, in addition to trails, natural open space and habitat conservation. Access to the Specific Plan area will be via two main access points including Caliente Avenue at the north and a future extension of Beyer Boulevard to the west, connecting the Specific Plan area to San Ysidro (Figures 3 and 4).

A VTM, Site Development Permit, and Multi-Habitat Planning Area Boundary Adjustment is requested in order to develop approximately 61 acres within Planning Areas 8 through 14 to implement a portion of the residential components of the Specific Plan. The components of the Specific Plan evaluated at the project level for purposes of this WMP are depicted on Figure 5 and include construction and operation of Phase 1 of the residential development (Planning Areas 8 through 14) in addition to infrastructure improvements, grading, trail improvements, landscaping and restoration, and other project design features. Implementation of the project-level components is detailed below.

3.1 Residential Components

The proposed VTM would implement residential development within approximately 86 acres within Planning Areas 8 through 14 to implement a portion of the residential components of the Specific Plan (see Figure 4). The VTM identifies up to 920 residential dwelling units consisting of 142 multi-family detached (under 20 dwelling units per acre), 498 multi-family attached units (under 20 dwelling units per acre), and 280 multi-family units (over 20 dwelling units per acre). The 142 multi-family detached units are conservatively calculated as single-family units for purposes of the environmental analysis. Waste collection within the VTM is anticipated to be handled by a private waste hauler. The proposed mix of land uses for the VTM is shown in Table 1.

Map Source: Placeworks

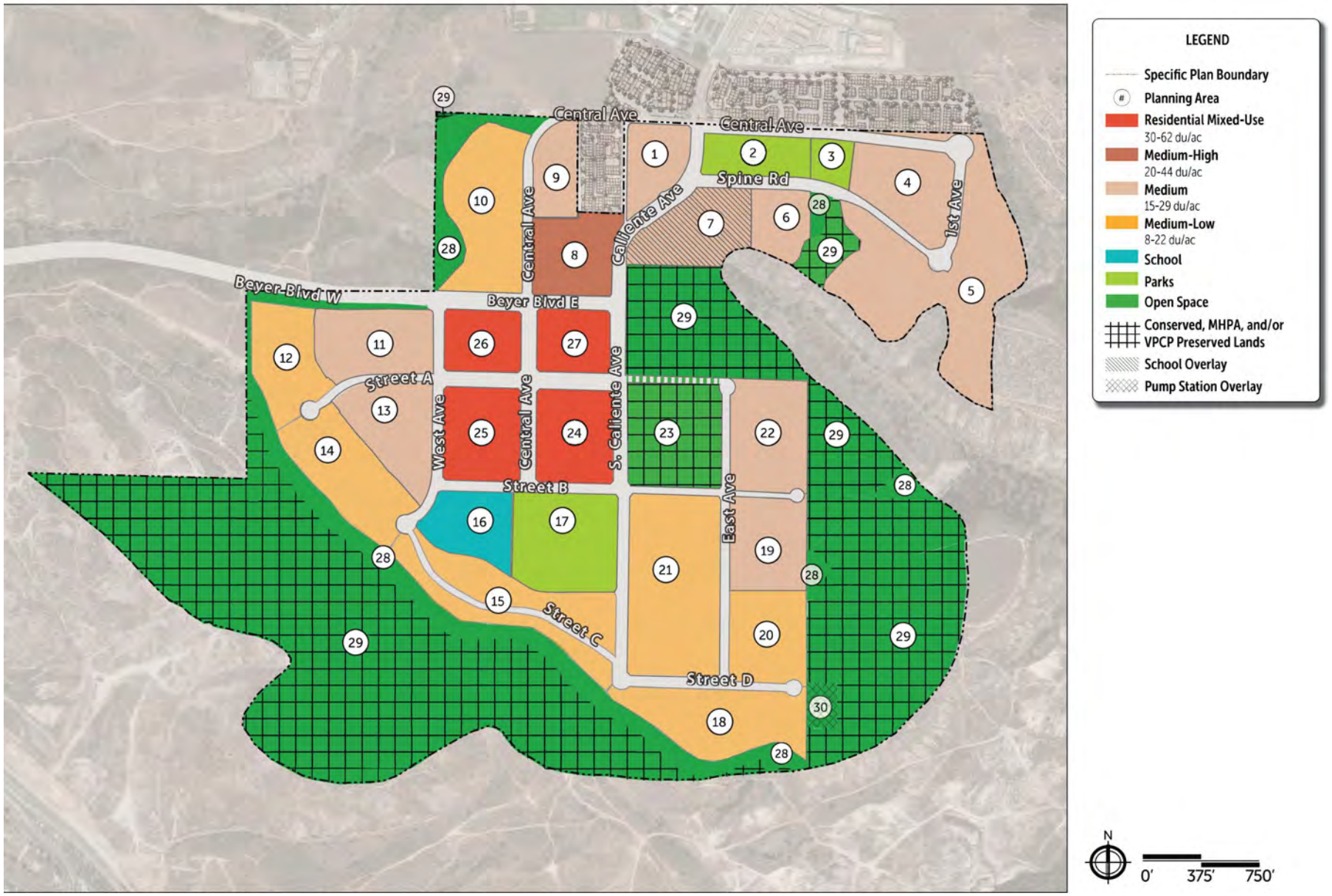

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FIGURE 3

Specific Plan Development Concept

Map Source: Placeworks

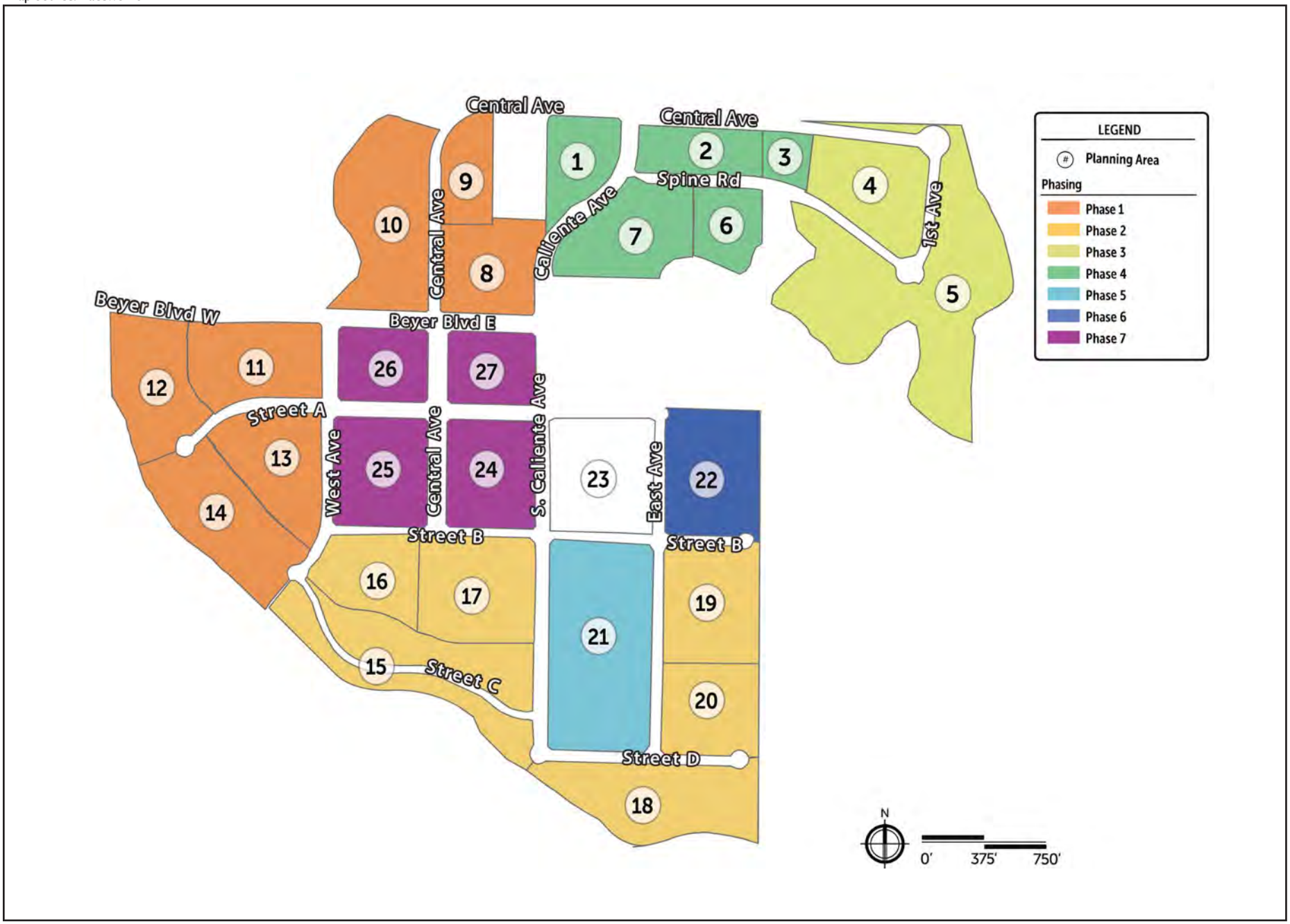

FIGURE 4

Specific Plan Development Phasing

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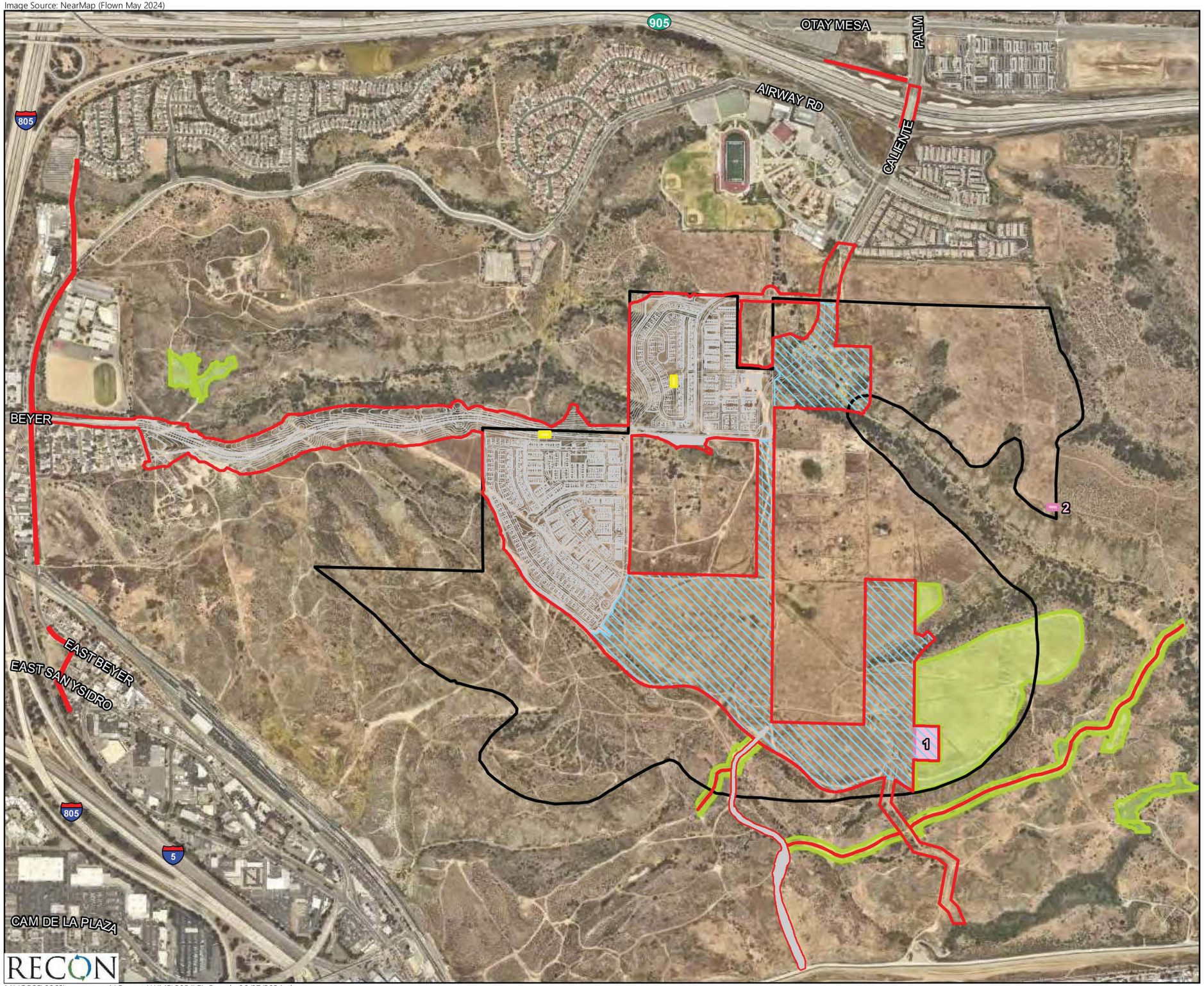
Image Source: NearMap (Flown May 2024)



Project-level Analysis Grading Footprint

Project-level Analysis - Construction and Operational

Project-level Analysis - Rough Grading Only

Permanent Sewer Lift Station

Temporary Sewer Lift Station

Specific Plan Boundary

Habitat Restoration Areas

0 Feet 900

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FIGURE 5
Project-level Analysis Area

Table 1 Vesting Tentative Map Development Summary				
Plan	Type	Square Feet	Units	Total Square Feet
Solmar				
1	2 BR+2.5 BA	1,309	38	49,742
2	2 BR+2.5 BA	1,244	38	47,272
3	3 BR+2.5 BA	1,703	60	102,180
4	3 BR+2.5 BA	1,785	64	114,240
5	4 BR+3.5 BA	1,946	38	73,948
Total			**238**	**387,382**
Marea				
1	2 BR+2.5 BA	1,321	22	29,062
2	2 BR+2.5 BA	1,395	22	30,690
3	3 BR+2.5 BA +Den	1,702	68	115,736
4	4 BR+3.5 BA	1,875	68	127,500
5	3 BR+Loft+2.5 BA	1,687	20	33,740
Total			**200**	**336,728**
Castello[1]				
1	3 BR+2.5 BA	1,691	49	82,859
2	3-4 BR+2.5-3 BA	1,985	48	95,280
3	4-5 BR+3 BA	2,209	45	99,405
Total			**142**	**277,544**
Zutano				
1	3 BR+2.5 BA	1,461	55	80,355
2	3 BR+2.5 BA	1,646	54	88,884
3	4 BR+2.5 BA	1,668	51	85,068
Total			**160**	**254,307**
Meyer				
1	2 BR+2.5 BA	1,083	14	15,162
2	2 BR+2.5 BA	1,185	17	20,145
3	3 BR+2.5 BA	1,283	31	39,773
4	3-4 BR+3.5 BA	1,475	34	50,150
Total			**96**	**125,230**
10 Percent Affordable				
1A	1 BR+1 BA	590	6	3,540
2A	2 BR+1 BA	827	6	4,962
2AX	2 BR+1 BA	830	6	4,980
2B	2 BR+1 BA	859	12	10,308
2C	2 BR+1 BA	873	6	5,238
3A	3 BR+2 BA	1,174	12	14,088
3AX	3 BR+2 BA	1,174	6	7,044
3AY	3 BR+2 BA	1,174	6	7,044
3B	3 BR+2 BA	1,132	6	6,792
3BX	3 BR+2 BA	1,132	6	6,792
3C	3 BR+2 BA	1,134	6	6,804
3D	3 BR+2 BA	1,184	6	7,104
Total			**84**	**84,696**
OVERALL TOTAL			**920**	**1,465,887**

NOTE: Plan types shown are estimates and may vary from what is shown.
du/ac = dwelling units per acre; sf = square feet

[1]The VTM multi-family detached residential units will be processed as a small lot subdivision consistent with Municipal Code Section 143.0365, which allows the subdivision of multi-family zoned land, consistent with the density and standards of the Specific Plan zone, for the construction of single dwelling units. Thus, while the VTM identifies all units as multi-family due to the proposed multi-family lotting, the small lot units are considered single-family for purposes of the assumptions in this analysis.

3.1.1 Phase 1a

Phase 1a would involve construction of access to the Specific Plan area via Caliente Avenue and Central Avenue in addition to construction of the first 200 residential units. The anticipated site plan for Phase 1a is depicted on Figure 6. The Caliente Avenue extension south of its existing terminus to Central Avenue is anticipated to be constructed by another developer or this project; therefore, , this access is included as part of the project description in the event this project proceeds first. Phase 1a would involve construction of the first 200 residential units within Planning Areas 8 through 10 in addition to a temporary sewer lift station as depicted on Figure 6. Due to the area topography in relation to sewer treatment, a temporary sewer pump station would be required to serve these first 200 units until such time permanent sewer and water lines are constructed.

3.1.2 Phase 1b

Phase 1b would involve construction of up to an additional 499 units for a total of 699 residential units. The anticipated site plan for this phase is depicted on Figure 6. As part of this phase, an emergency only vehicle access (EVA) road would be improved to provide an EVA road for residents. Refer to Section 3.2.1.5. for additional details about the EVA road. Phase 1b would also require the construction of a temporary sewer lift station as depicted in Figure 6.

3.1.3 Phase 1c

Phase 1c would involve construction of the Beyer Boulevard extension in addition to the remaining 221 residential units within Planning Areas 8 through 14. Internal to the Specific Plan, implementation of the project-level areas would include construction of internal streets within Planning Areas 8 through 14. Refer to Figure 6 for the Phase 1c residential component and Figures 7.1 through 7.5 for Beyer Boulevard.

3.1.4 Phase 2

Rough grading would be conducted within Phase 2 areas. Additionally, Phase 2 includes implementation of primitive trails (see Section 3.4 below). Future site-specific grading and development plans would be required within Phase 2 areas as development is proposed.

3.1.5 Phase 4

Rough grading would be conducted within portions of Phase 4 areas, primarily supporting grading for Caliente Avenue, south of Central Avenue and future residential development within Planning Area 7. Future site-specific grading and development plans would be required within Phase 4 areas as development is proposed. Grading estimates for Phase 4 include approximately 22,500 cubic yards of cut and 342,500 cubic yards of fill with anticipated import volumes of 320,000 cubic yards originating from other portions of the site.

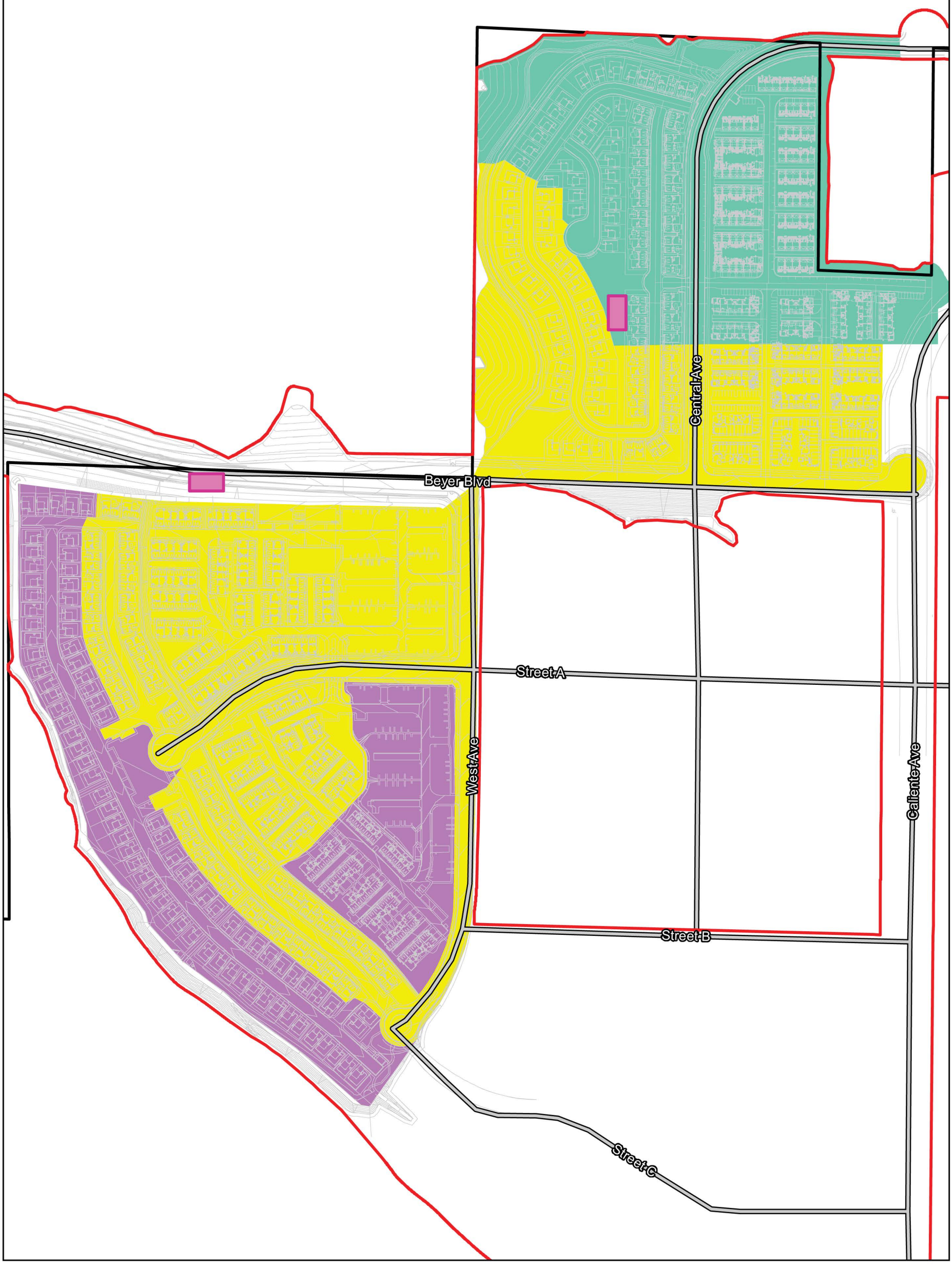

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FIGURE 6
Phase 1

3.2 Infrastructure Improvements

3.2.1 Roadway Improvements

3.2.1.1 Caliente Avenue and Central Avenue

Access to proposed Phase 1a residential development would require construction of Caliente Avenue north of the Specific Plan boundary from its current terminus in Otay Mesa, south to the planned connection with Central Avenue. Phase 1a would include construction of this segment of Caliente Avenue as well as Central Avenue west of Caliente Avenue. Caliente Avenue south of Central Avenue is part of the Phase 4 component.

3.2.1.2 Beyer Boulevard

Implementation of the project-level areas would require construction of an extension of Beyer Boulevard providing access from San Ysidro to the Specific Plan area (Figures 7.1 through 7.5).

a. Beyer Boulevard East

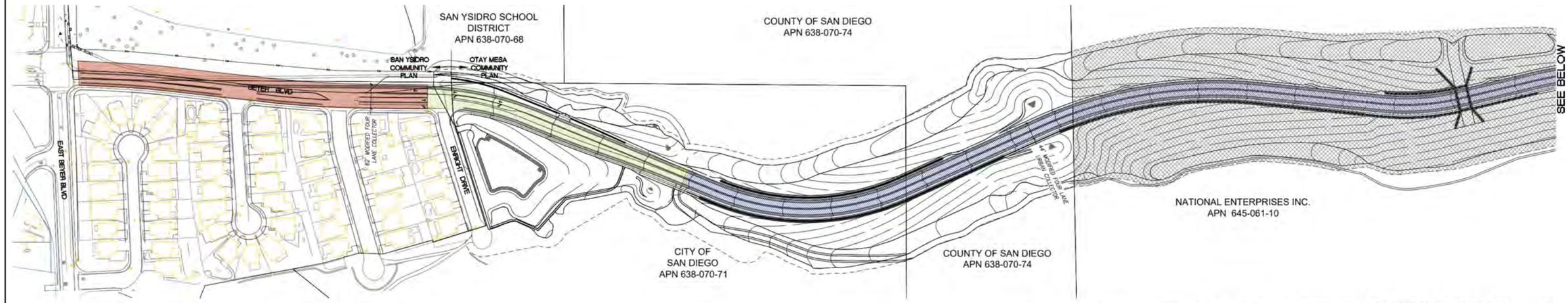
As detailed in the Specific Plan, Beyer Boulevard within the Specific Plan boundary is referred to as Beyer Boulevard East and would be constructed as a modified 4-lane Urban Major.

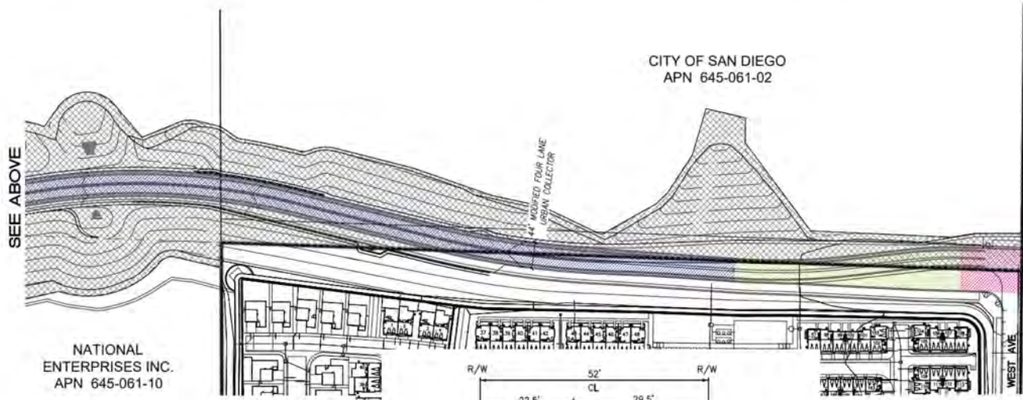
b. Beyer Boulevard West

The extension of Beyer Boulevard West of the Specific Plan from Enright Drive to West Avenue is referred to as Beyer Boulevard West, which is planned as a modified 4-lane Urban Collector. Although planned as a modified 4-lane Urban Collector, the roadway is constrained by environmental resources and the Specific Plan specifies that this segment would be built with two instead of four lanes (see Figure 7.1). All manufactured slopes surrounding Beyer Boulevard would be revegetated with native plant species.

The proposed Beyer Boulevard West extension would incorporate wildlife movement features including undercrossings, an overcrossing, and wildlife fencing along both sides of the road. Along the western extent of the proposed Beyer Boulevard extension a 6-foot-tall masonry wall would be constructed on the north side of the road to provide separation and noise attenuation from the adjacent habitat. Two San Diego Gas and Electric (SDG&E) access points with gates are proposed along Beyer Boulevard to provide ongoing access to SDG&E easements and power lines within the surrounding open space. A number of retaining walls have been incorporated into the roadway design largely to limit habitat impacts. Retaining walls include 4-foot to 12-foot retaining walls along the north and south sides of Beyer Boulevard to minimize impacts to conserved properties (see Figure 7.2).

Map Source: CivilSense, Inc.



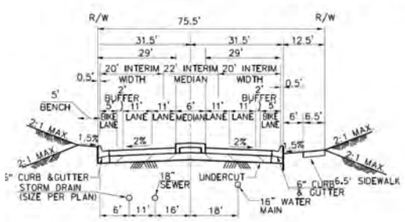


LEGEND

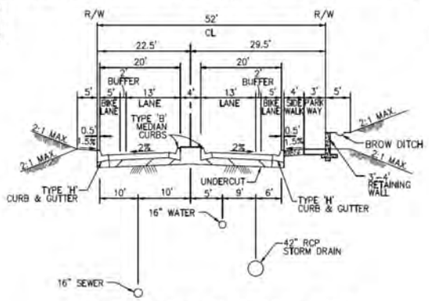
- FOUR LANE COLLECTOR WITHIN SAN YSIDRO COMMUNITY PLAN
- TRANSITION AREA TO FOUR LANES WHEN WARRANTED
- MODIFIED 4 LANE URBAN COLLECTOR CONSTRUCTED WITH TWO LANES DUE TO ENVIRONMENTALLY SENSITIVE HABITAT
- FOUR LANE URBAN MAJOR
- APPROXIMATE LIMITS OF CONSERVATION EASEMENT MODIFICATION

TOTAL LENGTH OF BEYER BLVD (FROM EAST BEYER BLVD TO CALIENTE AVE) = 6,800 FEET

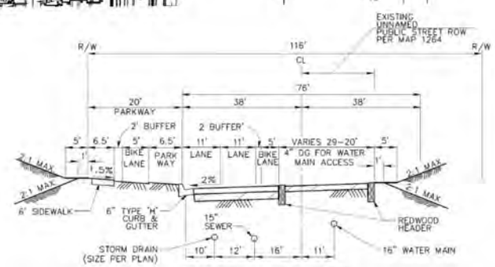
TOTAL LENGTH OF 2 LANE SECTION (FROM END OF TRANSITION EAST OF ENRIGHT DRIVE TO START OF TRANSITION WEST OF WEST AVE) = 3,500 FEET



MODIFIED 4 LANE URBAN COLLECTOR
CITY SUPPORTED MODIFIED BEYER BLVD SECTION
(FROM ENRIGHT DRIVE TO WEST AVE)
NOT TO SCALE



MODIFIED 4 LANE URBAN COLLECTOR
PROPOSED BEYER BLVD SECTION
(FROM ENRIGHT DRIVE TO WEST AVE)
NOT TO SCALE



4 LANE URBAN MAJOR
INTERIM BEYER BLVD EAST SECTION
(FROM WEST AVE TO CALIENTE AVE)
NOT TO SCALE

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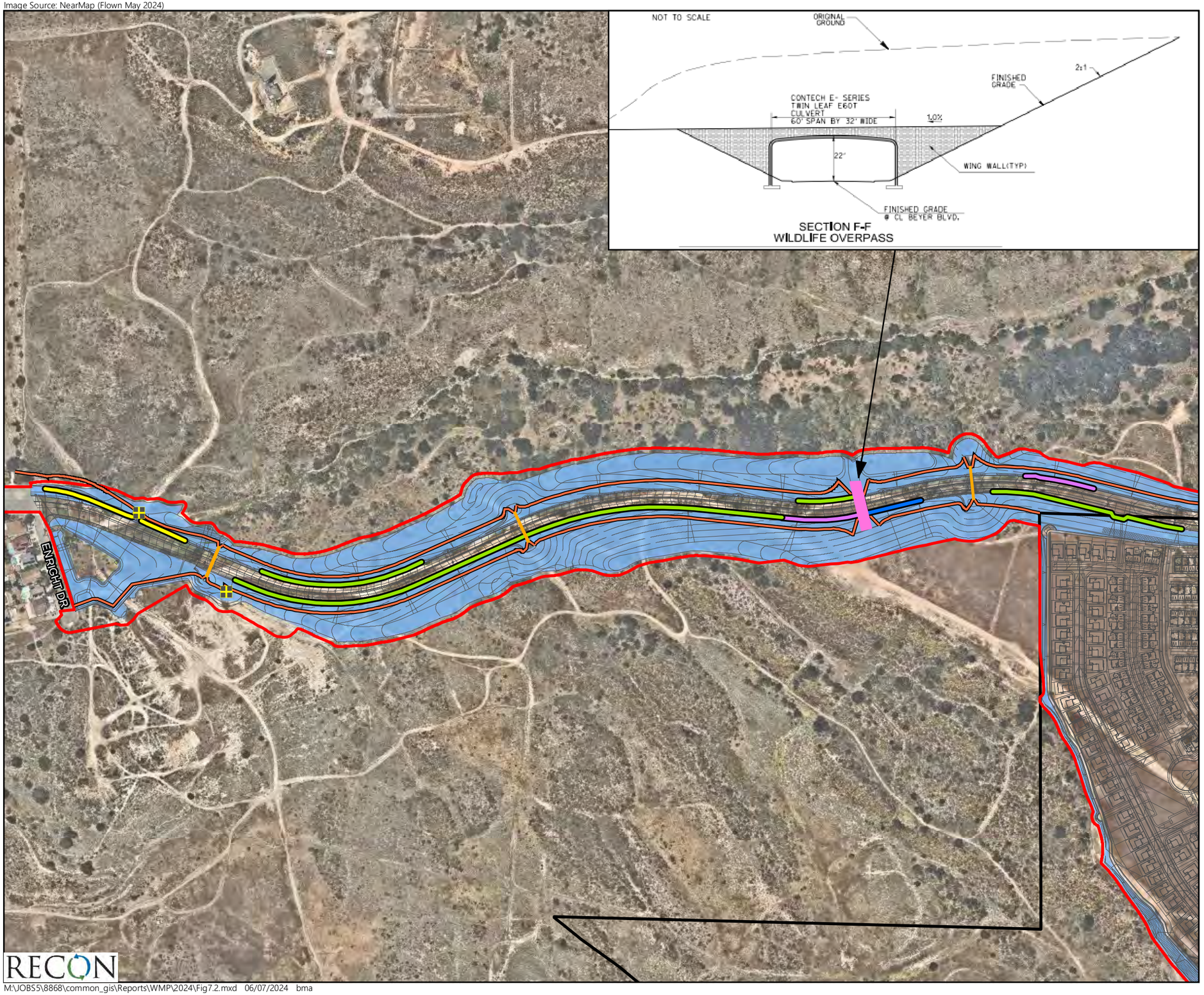
FIGURE 7.1
Beyer Boulevard

Image Source: NearMap (Flown May 2024)



- Project-level Analysis Area
- Specific Plan Boundary
- 4-foot Retaining Wall
- 6-foot Masonry Noise Wall
- 0 - 8-foot Retaining Wall
- 12-foot Retaining Wall
- SDG&E Access Gate
- Wildlife Fence
- Critter Crossing Culvert (6' dia.)
- Wildlife Overcrossing (32' wide by 60' long)
- Site Plan
- Manufactured Slopes to be Revegetated with Native Species

0 Feet 300

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FIGURE 7.2
Beyer Boulevard Wildlife Crossings, Wildlife Fencing, and Retaining Walls

Map Source: Leppert Engineering Corp.

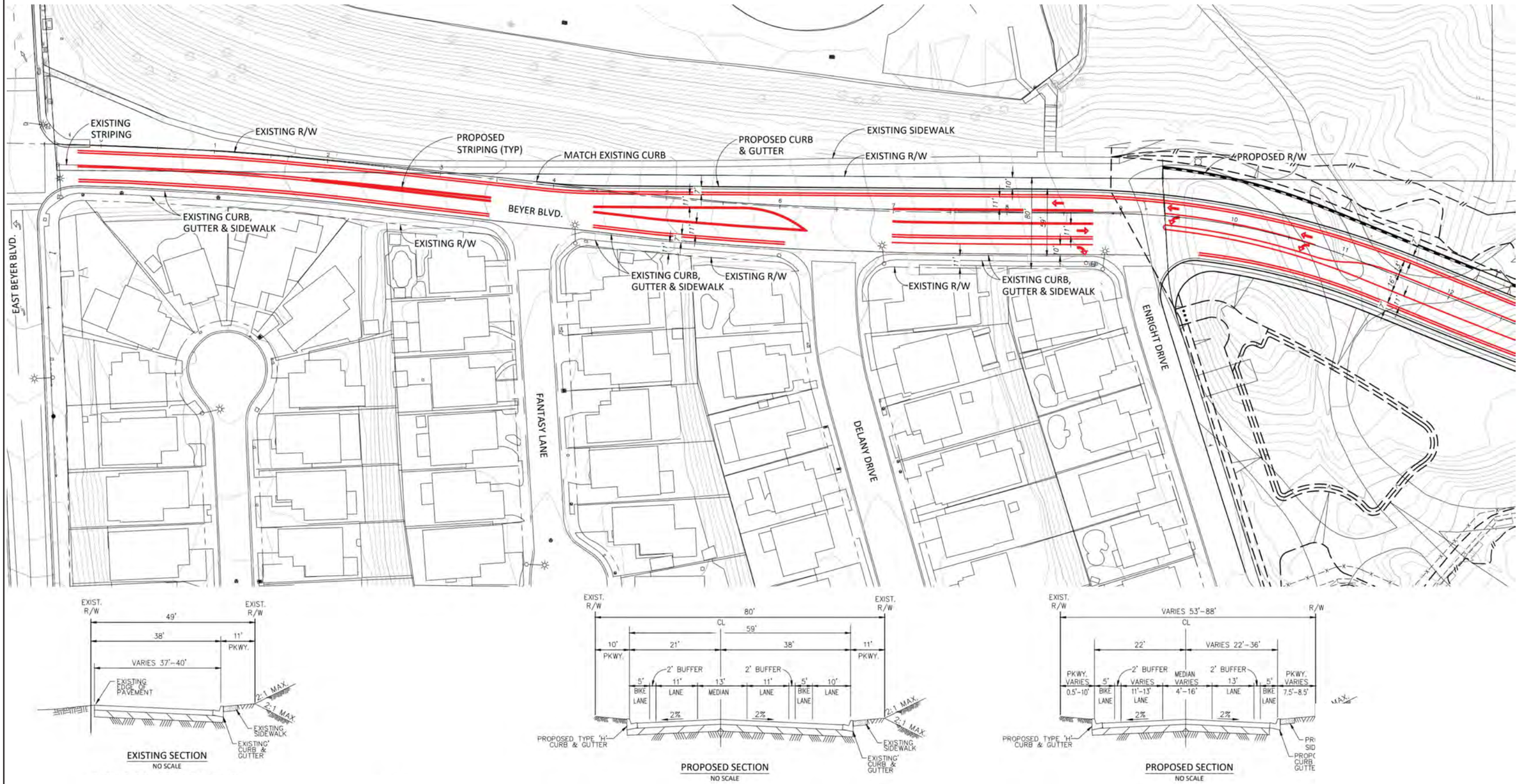

FIGURE 7.3
Beyer Boulevard between Enright Drive and East Beyer Boulevard - Interim Condition

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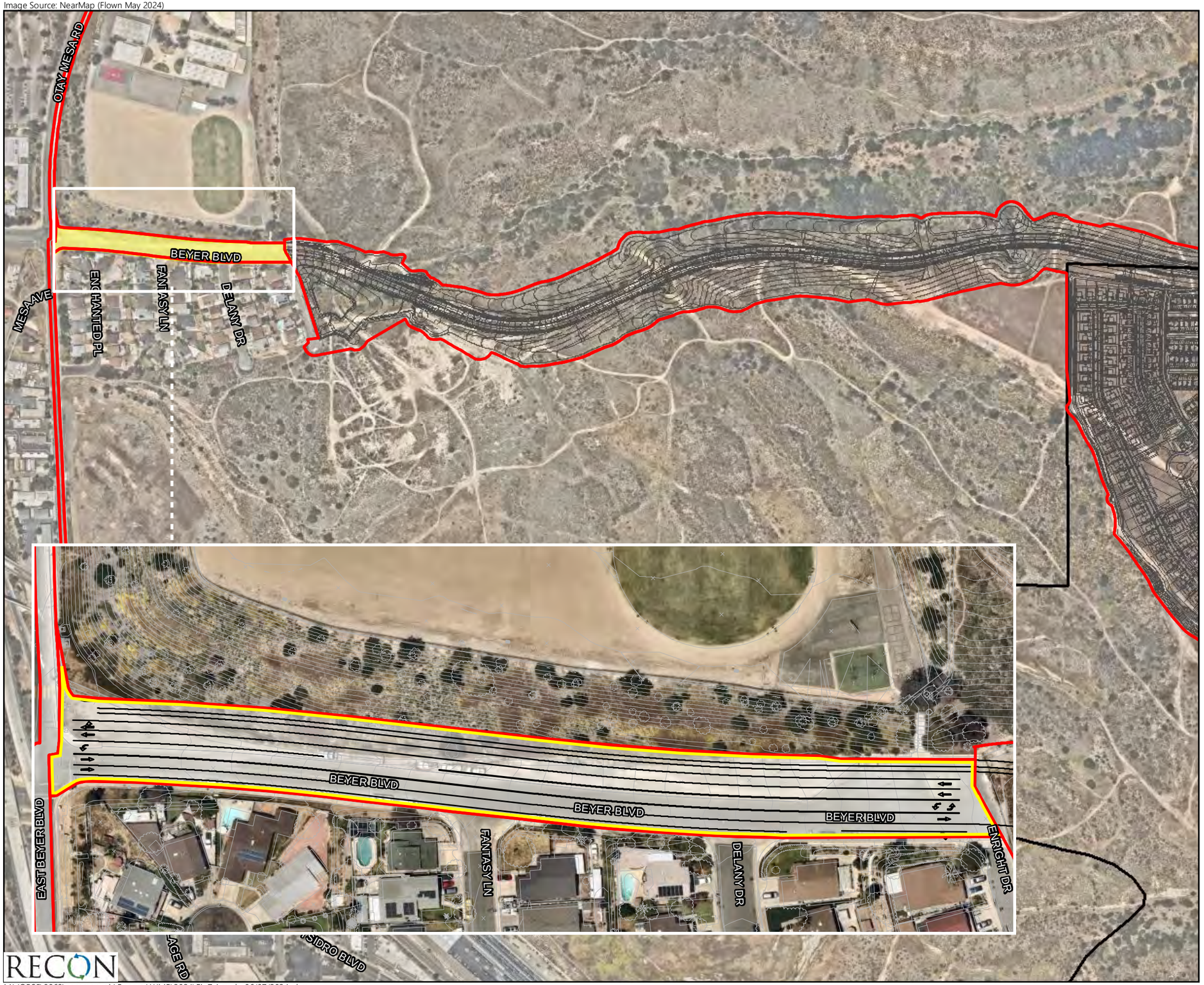
Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Beyer Boulevard Widening
Specific Plan Boundary
Site Plan

0 Feet 400

FIGURE 7.4
Beyer Boulevard Widening between Enright Drive and East Beyer Boulevard - Ultimate Condition

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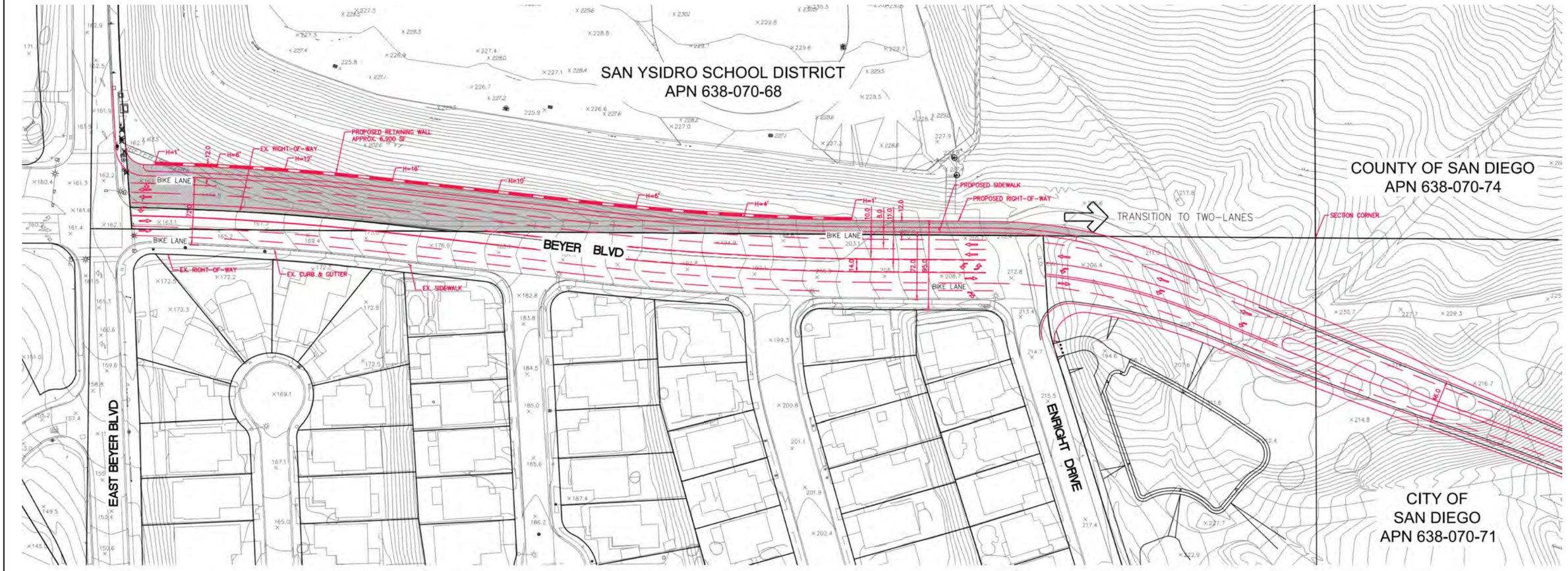
Map Source: Civil Sense



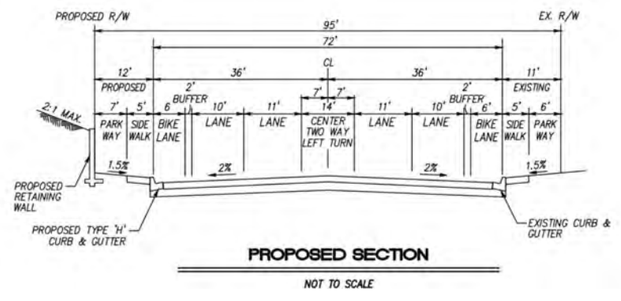


FIGURE 7.5
Beyer Boulevard between Enright Drive and East Beyer Boulevard - Ultimate Four Lane Option

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c. Beyer Boulevard between Otay Mesa Road and Enright Drive (San Ysidro)

As detailed in Figure 7.3, the current Beyer Boulevard in San Ysidro between Otay Mesa Road and Enright Drive is proposed to be improved with revised striping within the existing right-of-way limits during Grading Phase 1b. This is an interim improvement that would ensure adequate roadway functioning until the final roadway improvement is implemented as part of Phase 4 of the Specific Plan.

The limits of disturbance for this segment assume a wider area in anticipation of the requirement to widen this segment to four lanes to its ultimate improvement width which would require acquisition of right-of-way from the San Ysidro School District. The ultimate Beyer Boulevard improvement between Enright Drive and Otay Mesa Road is depicted on Figure 7.4. The required timing for this improvement corresponds to the implementation of Phase 4 of the Specific Plan prior to issuance of occupancy permits for the 3,301st dwelling unit (after construction of an elementary school and a 17.6-acre public park), although it may be implemented sooner.

As detailed in Figure 7.5, the ultimate widening of Beyer Boulevard between Enright Drive and Otay Mesa Road would include construction of an approximately 6,900-linear-foot retaining wall ranging in height from 1 to 16 feet at its highest point located along the northern side of the road adjacent to the San Ysidro School District property.

3.2.1.3 West Avenue and Street A

Internal to the Specific Plan, Phase 1b would also include construction of West Avenue and Street A to provide access to residential development areas.

3.2.1.4 SR-905 and Caliente Avenue Improvements

The project proposes improvements to the SR-905 and Caliente Avenue interchange. The improvements detailed below shall be completed and operational prior to occupancy of the 201st dwelling unit.

a. State Route 905 and Caliente Avenue Westbound On-Ramp

Widening of approximately 775 linear feet of the westbound SR-905 on-ramp at Caliente Avenue is required to ensure adequate roadway operations with implementation of Phase 1 of the project. This improvement involves adding a lane within the existing California Department of Transportation right-of-way (Figure 8.1).

b. Restriping and Signal Modifications within the Caliente Avenue Bridge over SR-905

Intersection reconfiguration of Caliente Avenue/SR-905 westbound ramps are proposed to install a second northbound left turn lane (through re-striping on the bridge over SR-905), construct a second receiving lane to the on-ramp, and restripe the number one left-turn lane from 100 feet of storage to

300 feet of storage (Figure 8.2). Traffic signal modifications, designed to the satisfaction of the City Engineer and Caltrans Engineer, may also be required.

3.2.1.5 Southern Emergency Access Road

The project is subject to the City's Fire Protection and Prevention regulations (San Diego Municipal Code Section 511.0104), which adopted the 2022 California Fire Code, Appendix D, Section D106.2, "Multiple-Family Residential Developments with Significant Fire Risk," which states that multi-family residential projects having more than 200 dwelling units shall be provided with two separate and approved fire apparatus access roads regardless of whether they are equipped with an approved automatic sprinkler system. Accordingly, the project requires a secondary access route prior to occupancy of the 200th unit. The secondary emergency access is proposed to be provided through either the construction of Beyer Boulevard or through improving an existing utility road south of the Specific Plan area to an EVA road that meets secondary emergency access requirements (Figure 8.3). The Beyer Boulevard connection is required to be operational prior to occupancy of the 700th unit for transportation and circulation purposes.

3.2.2 Water and Sewer Improvements

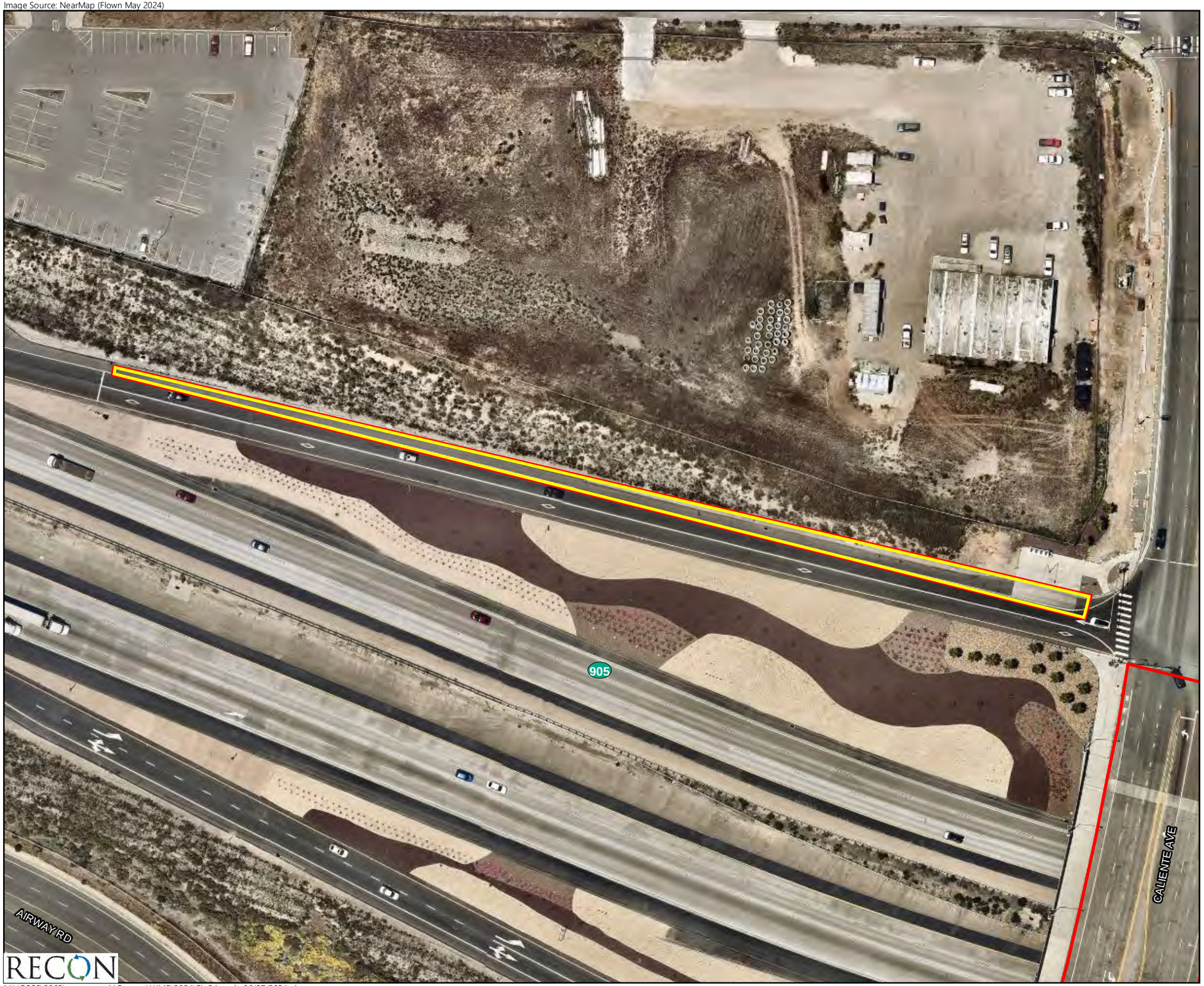
As shown in Figure 6, a temporary sewer pump station would be installed to serve the first 200 residential units. Additionally, as shown in Figure 6, a second temporary sewer pump station would be installed to serve Phase 1b. Water and sewer lines would ultimately be constructed within Beyer Boulevard concurrent with the construction of the Beyer Boulevard extension. After construction of Beyer Boulevard and installation of off-site water and sewer line connections (shown in Figure 9), the temporary pump station would be removed, and residential units would be connected to the permanent water and sewer facilities.

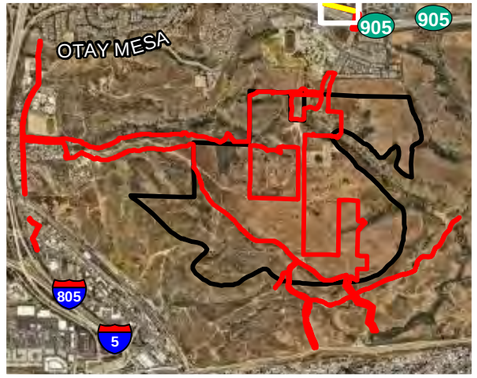
Water and sewer infrastructure would include the construction of approximately 5,176 linear feet of sewer pipelines and 4,987 linear feet of water pipelines. A 16-inch water line connection would extend west within existing Beyer Boulevard in San Ysidro and north within Otay Mesa Road and Otay Mesa Place connecting to the Princess Park Pump Station located at 1740 Masterson Lane (see Figure 9). Sewer line improvements would require construction of a pipeline within East Beyer Boulevard and Center Street connecting to existing sewer lines. Construction of water and sewer lines would require installation using a backhoe straddling the new pipeline installation trench, requiring a disturbance width of 20 feet along pipeline installation locations.

3.3 Grading

The project-level grading component includes grading within Phase 1 areas including (Planning Areas 8 through 14), the Beyer Boulevard extension, the EVA road, and off-site improvement areas. Rough grading areas include Phase 2 (Planning Areas 15 to 20) and Phase 4 (a portion of Planning Area 1 and Planning Area 7). Grading volumes include 1,936,352 cubic yards of cut and 1,850,224 cubic yards of fill, with anticipated export volumes of approximately 86,128 cubic yards, which would be placed within rough grading areas located within Planning Areas 15 through 18 or used grading balancing for the EVA road and Phase 4 areas. Grading phasing is depicted on Figure 10.

Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Road Widening
Specific Plan Boundary

0 Feet 75

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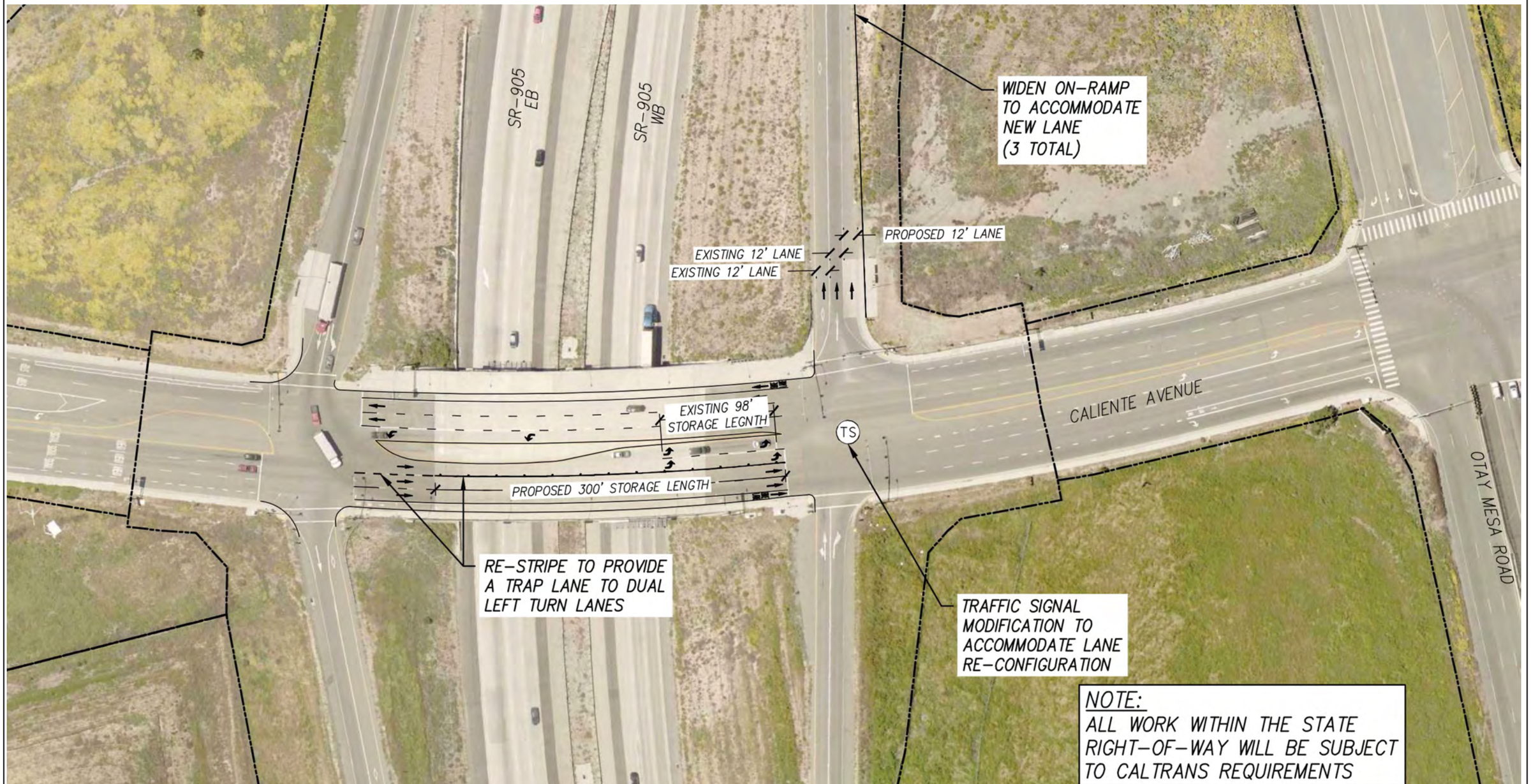
FIGURE 8.1
State Route 905 & Caliente Avenue
Westbound On-Ramp

Map Source: Civil Sense, Inc.



RECON
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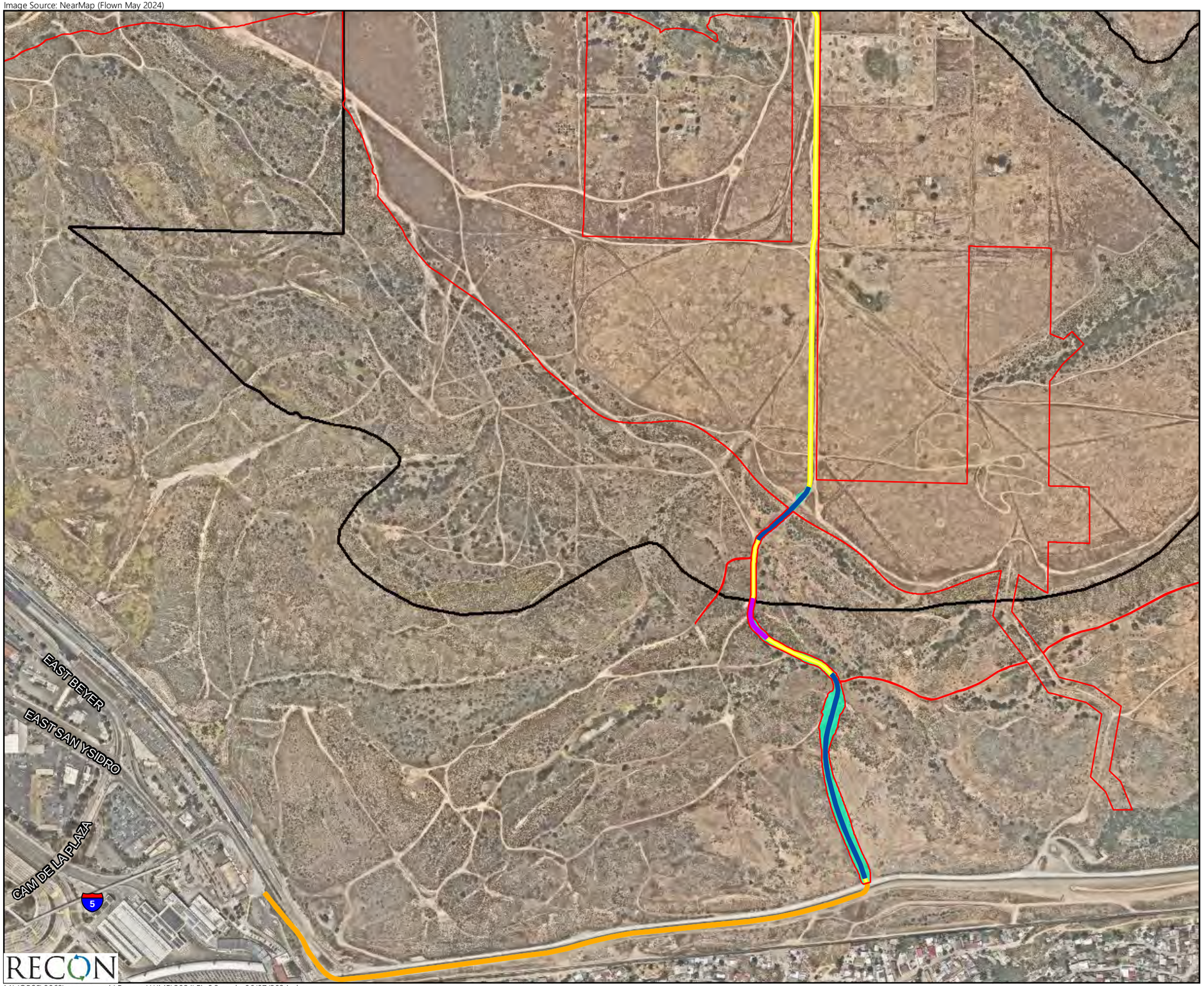
FIGURE 8.2
Caliente Avenue SR-905 Bridge Restriping and Signal Improvements

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area

Specific Plan Boundary

20-foot Wide Emergency Vehicle Access (EVA)*

Asphalt Paving Required

Concrete Paving Required (15% Grade)

Decomposed Granite/Gravel Surfacing

Existing Access Road

Grading

*Narrows to 14 feet to avoid grading into sensitive resources

Note: The ultimate location of the emergency access route on the top of the mesa is conceptual and may shift within the project-level grading footprint based on need.

0 Feet 550

RECON

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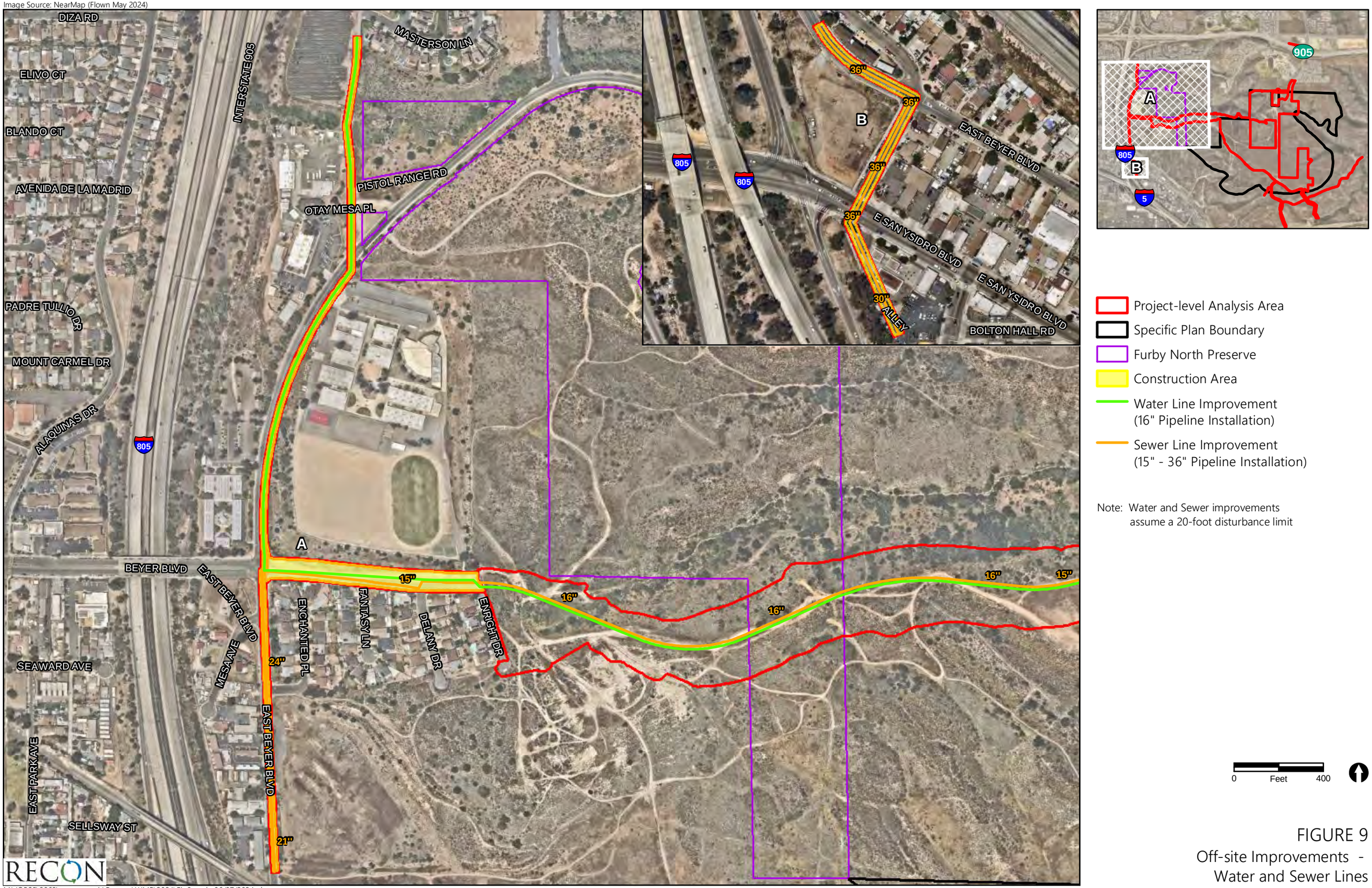
FIGURE 8.3
Emergency Vehicle Access Road

Image Source: NearMap (Flown May 2024)



- Project-level Analysis Area
- Specific Plan Boundary
- Furby North Preserve
- Construction Area
- Water Line Improvement (16" Pipeline Installation)
- Sewer Line Improvement (15" - 36" Pipeline Installation)

Note: Water and Sewer improvements assume a 20-foot disturbance limit

0 Feet 400

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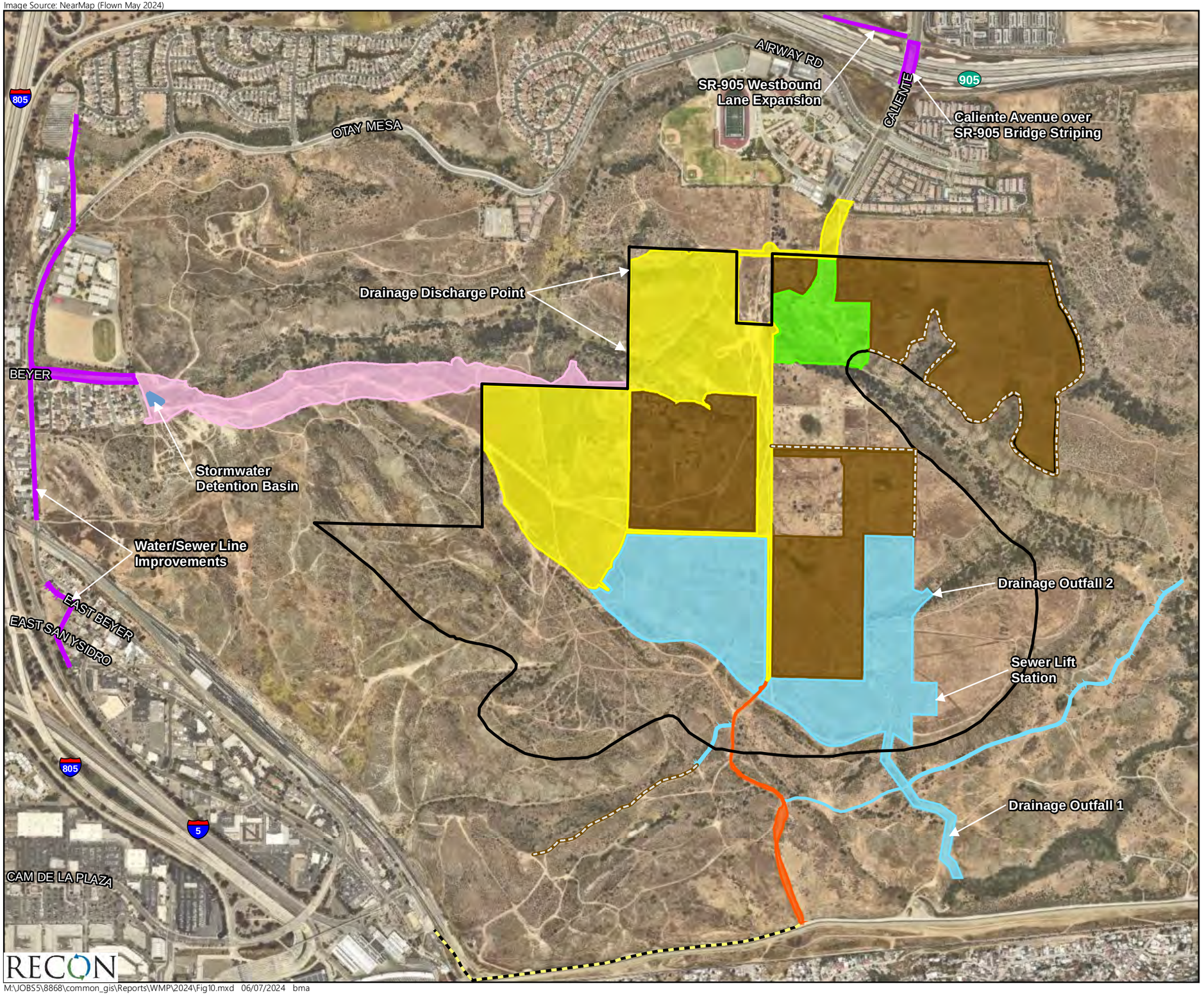
FIGURE 9
Off-site Improvements - Water and Sewer Lines

Image Source: NearMap (Flown May 2024)



- Specific Plan Boundary
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Emergency Vehicle Access Road - No Improvements Required (Existing Road)
- Program-level Analysis Phases 3-7
- Program-level Conceptual Trails*

* Program-level Conceptual trails require further evaluation and study to identify final alignments. The identification of conceptual trail alignments graphic does authorize public use of trails.

0 Feet 900

FIGURE 10
Grading Phasing

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Grading volumes for Phase 4 are included in the overall grading volumes discussed above, but individually include 22,500 cubic yards of cut and 342,500 cubic yards of fill originating from other portions of the project site. Grading volumes for the EVA road are similarly included in the overall grading volumes discussed above, but individually include 6,780 cubic yards of cut and 8,220 cubic yards of fill, with anticipated import volumes of 1,440 cubic yards coming from other portions of the project site.

As shown on Figure 10, grading would be implemented in phases, with Phase 1 including grading to allow the development of up to 920 residential units, Phase 2 including the rough grading areas, the EVA road phase including grading within the EVA road area, the Beyer Boulevard phase includes grading for the Beyer Boulevard extension and off-site improvements are identified as their own phase.

3.4 Trail Improvements

Consistent with the OMCP Recreation Element Policy 7.2-5, the final trail alignments within the Specific Plan area were to be finalized and analyzed with future Specific Plans and project-specific proposals. Due to the Specific Plan connection to the surrounding OMCP conceptual trail network, the overall trail network surrounding the Specific Plan area was evaluated as part of the project. The proposed trail networks evaluated and implemented as part of the project level components include those portions of the perimeter trail located adjacent to Planning Areas 9, 10, 12 and 14, in addition to the major east west primitive trail located south/southeast of the Specific Plan area (Figure 11 for the proposed trail network and Figure 10 for those portions of the primitive trail within the surrounding open space that would be implemented as a project-level component. The remainder of the project-level perimeter trail would be implemented as future subdivision maps are proposed, corresponding with Phases 2.

An existing utility trail would be maintained to provide a connection to the southern border wall road. From the utility trail, access would be provided to two primitive trails including one out and back trail segment west of the utility road and another east west primitive trail to the east (Figure 11). The eastern primitive trail may ultimately provide connections to future primitive trails associated with the OMCP trail network; however, at this time, specific alignments are not known.

Approximately 0.96 mile of primitive trails (4 feet wide) are proposed to be improved both within the Specific Plan and south of the Specific Plan boundary. Trail improvements would include trail stabilization, erosion control, and closure of unauthorized trail routes in proximity to proposed formal trail alignments. Primitive trails would be a natural soil/dirt surface and would be for passive recreation only.

Image Source: NearMap (Flown May 2024)

Specific Plan Boundary

City of SD MHPA

Proposed Trails

Public Sidewalk

Perimeter Trail (Borders Development)

Trail Within Existing Disturbance

Program-level Trail (within Existing Disturbance)

Emergency Vehicle Access Road/
Connection to Primitive Trail Network

0 Feet 850

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FIGURE 11
Trail Network

In order to close unauthorized trails, restoration of disturbed land and non-native grassland areas within a 100-foot-wide trail corridor (50 feet on each side of the trail) is proposed. Habitat enhancement would be implemented in disturbed lands and non-native grasslands. At trailheads leading into the primitive trail network surrounding the open space, trash cans would be provided and signage would be installed to notify trail users to remain on designated trails. Within the primitive trail network, the trail would be a natural dirt surface. Where needed to protect sensitive resources such as aquatic resources or sensitive plant species, peeler pole fencing would be installed to ensure trail users do not disturb these features.

3.5 Landscaping and Restoration

A landscape plan has been prepared covering Planning Areas 8 through 14 in addition to the Beyer Boulevard extension. After manufactured slopes are created, landscaping would be installed. Manufactured slopes near or within open space areas would be revegetated with native species. A drainage outfall proposed to be installed in the open space southeast of the Specific Plan would also be subject to revegetation after pipe installation.

In addition to typical slope revegetation efforts, the project includes a number of habitat restoration efforts including restoration of disturbed lands within a 100-foot corridor of the primitive trail alignments, in addition to implementation of restoration activities to create Otay tarplant and native grassland habitat within existing non-native grassland, creation of coastal cactus wren habitat within disturbed lands, creation of a vernal pool and Quino checkerspot butterfly habitat restoration area, in addition to wetland restoration located within Spring Canyon (southeast of the Specific Plan area). These restoration, habitat creation, and revegetation efforts would involve some limited grading and contouring activities, non-native species removal, salvage and translocation of sensitive species, and planting of native species to create native habitats. Habitat management and maintenance efforts would be implemented over a specified period to control non-natives and ensure success criteria for each of the restoration efforts.

4.0 Regulatory Framework

4.1 State Regulations

The California State Legislature has enacted several bills intended to promote waste diversion. In 1989, Assembly Bill (AB) 939, the Integrated Waste Management Act—as modified in 2010 by Senate Bill (SB) 1016—mandated that all local governments reduce disposal waste in landfills from generators within their borders by 50 percent by the year 2000 (State of California 1989 and 2010).

AB 341, approved October 2011, sets a policy goal of 75 percent waste diversion by the year 2020 (State of California 2011). This bill also created a mandatory commercial recycling requirement that would hold local jurisdictions responsible for implementing and complying with the 75 percent diversion rate through outreach and monitoring programs. SB 1383, approved in September 2016, established targets to reduce the amount of organic waste that is landfilled from the 2014 level by 50 percent by 2020, and by 75 percent by 2025. The law grants California's Department of Resources

Recycling and Recovery (CalRecycle) the regulatory authority required to achieve the organic waste disposal reduction targets. SB 1383 granted CalRecycle the regulatory authority to achieve these organic waste disposal reduction targets, and it has been working to develop regulations necessary to implement the new law (CalRecycle 2020a).

4.2 Short-Lived Climate Pollutants: Organic Waste Methane Emissions Reductions (SB 1383)

In September 2016, Governor Brown signed into law SB 1383 (Lara, Chapter 395, Statutes of 2016), establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants in various sectors of California's economy. The new law codified the California Air Resources Board's Short-Lived Climate Pollutant Reduction Strategy, established pursuant to SB 605 (Lara, Chapter 523, Statutes of 2014), to achieve reductions in the statewide emissions of short-lived climate pollutants. The law states that actions to reduce short-lived climate pollutants are essential to address the many impacts of climate change on human health, especially in California's most at-risk communities, and on the environment.

As it pertains to CalRecycle, SB 1383 established targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025.

4.3 City of San Diego Requirements

All landfills within the San Diego region are approaching capacity and are due to close within the next 3 to 20 years. In compliance with the state requirements, the City Environmental Services Department (ESD) developed the Source Reduction and Recycling Element, which describes local waste management policies and programs. The City's Recycling Ordinance, adopted November 2007, requires on-site recyclable collection for residential and commercial uses (City of San Diego 2007a). The ordinance requires recycling of plastic and glass bottles and jars, paper, newspaper, metal containers, and cardboard. The focus of the ordinance is on education, with responsibility shared between the ESD, haulers, and building owners and managers. On-site technical assistance, educational materials, templates, and service provider lists are provided by the ESD. Property owners and managers provide on-site recycling services and educational materials annually and to new tenants. Strategies for compliance are discussed in Section 6.2, Waste Reduction Measures.

The City's Refuse and Recyclable Materials Storage Regulations, adopted December 2007, indicate the minimum exterior refuse and recyclable material storage areas required at residential and commercial properties (City of San Diego 2007b). These are intended to provide permanent, adequate, and convenient space for the storage and collection of refuse and recyclable materials; encourage recycling of solid waste to reduce the amount of waste material entering landfills; and meet the recycling goals established by the City Council and mandated by the State of California. These regulations are discussed further in Section 6.3, Exterior Storage.

In July 2008, the Construction and Demolition (C&D) Debris Deposit Ordinance was adopted by the City (City of San Diego 2008). The ordinance requires that the majority of construction, demolition, and remodeling projects requiring building, combination, or demolition permits pay a refundable C&D Debris Recycling Deposit and divert at least 50 percent of their waste by recycling, reusing, or donating reusable materials. The required diversion rate is currently proposed for an increase to 65 percent. The ordinance is designed to keep C&D materials out of local landfills. Requirements are discussed further in Section 5.4.1, Contractor Education and Responsibilities.

In December 2013, the City Council adopted the Zero Waste Plan, implementing the 75 percent diversion of waste target goal from landfills by the year 2020 and zero waste by 2040. An additional City target of 90 percent diversion by 2035 is proposed in the City's Zero Waste Plan, which is a component of the City's Climate Action Plan.

In order to implement SB 1383, which requires the reduction of organic waste disposed of in landfills, starting in 2022, the City and City-certified private waste haulers are in the planning process to expand organic waste collection services for residents and businesses. Food and yard waste collected will be recycled using the following:

- Composting facilities that make soil amendments, materials that are added to soil to change and improve it.

- Anaerobic digestion facilities, technology and microorganisms break down organic waste in closed spaces where there is no oxygen and create renewable natural gas.

Implementation of these changes will require extensive City procedural changes and coordination amongst different stakeholders. The City is in the process of developing collection operations, adopting purchasing policies, amending the City's Municipal Recycling Code, enacting building requirements, preparing enforcement responsibilities and strategizing public education and outreach efforts. As a result of this enormous planning effort, changes to yard waste collection for City-serviced residences will not begin until the summer of 2022 (City of San Diego 2021a).

Additional local regulation pertaining to solid waste management includes the City of San Diego's Municipal Code Ch. 14 Art. 2 Div. 8: §142.0810, §142.0820, Ch. 6 Art. 6 Div. 7; §66.0706, §66.0709, §66.0710; and Ch. 6 Art. 6 Div. 6; §66.0711, §66.0604, §66.0606. These statutes designate refuse and recycling space allocation requirements for the following:

- On-site refuse and recyclable material storage requirements;

- Diversion of construction and demolition debris regulations; and

- Diversion of recyclable materials generated from residential facilities, businesses, commercial/institutional facilities, apartments, condominiums, and special events requiring a City permit.

The City has established a threshold of 40,000 square feet of development as generating sufficient waste (60 tons) to have a potentially cumulatively significant impact on solid waste services.

The City created the "Whitebook" Standard Specifications for Public Works Construction (City of San Diego 2021b) as a supplement that takes precedence over the specification language contained in the 2021 Greenbook: Standard Specifications for Public Works Construction. The Whitebook addresses the unique conditions in the city that are not addressed in the 2021 Greenbook. Specifically, Part 1 – General Provisions (A), Section 5-14 of the Whitebook addresses construction and demolition waste management.

5.0 Demolition, Grading, and Construction Waste Generation and Diversion

This section discusses the waste generation and diversion rates from the demolition, grading, and construction phases of the project.

5.1 Demolition

As discussed in Section 2.0, Existing Conditions, the project site is currently undeveloped (see Figure 2). Therefore, no demolition would be required, and no demolition waste would be generated.

5.2 Grading

As described in Section 3.3, the project-level grading component includes grading within Phase 1 areas including (Planning Areas 8 through 14), the Beyer Boulevard extension, the EVA road, and off-site improvement areas. Rough grading areas include Phase 2 (Planning Areas 15 to 20) and Phase 4 (a portion of Planning Area 1 and Planning Area 7). Grading volumes include 1,936,352 cubic yards of cut and 1,850,224 cubic yards of fill, with anticipated export volumes of approximately 86,128 cubic yards, which would be placed within rough grading areas located within Planning Areas 15 through 18 or used grading balancing for the EVA road and Phase 4 areas. Vegetation removal required prior to grading and associated with restoration activities would be recycled at an organic waste facility.

Based on the ESD C&D Debris Conversion Rate Table, graded soil weighs approximately 1.3 tons per cubic yard (Attachment 1). Therefore, project grading would result in a net export of 111,966.4 tons, as shown in the calculation below.

Export Soil:

$$86{,}128 \text{ cubic yards} \times 1.3 \frac{tons}{unit} = 111{,}966.4 \text{ tons}$$

All exported soil would be recycled using the City's Clean Fill Dirt Program or an approved Clean Fill Dirt handler listed on the City's Certified C&D Recycling Facilities Directory (Attachment 2).

Project grading would generate green waste that would be source separated and recycled at the Otay Landfill facility for 100 percent diversion. Goals for this phase would be communicated to grading contractors through contract documents, the California Environmental Quality Act

document, project conditions of approval that require implementation of WMP measures, and the Solid Waste Management Coordinator (SWMC) for the project.

5.3 Construction

As described in Section 3.0, Proposed Conditions, the project would construct up to 920 residential units consisting of 142 multi-family detached units (under 20 dwelling units per acre) that are conservatively calculated as single-family units for purpose of this analysis, 498 multi-family attached units (under 20 dwelling units per acre), and 280 multi-family units (over 20 dwelling units per acre). As presented in Table 1 above, the proposed 920 multi-family residential units would consist of a total of 1,465,887 square feet of residential development. Construction of sidewalks, new surface parking /driveway areas, extension of Beyer Boulevard, and widening of the westbound SR-905 On-Ramp at Caliente Avenue are not anticipated to generate additional waste during the construction phase. Asphalt removal required for the extension of the proposed off-site water and sewer lines is anticipated and included in the calculations below. Therefore, the assessment of construction waste is based on the square footage of residential units and the temporary pump stations proposed within the project site and asphalt removed during installation of off-site water and sewer lines.

The U.S. Environmental Protection Agency (U.S. EPA) estimates that construction of residential units generates an average of 4.39 pounds of construction waste per square foot of construction (U.S. EPA 2009). This estimate is applicable to construction of both single-family and multi-family residential units. Based on this generation rate, construction of project residential units is estimated to generate a total of 3,217.6 tons of waste (see calculation and Table 2 below).

Residential:

$$1{,}465{,}887 \text{ square feet} \times \frac{4.39\ pounds}{square\ foot} \times \frac{1\ ton}{2{,}000\ pounds} = 3{,}217.6 \text{ tons}$$

Additionally, development of Phase 1 would require construction of two approximately 1,000-square-foot temporary pump station to serve the residential until permanent sewer and water lines are constructed (i.e., 2,000 square feet total non-residential). The U.S. EPA (2009) provides an average generation rate of 4.34 pounds of construction waste per square foot for non-residential types of uses. Based on this generation rate, construction of the temporary pumps station are estimated to generate a total of 4.34 tons of waste (see calculation and Table 2 below).

Non-Residential (Temporary Pump Station):

$$2{,}000 \text{ square feet} \times \frac{4.34\ pounds}{square\ foot} \times \frac{1\ ton}{2{,}000\ pounds} = 4.34 \text{ tons}$$

The project would also require export of approximately 128 cubic yards of asphalt that would be removed during installation of off-site water and sewer lines. The ESD C&D Debris Conversion Rate Table estimates that asphalt weighs approximately 0.7 ton per cubic yard (Attachment 1). Based on this generation rate, installation of off-site water and sewer lines would generate a total of 89.6 tons of waste (see calculation and Table 2 below).

Asphalt Removal:

$$128 \text{ cubic yards} \times 0.7 \frac{tons}{unit} = 89.6 \text{ tons}$$

Installation of off-site water and sewer lines would generate green waste that would be source separated and recycled at the Otay Landfill facility for 100 percent diversion. Goals for this phase would be communicated to grading contractors through contract documents, the California Environmental Quality Act document, project conditions of approval that require implementation of WMP measures, and the SWMC for the project.

Table 2
Residential Construction Waste

Land Use Type	Amount (Square Feet)	Generation Rate (pounds per square foot)	Tons Generated
Residential	1,465,887 square feet	4.39 pounds per square foot	3,217.6
Non-Residential (Temporary Pump Station)	2,000 square feet	4.34 pounds per square foot	4.34
Asphalt Removal	128 cubic yards	0.7 tons per cubic yard	89.6
Total			**3,311.54**

5.4 Waste Diversion

Implementing the City's 75 percent diversion of waste target goal adopted under the Zero Waste Objective requires a majority of waste to be handled at facilities other than landfills. There are two types of waste diversion: "mixed-debris diversion" and "source-separated diversion." Mixed-debris diversion is a method in which all material waste is disposed of in a single container for transport to a mixed C&D recycling facility. Under source-separated diversion, materials are separated on-site before transport to appropriate facilities that accept specific material types. Generally, a greater diversion rate is achieved under source-separated diversion, as facilities that accept mixed debris typically achieve 50 to 70 percent diversion, whereas single materials recyclers often achieve a nearly 100 percent diversion rate (City of San Diego 2013).

The project would implement source-separated diversion, and recyclable waste materials would be separated on-site into material-specific containers and diverted to an approved recycler selected from the City's ESD directory of facilities that recycle specific waste materials from construction and demolition (see Attachment 2). These facilities achieve a 100 percent diversion rate for most materials.

Table 3 provides a breakdown of the 3,311.54 tons by anticipated types of material and provides the most likely handling facility and diversion method. As shown in Table 3, use of the source-separation method for most of the materials types (where feasible) would result in the total diversion of approximately 2,846.9 tons, with approximately 463.6 tons being disposed in the landfill.

With implementation of the diversion-estimated calculations outlined in Table 3, it is estimated that 86.0 percent of the waste generated during the construction phase of the project would be diverted

to appropriate facilities for reuse. Thereafter, 463.6 tons, equivalent to 14.0 percent of the total construction waste, would require disposal in the landfill.

Table 3
Construction Waste Diversion and Disposal by Material Type

Material Type	Estimated Percent of Total	Estimated Waste (tons)[1]	Percent Diverted [2]	Nearest Handling Facility[1]	Estimated Diversion (tons)	Estimated Disposal (tons)
Asphalt and Concrete	16.1%	533.2	100%	Vulcan Otay Asphalt Recycling Center	533.2	0.0
Metals	22.9%	758.3	100%	Cactus Recycling	758.3	0.0
Brick/Masonry/Tile	6.8%	225.8	100%	Vulcan Carol Canyon Landfill and Recycle Site	225.8	0.0
Clean Wood/Wood Pallets	3.8%	125.4	100%	Otay Landfill	125.4	0.0
Carpet, Padding/Foam	8.1%	267.6	100%	DFS Flooring	267.6	0.0
Drywall	22.2%	735.9	100%	EDCO Recovery & Transfer	735.9	0.0
Corrugated Cardboard	6.1%	200.7	100%	Cactus Recycling	200.7	0.0
Trash/Garbage	14.0%	463.6	0%	Otay Landfill	0.0	463.6
TOTAL	**100.0%**	**3,311.54**			**2,846.9 86.0%**	**463.6 14%**

NOTE: Totals may vary due to independent rounding.
[1]City of San Diego ESD 2022 Certified C&D Recycling Facility Directory (see Attachment 2).

5.4.1 Contractor Education and Responsibilities

In order to ensure that the anticipated diversion of waste would occur during project construction, the project would include the designation of a SWMC for the duration of project construction. The SWMC would ensure that all contractors and subcontractors are educated and trained to follow City waste diversion regulations and that procedures for waste reduction and recycling efforts are implemented. Specific responsibilities of the SWMC would include the following:

- Review of the WMP at the preconstruction meeting, including the SWMC responsibilities.
- Distribute the WMP to all contractors when they first begin work on-site and when training workers, subcontractors, and suppliers on proper waste management procedures applicable to the project.
- Work with the contractors to estimate the quantities of each type of material that would be salvaged, recycled, or disposed of as waste, then assist in documentation.
- Use detailed material estimates to reduce risk of unplanned and potentially wasteful material cuts.
- Review and enforce procedures for source-separated receptacles. Containers of various sizes shall:
    - Be placed in readily accessible areas that will minimize misuse or contamination.

- Be clearly labeled with a list of acceptable and unacceptable materials, the same as the materials recycled at the receiving material recovery facility or recycling processor.
- Contain no more than 10 percent non-recyclable materials, by volume.
- Be inspected daily to remove contaminants and evaluate discarded material for reuse on-site.

- Review and enforce procedures for transportation of materials to appropriate recipients selected from ESD's directory of facilities that recycle C&D materials (see Attachment 2 for ESD's facility directory).
- Ensure removal of C&D waste materials from the project site at least once every week to ensure no over-topping of containers. The accumulation and burning of on-site construction, demolition, and land-clearing waste materials will be prohibited.
- Document the return or reuse of excess materials and packaging to enhance the diversion rate.
- Coordinate implementation of a "buy recycled" program for green construction products, including incorporating mulch and compost into the landscaping.
- Coordinate implementation of solid waste mitigation with other requirements such as storm water requirements, which may include specifications such as the placement of bins to minimize the possibility of runoff contamination.

The SWMC would ensure that the project meets the following state law and City Municipal Code requirements. Adjustments would be made as needed to maintain conformance:

- The City's C&D Debris Diversion Deposit Program, which requires a refundable deposit based on the tonnage of the expected recyclable waste materials as part of the building permit requirements (City of San Diego 2008).
- The City's Recycling Ordinance, which requires that collection of recyclable materials is provided (City of San Diego 2007a).
- The City's Storage Ordinance, which requires that areas for recyclable material collection must be provided (City of San Diego 2007b).
- The name and contact information of the waste contractor provided to ESD at least 10 days prior to the start of any work and updated within 5 days of any changes.

5.4.2 Total Diversion

With the oversight of the SWMC, the project would meet City waste diversion goals. Table 4 summarizes the amount of waste estimated to be generated and diverted by each phase of the project. Of the 115,277.94 tons estimated to be generated, 114,813.3 tons would be diverted, primarily through use the City's Clean Fill Dirt Program or an approved Clean Fill Dirt handler and source separation. This would result in the diversion and reuse of 99.6 percent of the waste material

generated from the project from the landfill, which would meet the City's current 75 percent waste diversion goal.

Table 4
Total Waste Generated, Diverted, and Disposed of by Phase

Phase	Tons Generated	Tons Diverted	Tons Disposed
Demolition	0.0	0.0	0.0
Grading	111,966.4	111,966.4	0.0
Construction	3,311.54	2,846.9	463.6
TOTAL	**115,277.94**	**114,813.3** **99.6%**	**463.6** **0.4%**
NOTE: Totals may vary due to independent rounding.			

6.0 Occupancy–Operational Waste

6.1 Waste Generation

The annual waste estimated to be generated during occupancy of the project was calculated using the City ESD Waste Generation Factors for single-family and multi-family residential (see Attachment 2). The estimated solid waste generation rate for single-family residential is 1.6 tons per year per unit, and the estimated solid waste generation rate for multi-family residential is 1.2 tons/year/unit. The estimated annual amount in tons is calculated below.

Single-Family Residential:

$$142 \text{ dwelling units} \times \frac{1.6\ tons}{year} = 227.2 \text{ tons/year}$$

Multi-Family Residential:

$$778 \text{ dwelling units} \times \frac{1.2\ tons}{year} = 933.6 \text{ tons/year}$$

Table 5 shows that project would generate approximately 1,160.8 tons of waste per year. As discussed in the following section, Waste Reduction Measures, an ongoing plan to manage waste disposal in order to meet state and City waste reduction goals would be implemented by the applicant (or applicant's successor in interest).

Table 5
Occupancy Phase Annual Waste Generation

Land Use	Dwelling Units	Generation Rate	Waste Generated (tons)	Percent Diverted	Tons Diverted	Tons Disposed
Single-Family Units	142	1.6 tons per year	227.2	50%	113.6	113.6
Multi-Family Units	778	1.2 tons per year	933.6	50%	466.8	466.8
TOTAL			**1,160.8**		**580.4**	**580.4**
SOURCE: Attachment 3.						

6.2 Waste Reduction Measures

According to the City's Guidelines for a Waste Management Plan (City of San Diego 2013), compliance with the City's Recycling Ordinances is expected to provide a minimum recycling service volume of 50 percent. Therefore, it is anticipated the project would divert approximately 580.4 tons per year during the occupancy phase. The remaining 580.4 tons per year would exceed the 60 ton-per-year threshold of significance for a cumulative impact on solid waste services in the City (City of San Diego 2022). According to the CalRecycle 2018 Facility-Based Characterization of Solid Waste in California (CalRecycle 2020b), organic material accounted for approximately 32.6 percent of the franchised single-family residential disposed waste. Therefore, of the 113.6 tons of materials remaining after the standard 50 percent diversion rate (Table 6), it is assumed that 32.6 percent of that tonnage would be organic material equal to 37.0 tons per year (see Table 6). To comply with SB 1383, the project would need to demonstrate diversion of 50 percent of organic waste prior to January 1, 2025, and 75 percent diversion thereafter. Based on implementation of new programs and mandates for recycling of food waste and the planned availability of organic material recycling services from franchised waste haulers (refer to Section 4.3 for discussion of new City programs and requirements), a 75 percent diversion of organic waste is anticipated. Only 75 percent diversion is assumed to account for individual non-compliance and assuming certain items would not be eligible for composting. With these assumptions, the project would be consistent with regulatory requirements for 75 percent organic material diversion, diverting a total of 27.8 tons of organic material (see Table 6).

Table 6
Estimate of Project Organic Waste Generation and Diversion

Tons of Solid Waste Disposed before Organics Recycling (Project)	113.6 tons
Estimated Percentage of Organic Franchised Residential Disposed Waste[1]	32.6%
Estimate of Project Organic Waste	37.0 tons
Estimate 75% diversion with Franchisee organics recycling programs implemented	27.8 tons
Estimated of Disposed Organics	9.3 tons or 75% diversion

NOTE: Totals may vary due to independent rounding.
[1]CalRecycle 2020b, Table 8.

A similar calculation was conducted for multi-family residential organic waste. According to the CalRecycle 2018 Facility-Based Characterization of Solid Waste in California (CalRecycle 2020b), organic material accounted for approximately 31.2 percent of the franchised multi-family residential disposed waste. Therefore, of the 466.8 tons of materials remaining after the standard 50 percent diversion rate (see Table 5), it is assumed that 31.2 percent of that tonnage would be organic material equal to 145.6 tons per year (Table 7). To comply with SB 1383, the project would need to demonstrate diversion of 50 percent of organic waste prior to January 1, 2025, and 75 percent diversion thereafter. Based on implementation of new programs and mandates for recycling of food waste and the planned availability of organic material recycling services from franchised waste haulers (refer to Section 4.3 for discussion of new City programs and requirements), a 75 percent diversion of organic waste is anticipated. Only 75 percent diversion is assumed to account for individual non-compliance and assuming certain items would not be eligible for composting. With

these assumptions, the project would be consistent with regulatory requirements for 75 percent organic material diversion, diverting a total of 109.2 tons of organic material (see Table 7).

Table 7 Estimate of Project Organic Waste Generation and Diversion	
Tons of Solid Waste Disposed before Organics Recycling (Project)	466.8 tons
Estimated Percentage of Organic Franchised Residential Disposed Waste[1]	31.2%
Estimate of Project Organic Waste	145.6 tons
Estimate 75% diversion with Franchisee organics recycling programs implemented	109.2 tons
Estimated of Disposed Organics	36.4 tons or 75% diversion
NOTE: Totals may vary due to independent rounding. [1]CalRecycle 2020b, Table 8.	

To mitigate for the cumulative impact on solid waste, the applicant (or applicant's successor in interest) shall be responsible for implementing a long-term WMP, as outlined below, which would ensure that the development meets or exceeds the requirements set forth in AB 939 and AB 341. This program shall include recyclable collection services required by and in accordance with the Recycling Ordinance, as well as providing exterior storage space for refuse, recyclable materials, and a means of handling landscaping and green waste materials. Specific program measures shall include the following:

(a) Residential Facilities. For single-family residential facilities that receive solid waste collection services from a Franchisee, the responsible person shall provide curbside recycling services to occupants as required by section 66.0706(c). For multi-family residential facilities that receive solid waste collection services from a Franchisee, the responsible person shall provide on-site recycling services to occupants as required by sections 66.0706(c) and 66.0706(d).

(b) Occupants of Residential Facilities. Occupants of residential facilities that receive solid waste collection services from a Franchisee shall participate in a recycling program, offered by the Franchisee or a Recyclable Materials Collector, by separating recyclable materials from other solid waste, depositing the recyclable materials in the designated recycling containers, and placing the recycling containers out for collection at the time and place designated by the Franchisee or Recyclable Materials Collector.

(c) Recycling Services. Recycling services for residential facilities shall include, at a minimum, all of the following:

(1) collection in a separate container and at least two times per month of commingled plastic and glass bottles and jars, paper, newspaper, metal containers, cardboard, and rigid plastics, including clean food containers, jugs, tubs, trays, pots, buckets, and toys;

(2) weekly collection in a separate container of yard trimmings and nonhazardous wood waste. If yard trimmings or nonhazardous wood waste will be hauled away by a gardening or landscaping service provider as an incidental part of its services at the property, then the service contract or agreement shall require the gardening or

landscaping service provider to take the yard trimmings and nonhazardous wood waste to a mulching or composting facility for recycling;

(3) weekly collection in a separate container of food material and food-soiled paper mixed with food material;

(4) alternatively, in lieu of San Diego Municipal Code sections 66.0706(c)(2) and 66.0706(c)(3), weekly collection in a separate container of food material or food-soiled paper mixed with food material that is commingled with yard trimmings or nonhazardous wood waste;

(5) collection of other recyclable materials for which markets exist, such as scrap metal, as determined by the Director, with collection of such recyclable materials required beginning on the 181st day after the City gives public notice by placing an advertisement of at least one-eighth page in a newspaper of general daily circulation in the City and posting a notice including such recyclable materials on the Department's website;

(6) utilization of recycling containers that comply with the size and color standards in the Container and Signage Guidelines established by the Manager;

(7) designated recycling collection and storage areas;

(8) signage on all recycling receptacles, containers, chutes, and/or enclosures which complies with the standards described in the Container and Signage Guidelines established by the Manager; and

(9) containers for recyclable materials in all areas where solid waste containers are located.

(d) Education. For multi-family residential facilities, and for single family residential facilities receiving recycling services through a homeowners' association, the responsible person shall ensure that persons are educated about the recycling services as follows:

(1) Information, including the types of recyclable materials accepted and not accepted, the location of recycling containers, the recycling requirements, and the person's responsibility to recycle pursuant to this Division, shall be distributed to all occupants, employees, and contractors annually;

(2) All new occupants shall be given information and instructions upon occupancy; and

(3) All occupants shall be given information and instructions upon any change in recycling service to the facility.

(e) Container Contamination. For all residential facilities, the responsible person shall prohibit placing recyclable materials in a container not designated to receive those recyclable materials and shall periodically inspect containers and inform occupants, employees, and contractors if containers are contaminated.

Implementation of these requirements would reduce the project's cumulative impacts on solid waste, per the City's California Environmental Quality Act Significance Determination Thresholds. Implementation of this WMP would ensure that the overall waste produced is reduced sufficiently to comply with waste reduction targets established in the Public Resources Code (City of San Diego 2022).

6.3 Exterior Storage

This WMP follows the City's Municipal Code on-site refuse and recyclable material storage space requirements (City of San Diego 2007b). Table 8 shows the City's exterior storage area requirements for residential developments.

Because the project would construct 920 dwelling units that would generate operational waste, the project would require a minimum of 1,776 square feet of refuse storage area, a minimum of 1,776 square feet of recyclable material storage area, and a minimum 1,776 square feet of organic waste storage area. The total exterior refuse, recyclable, and organic material storage requirement for the project's residential uses would be 5,328 square feet. The 84 affordable units that would be constructed in the 14-plex buildings would provide three separate 192-square-foot enclosures. One 192-square-foot enclosure would be for refuse storage, the second for recycling storage, and the third for organic waste storage. The remaining 836 units would meet this requirement by designing garages associated with each individual residential unit with enough space to accommodate three 12.83-square-foot (96-gallon) carts. One cart would be for refuse storage, the second for recycling storage, and the third for organic waste storage. Refuse, recyclables, and organic waste stored by each dwelling unit would be collected through curbside garbage and recycling services. Inclusion of these three carts within each residential unit would collectively provide a total of 32,177.6 square feet of refuse/recycling/organic waste material storage, which would exceed the City requirement to provide 5,328 square feet of refuse, recyclable, and organic waste material storage.

Table 8 Minimum Exterior Refuse and Recyclable Material Storage Areas for Residential Development				
Number of Units	Minimum Refuse Storage Area Per Development (square feet)	Minimum Recyclable Storage Area Per Development (square feet)	Minimum Recyclable Material Storage Area Per Development (square feet)	Total Minimum Storage Area Per Development (square feet)
1	6.25	6.25	6.25	18.75
2-6	12	12	12	36
7-15	24	24	24	72
16-25	48	48	48	144
26-50	96	96	96	288
51-75	144	144	144	432
76-100	192	192	192	576
101-125	240	240	240	720
126-150	288	288	288	864
151-175	336	336	336	1,008
176-200	384	384	384	1,152
200+	384 plus 48 square feet for every 25 dwelling units above 201	384 plus 48 square feet for every 25 dwelling units above 201	384 plus 48 square feet for every 25 units above 201	1,152 plus 144 square feet for every 25 dwelling units above 201
Project Total: 920 Units	**1,776**	**1,776**	**1,776**	**5,328**
SOURCE: City of San Diego Municipal Code, Chapter 14, Article 2, Division 8: Refuse and Recyclable Material Storage Regulations, Section 142.0820, Table 142-08B; amended January 27, 2022; effective February 26, 2022.				

6.4 Organic Waste Recycling

The project would require landscaping, landscape maintenance, and brush management. Drought-tolerant plants would be used to reduce the amount of green waste produced. Collection of organic waste and its disposal at recycling centers that accept organic waste would further reduce the waste generated by the project during occupancy. Implementation of ongoing WMP would include a means for handling landscaping and other organic waste materials, including food waste. The ongoing WMP measures discussed in Section 6.2, Waste Reduction Measures, would include a means for handling landscaping and other organic waste materials, in addition to food waste recycling (once this service is offered by franchisees). City implementation of SB 1383, including citywide collection and composting of food waste, is anticipated to ensure 75 percent organic material diversion by 2025 as detailed in Section 6.2 (City of San Diego 2021a).

7.0 Conclusion

7.1 Demolition, Grading, and Construction Waste

Diversion goals would be communicated to contractors through contract documents; the project's California Environmental Quality Act document, this WMP and corresponding project conditions; and the SWMC for the project. The project would require a net export of up to 111,966.4 tons of soil. All exported soil would be recycled using the City's Clean Fill Dirt Program or an approved Clean Fill Dirt handler listed on the City's Certified C&D Recycling Facilities Directory. All green waste would be recycled at the Otay Landfill facility for 100 percent diversion. Therefore, the project would achieve 100 percent diversion during grading. Of the 3,311.54 tons estimated to be generated during construction, 2,846.9 tons would be diverted. This would result in the diversion and reuse of 86 percent of the waste material generated during the demolition, grading, and construction phases from the landfill, which would meet the City's current 75 percent waste diversion goal.

7.2 Occupancy–Operational Waste

Because the project would develop 920 dwelling units that would generate operational waste, a minimum of 1,776 square feet of exterior refuse area, 1,776 square feet of recyclable material storage area, and a minimum 1,776 square feet of organic waste storage area would be required (total of 5,328 square feet; see Table 8). The 84 affordable units that would be constructed in the 14-plex buildings would provide three separate 192-square-foot enclosures. One 192-square-foot enclosure would be for refuse storage, the second for recycling storage, and the third for organic waste storage. The remaining 836 residential units would provide three 12.83-square-foot (96-gallon) carts within their garages. Garages are designed to accommodate these carts. One cart would be for refuse storage, the second for recycling storage, and the third for organic waste storage. Inclusion of these three carts within each residential unit would collectively provide a total of 32,177.6 square feet of refuse/recycling/organic waste material storage, which would exceed the City requirement to provide 5,328 square feet of refuse and recyclable material storage.

The applicant (or applicant's successor in interest) would implement ongoing waste reduction measures as prescribed in this WMP to ensure that the waste is minimized and the operation of the project complies with City ordinances. According to the City of San Diego Waste Management Guidelines (City of San Diego 2013), compliance with existing ordinances is expected to achieve a 50 percent diversion rate. Therefore, approximately 580.4 tons of non-recyclable waste per year would be generated by the project, exceeding the 60 ton-per-year threshold of significance for having a cumulative impact on solid waste. However, preparation of this WMP and implementation of the Waste Reduction Measures outlined in Section 6.2 above would reduce cumulative solid waste impacts to a level than significant.

8.0 Overall Compliance

Implementation of the strategies outlined in this WMP and compliance with all applicable City ordinances would reduce solid waste impacts related to collection, diversion, and disposal of waste generated from C&D, grading, and occupancy phases to a level less than significant. Implementation of a project SWMC during the construction phase would divert 86.4 percent of construction waste from landfill disposal. This would reduce the anticipated impact of waste disposal during construction to a level less than significant.

During occupancy, the applicant or applicant's successor in interest would be required to implement the ongoing WMP measures detailed herein to ensure maximum diversion from landfills. The 84 affordable units that would be constructed in the 14-plex buildings would provide three separate 192-square-foot enclosures. One 192-square-foot enclosure would be for refuse storage, the second for recycling storage, and the third for organic waste storage. The remaining 836 residential units would provide three 12.83-square-foot (96-gallon) carts within the garages of each unit for refuse storage, recycling storage, and organic waste storage, consistent with City Municipal Code requirements described herein. Compliance with existing ordinances is expected to achieve a 50 percent diversion rate. Preparation of this WMP and implementation of the Waste Reduction Measures, outlined in Section 6.2 would reduce cumulative solid waste impacts to a level less than significant.

9.0 References Cited

California, State of

1989 Assembly Bill 939. Integrated Waste Management Act.

2010 Senate Bill 1016. Solid Waste Per Capita Disposal Measurement Act.

2011 Assembly Bill 341. Jobs and Recycling.

2014 Assembly Bill 1826. Solid Waste: Organic Waste.

California Department of Resources Recycling and Recovery (CalRecycle)

2020a New Statewide Mandatory Organic Waste Collection, https://www.calrecycle.ca.gov/organics/slcp/collection. Accessed December 22, 2021.

2020b 2018 Facility-Based Characterization of Solid Waste in California. May 15.

San Diego, City of

2007a Recycling Ordinance. San Diego Municipal Code Chapter 6, Article 6, Division 7. November 20, 2007.

2007b Refuse and Recyclable Materials Storage Regulations. Municipal Code Chapter 14, Article 2, Division 8. December 9, 2007.

2008 Construction and Demolition Debris Diversion Deposit Program. San Diego Municipal Code Chapter 6, Article 6, Division 6.

2013 California Environmental Quality Act – Guidelines for a Waste Management Plan. June 2013. Available at https://www.sandiego.gov/sites/default/files/ legacy/environmental-services/pdf/recycling/wmpguidelines.pdf. Accessed on December 22, 2016.

2017 Certified Construction & Demolition Recycling Facility Directory. October.

2021a New Food and Yard Waste Rules – SB 1383. City of San Diego, Environmental Services. https://www.sandiego.gov/environmental-services/recycling/sb1383.

2021b The "Whitebook" Standard Specifications For Public Works Construction 2021 Edition. https://www.sandiego.gov/sites/default/files/the_whitebook_2021_edition.pdf.

2022 Significance Determination Thresholds. California Environmental Quality Act. September.

United States Environmental Protection Agency (U.S. EPA)

2009 Estimating 2003 Building-Related Construction and Demolition Materials Amounts. March.

ATTACHMENTS

ATTACHMENT 1

City of San Diego Construction & Demolition (C&D) Debris Conversion Rate Table

CITY OF SAN DIEGO
CONSTRUCTION & DEMOLITION (C&D) DEBRIS
CONVERSION RATE TABLE

This worksheet lists materials typically generated from a construction or demolition project and provides formulas for converting common units (i.e., cubic yards, square feet, and board feet) to tons. It should be used for preparing your Waste Management Form, which requires that quantities be provided in tons.

Step 1
Enter the estimated quantity for each applicable material in Column I, based on units of cubic yards (cy), square feet (sq ft), or board feet (bd ft).

Step 2
Multiply by Tons/Unit figure listed in Column II. Enter the result for each material in Column III. If using Excel version, column III will automatically calculate tons.

Step 3
Enter quantities for each separated material from Column III on this worksheet into the corresponding section of your Waste Management Form.

For your final calculations, use the actual quantities, based on weight tags, gate receipts, or other documents.

		Column I			Column II		Column III
Category	**Material**	**Volume**	**Unit**		**Tons/Unit**		**Tons**
Asphalt/Concrete	Asphalt (broken)		cy	x	0.70	=	
	Concrete (broken)		cy	x	1.20	=	
	Concrete (solid slab)		cy	x	1.30	=	
Brick/Masonry/Tile	Brick (broken)		cy	x	0.70	=	
	Brick (whole, palletized)		cy	x	1.51	=	
	Masonry Brick (broken)		cy	x	0.60	=	
	Tile		sq ft	x	0.00175	=	
Building Materials (doors, windows, cabinets, etc.)			cy	x	0.15	=	
Cardboard (flat)			cy	x	0.05	=	
Carpet	By square foot		sq ft	x	0.0005	=	
	By cubic yard		cy	x	0.30	=	
Carpet Padding/Foam			sq ft	x	0.000125	=	
Ceiling Tiles	Whole (palletized)		sq ft	x	0.0003	=	
	Loose		cy	x	0.09	=	
Drywall (new or used)	1/2" (by square foot)		sq ft	x	0.0008	=	
	5/8" (by square foot)		sq ft	x	0.00105	=	
	Demo/used (by cubic yd)		cy	x	0.25	=	
Earth	Loose/Dry		cy	x	1.20	=	
	Excavated/Wet		cy	x	1.30	=	
	Sand (loose)		cy	x	1.20	=	
Landscape Debris (brush, trees, etc)			cy	x	0.15	=	
Mixed Debris	Construction		cy	x	0.18	=	
	Demolition		cy	x	1.19	=	
Scrap metal			cy	x	0.51	=	
Shingles, asphalt			cy	x	0.22	=	
Stone (crushed)			cy	x	2.35	=	
Unpainted Wood & Pallets	By board foot		bd ft	x	0.001375	=	
	By cubic yard		cy	x	0.15	=	
Garbage/Trash			cy	x	0.18	=	
Other (estimated weight)			cy	x	estimate	=	
			cy	x	estimate	=	
			cy	x	estimate	=	
			cy	x	estimate	=	

5/21/08

Total All

ATTACHMENT 2

City of San Diego 2023 Construction & Demolition Recycling Facility Directory

Environmental Services

2023 Certified Construction & Demolition (C&D) Recycling Facility Directory

- **Material taken to a landfill is DISPOSAL. NO diversion credit is given for any material taken to a landfill.**
- You must use one of these facilities to receive diversion credit.
- Please call ahead to confirm details such as accepted materials, days and hours of operation, limitations on vehicle types, and cost.
- Ensure the project address and permit number are on the receipt.

The facilities marked below with an asterisk are transfer stations

IMPORTANT DRIVER INSTRUCTIONS - If you deliver to a transfer station, you must have your driver:
- State that your load is Construction and Demolition (C&D) debris, and ensure it is coded correctly on the receipt.
- Tickets coded as "**MSW, trash, or refuse**" will receive 0% credit.

	Asphalt/Concrete	Brick/Block/Rock	Building Materials for Reuse	Cardboard	Carpet	Carpet Padding	Ceiling Tile	Ceramic Tile/Porcelain	Clean Fill Dirt	Clean Wood/Green Waste	Drywall	Industrial Plastics	Lamps/Light Fixtures	Metal	Mixed Inerts	Styrofoam Blocks	Trash	Mixed C & D Debris
EDCO Recovery & Transfer 3660 Dalbergia St, San Diego, CA 92113 619-234-7774 | www.edcodisposal.com	•									•							•	**69%**
EDCO Station Transfer Station & Buy Back Center 8184 Commercial St, La Mesa, CA 91942 619-466-3355 | www.edcodisposal.com	•			•						•			•				•	**69%**
EDCO CDI Recycling & Buy Back Center 224 S. Las Posas Rd, San Marcos, CA 92078 760-744-2700 | www.edcodisposal.com				•	•	•							•				•	**77%**
Escondido Resource Recovery 1044 W. Washington Ave, Escondido 760-745-3203 | www.edcodisposal.com																		**69%**
Fallbrook Transfer Station & Buy Back Center 550 W. Aviation Rd, Fallbrook, CA 92028 760-728-6114 | www.edcodisposal.com				•									•				•	**69%**
Otay C&D/Inert Debris Processing Facility 1700 Maxwell Rd, Chula Vista, CA 91913 619-421-3773 | www.sd.disposal.com																		**86%**
Ramona Transfer Station & Buy Back Center 324 Maple St, Ramona, CA 92065 760-789-0516 | www.edcodisposal.com				•									•				•	**69%**
SANCO Resource Recovery & Buy Back Center 6750 Federal Blvd, Lemon Grove, CA 91945 619-287-5696 | www.edcodisposal.com				•	•	•							•					**69%**
Allan Company 6733 Consolidated Wy, San Diego, CA 92121 858-578-9300 | www.allancompany.com/facilities				•									•					
Allan Company Miramar Recycling 5165 Convoy St, San Diego, CA 92111 858-268-8971 | www.allancompany.com/facilities				•									•					
Alpine Asphalt & Concrete Recycling 5690 Willows Rd, Alpine, CA 91901 760-451-6481 | www.alpineasphaltandconcrete.com	•	•	•					•										
Alpine Asphalt & Concrete Recycling 0 Duro Rd, Escondido, CA 92028 760-451-6481 | www.alpineasphaltandconcrete.com	•	•	•					•										
Aquafil Carpet Collection 187 Mace St, Chula Vista, CA 91911 619-816-0787 | www.aquafil.com					•	•												

Last updated 1/11/2023

2023 Certified Construction & Demolition (C&D) Recycling Facility Directory

Environmental Services

- **Material taken to a landfill is DISPOSAL. NO diversion credit is given for any material taken to a landfill.**
- You must use one of these facilities to receive diversion credit.
- Please call ahead to confirm details such as accepted materials, days and hours of operation, limitations on vehicle types, and cost.
- Ensure the project address and permit number are on the receipt.

***If using a transfer station, you must:**
- State that your load is Construction and Demolition (C&D) debris, and ensure it is coded correctly on the receipt.
- Tickets coded as "**MSW, trash, or refuse**" will receive 0% credit.

	Asphalt/Concrete	Brick/Block/Rock	Building Materials for Reuse	Cardboard	Carpet	Carpet Padding	Ceiling Tile	Ceramic Tile/Porcelain	Clean Fill Dirt	Clean Wood/Green Waste	Drywall	Industrial Plastics	Lamps/Light Fixtures	Metal	Mixed Inerts	Styrofoam Blocks	Trash	Mixed C & D Debris
Aquafil Carpet Collection 7720 Formula Pl, San Diego , CA 92126 602-562-0444 | www.aquafil.com					•	•												
Armstrong World Industries, Inc. 300 S. Myrida St, Pensacola, FL 32505 877-276-7876 (Press 1, Then 8) www.armstrong.com/commceilingsna							•											
CMS Recycling Inc. 1428 West Mission Rd, Escondido, CA 92029 760-741-6300 | www.cmsmetals.com				•									•					
DFS Flooring 10178 Willow Creek Rd, San Diego, CA 92131 858-630-5200 | www.dfsflooring.com					•	•												
Duco Metals 220 Bingham Drive Suite 100, San Marcos, CA 92069 760-747-6330 I www.ducometals.com													•					
Enniss Inc. 12421 Vigilante Road, Lakeside, CA 92040 619-443-9024 | www.ennissinc.com	•	•					•	•										
Escondido Materials 500 N. Tulip St, Escondido, CA 92025 760-432-4690 | www.weirasphalt.com	•																	
F.J. Willert Contracting 2385 Cactus Rd, San Diego, CA 92154 619-421-1980 | www.fjwillert.com	•																	
Habitat for Humanity ReStore 8101 Mercury Ct, San Diego, CA 92108 619-516-5267 | www.sandiegohabitat.org			•															
Hanson Aggregates – Hollister St 389 Hollister St, San Diego, CA 92154 858-974-3849	•																	
Hanson Aggregates West – Lakeside Plant 12560 Highway 67, Lakeside, CA 92040 858-547-2141	•																	
Hanson Aggregates West – Miramar 9229 Harris Plant Rd, San Diego, CA 92126 858-974-3849	•							•										

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HVAC Exchange 2675 Faivre St, Chula Vista, CA 91911 619-423-1564 | www.hvacx.com													•					
Inland Pacific Resource Recovery 12650 Slaughterhouse Canyon Rd, Lakeside, CA 92040 619-390-1418 | www.iprrgreen.com									•									
Los Angeles Fiber Company 4920 S. Boyle Ave, Vernon, CA 90058 323-589-5637 | www.lafiber.com					•	•												
Miramar Greenery, City of San Diego 5180 Convoy St, San Diego, CA 92111 858-694-7000 | www.miramargreenery.com	•								•									
Moody's 3210 Oceanside Blvd, Oceanside, CA 92056 760-433-3316 | www.moodyselcorazonrecycling.com	•							•						•				
RAMCO 8354 Nelson Way, Escondido, CA 92026 760-205-1797 | www.ramco.us.com	•																	
Reclaimed Aggregates Chula Vista 855 Energy Way, Chula Vista, CA 91913 619-656-1836	•													•				
Robertson's Ready Mix 2094 Willow Glen Dr, El Cajon, CA 92019 619-593-1856 | www.rrmca.com	•							•						•				
Rockridge Crushing 12485 Highway 67, Lakeside, CA 92040 619-324-7065	•																	
SA Recycling 3055 Commercial St, San Diego, CA 92113 619-238-6740 | www.sarecycling.com													•					
SA Recycling 1211 S. 32nd St, San Diego, CA 92113 619-234-6691 | www.sarecycling.com													•					
San Pasqual Valley Soils 16111 Old Milky Way, Escondido, CA 92027 760-746-4769 | www.spvsoils.com									•									

Last updated 1/11/2023

2023 Certified Construction & Demolition (C&D) Recycling Facility Directory

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SCOR Industries 2321 South Willow Ave, Bloomington, CA 92316 909-820-5046 | www.scorindustries.com	•	•		•				•		•	•	•		•	•			
Terra Bella Nursery 302 Hollister St, San Diego, CA 92154 619-585-1118 | www.terrabellanursery.com								•	•									
Vulcan Carol Canyon Landfill and Recycle Site 10051 Black Mountain Rd, San Diego, CA 92126 858-530-9465 | www.vulcanmaterials.com	•	•						•						•				
Vulcan Materials Company 2275 Hard Rock Rd, Chula Vista, CA 91913 858-530-9472| www.vulcanmaterials.com	•																	
Vulcan Otay Asphalt Recycle Center 7522 Paseo de la Fuente, San Diego, CA 92154 619-571-1945| www.vulcanmaterials.com	•																	

Last updated 1/11/2023

ATTACHMENT 3

City of San Diego Waste Generation Factors – Occupancy Phase

Waste Generation Factors – Occupancy Phase

The following factors are used by the City of San Diego Environmental Services Department to estimate the expected waste generation in a new residential or commercial development.

Residential Uses
Residential Unit = 1.6 tons/year/unit
Multi-family Unit = 1.2 tons/year/unit

Example: To calculate the amount of waste that will be generated from a project with 100 new homes, multiply the number of homes by the generation factor.

100 single family homes x 1.6 = 160 tons/year
100 multi-family units x 1.2 = 120 tons/year

Commercial/Industrial Uses	
General Retail	0.0028
Restaurants & Bars	0.0122
Hotels/Motels	0.0045
Food Stores	0.0073
Auto/Service/Repair	0.0051
Medical Offices	0.0033
Hospitals	0.0055
Office	0.0017
Transp/Utilities	0.0085
Manufacturing	0.0059
Education	0.0013
Unclassified Services	0.0042

Example: To calculate the amount of waste that could be generated from a new building with 10,000 square feet for offices and 10,000 square feet for manufacturing, multiply the square footage for each use by the generation factor.

10,000 square feet x 0.0017 = 17 tons/year
10,000 square feet x 0.0059 = 59 tons per year
Total estimated waste generation for building = 76 tons/year