



**Waste Management Plan for the
3534 Fifth Avenue Project,
San Diego, California**

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A handwritten signature in black ink, appearing to read "Kevin Israel".

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1: City of San Diego Environmental Services Department Construction & Demolition
 Debris Conversion Rate Table
 2: 2015 Certified Construction & Demolition Recycling Facility Directory

Acronyms

AB	Assembly Bill
APN	Assessor's Parcel Number
C&D	Construction and Demolition
CEQA	California Environmental Quality Act
City	City of San Diego
ESD	Environmental Services Department
MMRP	Mitigation Monitoring and Reporting Program
SWMC	Solid Waste Management Coordinator
U.S. EPA	U.S. Environmental Protection Agency
WMP	Waste Management Plan

1.0 Introduction

This Waste Management Plan (WMP) is a requirement for the 3534 Fifth Avenue Project (proposed project). The purpose of the WMP is to identify solid waste impacts that would be generated by demolition, grading, construction, and operation of the proposed project and measures to reduce those impacts to ensure compliance with state and local regulations.

Without implementation of the reduction and diversion measures herein, the estimated solid waste to be generated by the proposed project would exceed the City's Significance Determination Thresholds for the California Environmental Quality Act (CEQA; City of San Diego 2011). The direct impact threshold of significance for projects in the City of San Diego (City) is 1,500 tons of waste per year and projects that generate more than 60 tons of waste per year would have a significant cumulative impact on solid waste services. The proposed project would generate approximately 53,129 tons of waste (total) during construction, grading, and demolition and 132 tons per year during occupancy. Therefore, preparation of a WMP is required to demonstrate how the proposed project would reduce solid waste impacts to below a level of significance.

The WMP consists of four sections corresponding to the progress of site improvements. These are the Demolition Phase, Grading Phase, Construction Phase, and Occupancy (post-construction) Phase. Each phase addresses 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, 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 would be reused on-site.
- Name and location of recycling, reuse, or landfill facilities where waste would be taken.

2.0 Background

The California State legislature has enacted several bills intended to promote waste diversion. In 1986, Assembly Bill (AB) 2020, the California Beverage Container Recycling and Litter Reduction Act, established California Redemption Value, a refundable deposit on

certain types of beverage containers (State of California 1986). In 1989, the legislature passed AB 939, the Integrated Waste Management Act, which—as modified in 2010 by Senate Bill 1016—mandated that all local governments reduce waste disposed of 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).

In compliance with the state policies, the City of San Diego 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 recyclables collection for all 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 to be provided by the ESD. Property owners and managers are to 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 2008a). 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 will increase to 75 percent under certain circumstances. The ordinance is designed to keep C&D materials out of local landfills and ensure they get diverted from disposal. Requirements are discussed further in Section 5.4.4, Contractor Education and Responsibilities.

AB 1826, approved September 2014 and partially effective January 2016, will require a business in California that generates greater than two cubic yards of organic waste per week to arrange for recycling services for that organic waste in a specified manner (State of California 2014). Although organic waste generally includes landscaping and food waste, the law does not apply to food waste generated by multi-family dwellings. Other forms of organic waste are not anticipated to be generated by the project at a rate for which AB 1826 would apply.

3.0 Existing Conditions

The proposed project is located on a total of 47,243 square feet at 3500 and 3534 Fifth Avenue, Lots 11-17 of Loma Grande, in the City of San Diego (Assessor's Parcel Numbers [APNs] 452-406-1400, 1500, 1600, and 1700). The site is bounded by residences to the north, Fifth Avenue to the east, Walnut Avenue to the south, and an alley to the west. The surrounding area consists of existing commercial and residential developments. The site consists of an office building, a multi-family dwelling, and two paved surface parking lots. Figure 1 shows the regional location of the proposed project and Figure 2 shows the project location with existing conditions on an aerial photograph.

4.0 Proposed Conditions

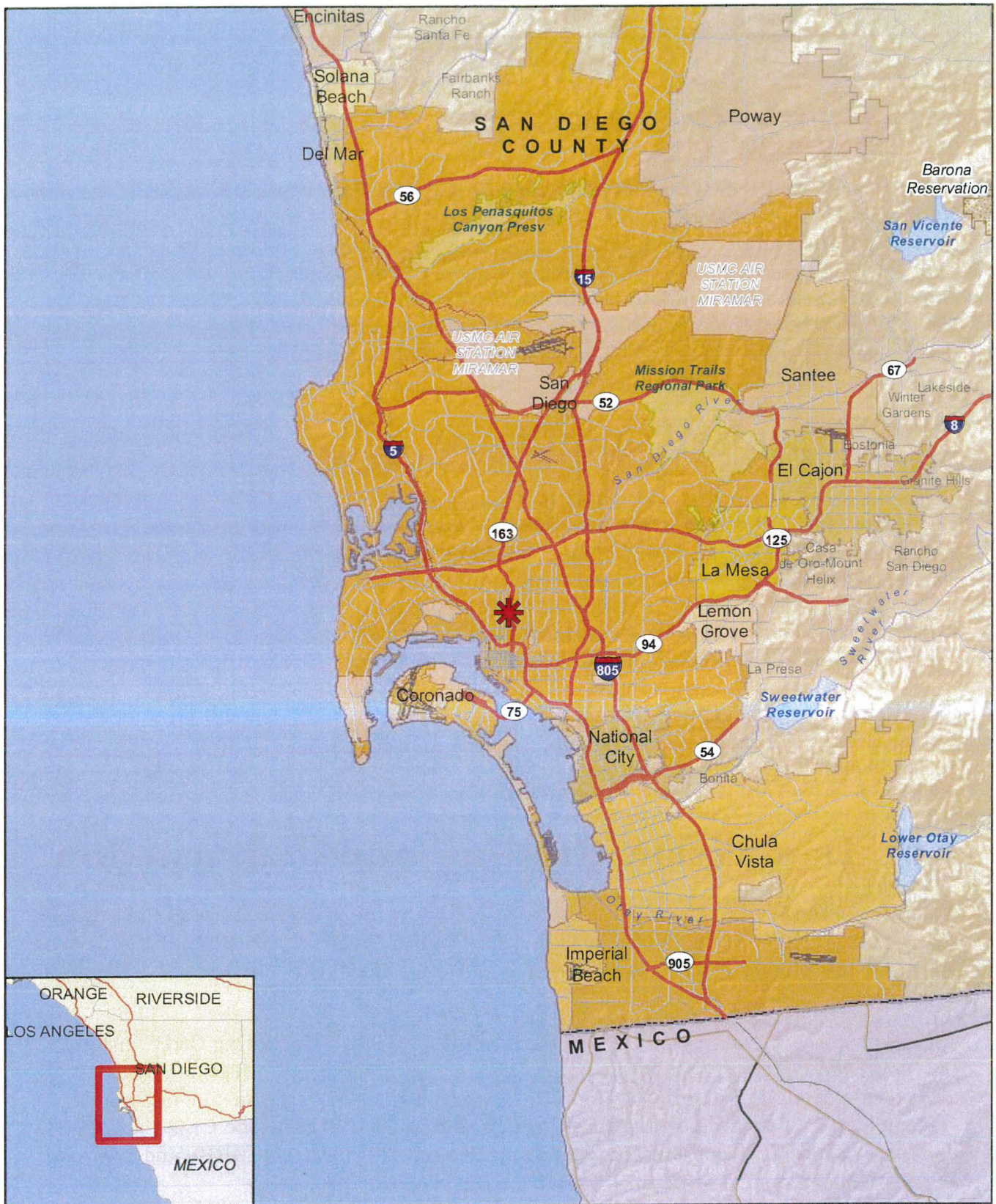
The proposed project includes demolition of two existing two-story residential structures and paved areas throughout the site (see Figure 2) and construction of a seven-story residential building with subterranean parking. The existing office building would remain (see Figure 3).

Demolition would include two 2-story residential structures, totaling approximately 8,600 square feet, and approximately 39,800 square feet of paved areas including the two parking lots, the alley along the western project boundary, and the sidewalk along Fifth Avenue. Construction would include 142 apartments totaling 164,773 square feet including amenities, lobby/leasing, and storage space. Subterranean parking would total 103,962 square feet.

5.0 Demolition, Grading, and Construction

According to the Waste Composition Study prepared by the ESD, C&D waste constituted the largest single component of disposed waste in San Diego in 2000 (City of San Diego 2000). Of the almost 590,000 tons of waste disposed that year, C&D waste composed 34 percent.

AB 939 requires the diversion of 50 percent of all solid waste, including C&D waste. AB 341, approved October 2011, sets a policy goal of 75 percent waste diversion by the year 2020. These goals for all phases, and other waste management requirements would be communicated to grading contractors through contract documents, the CEQA document and corresponding Mitigation Monitoring and Reporting Program (MMRP), and the Solid Waste Management Coordinator (SWMC) for the proposed project.




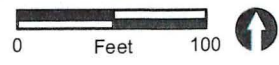
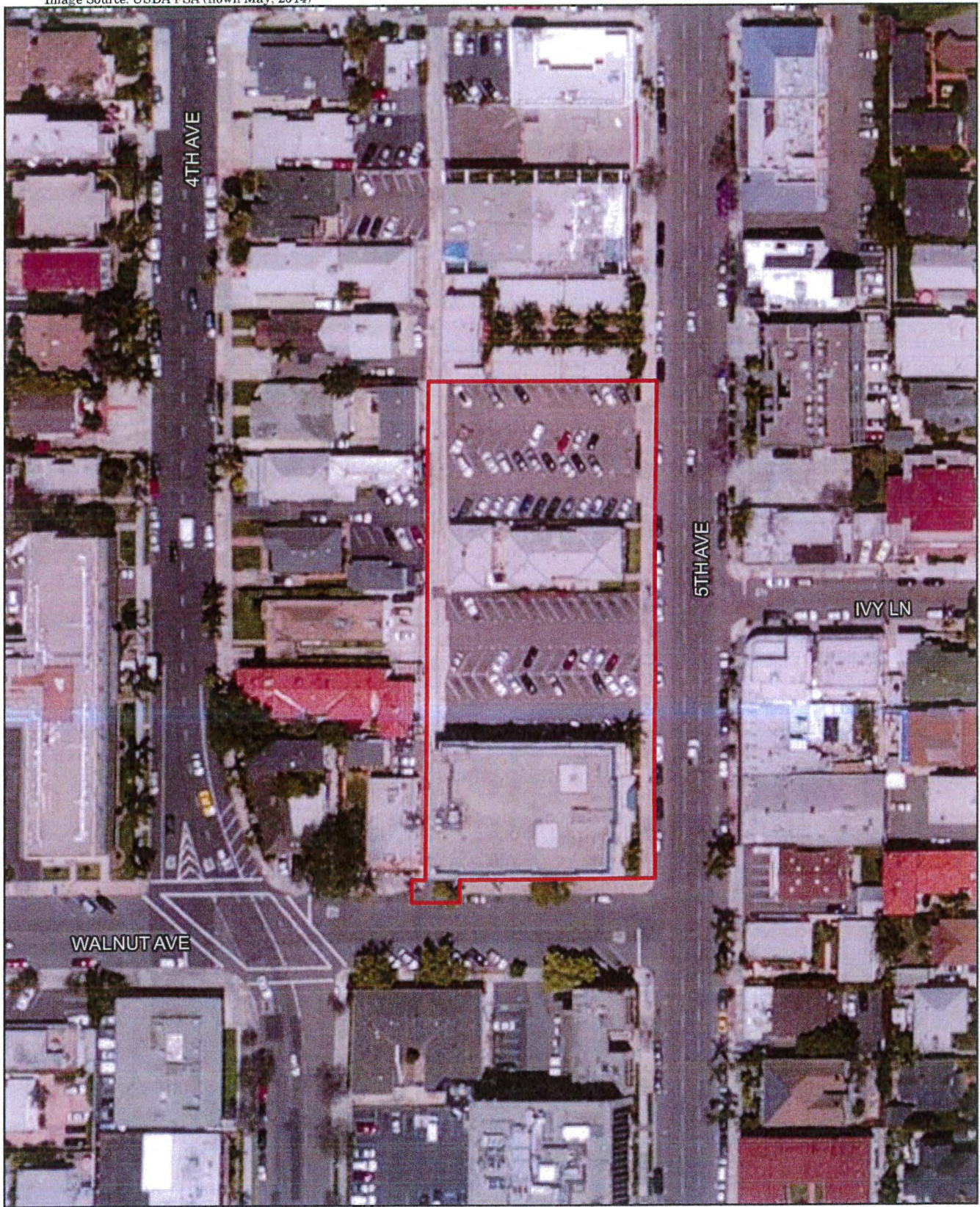
 Project Location

FIGURE 1
Regional Location



 Project Boundary

FIGURE 2

Project Location on Aerial Photograph

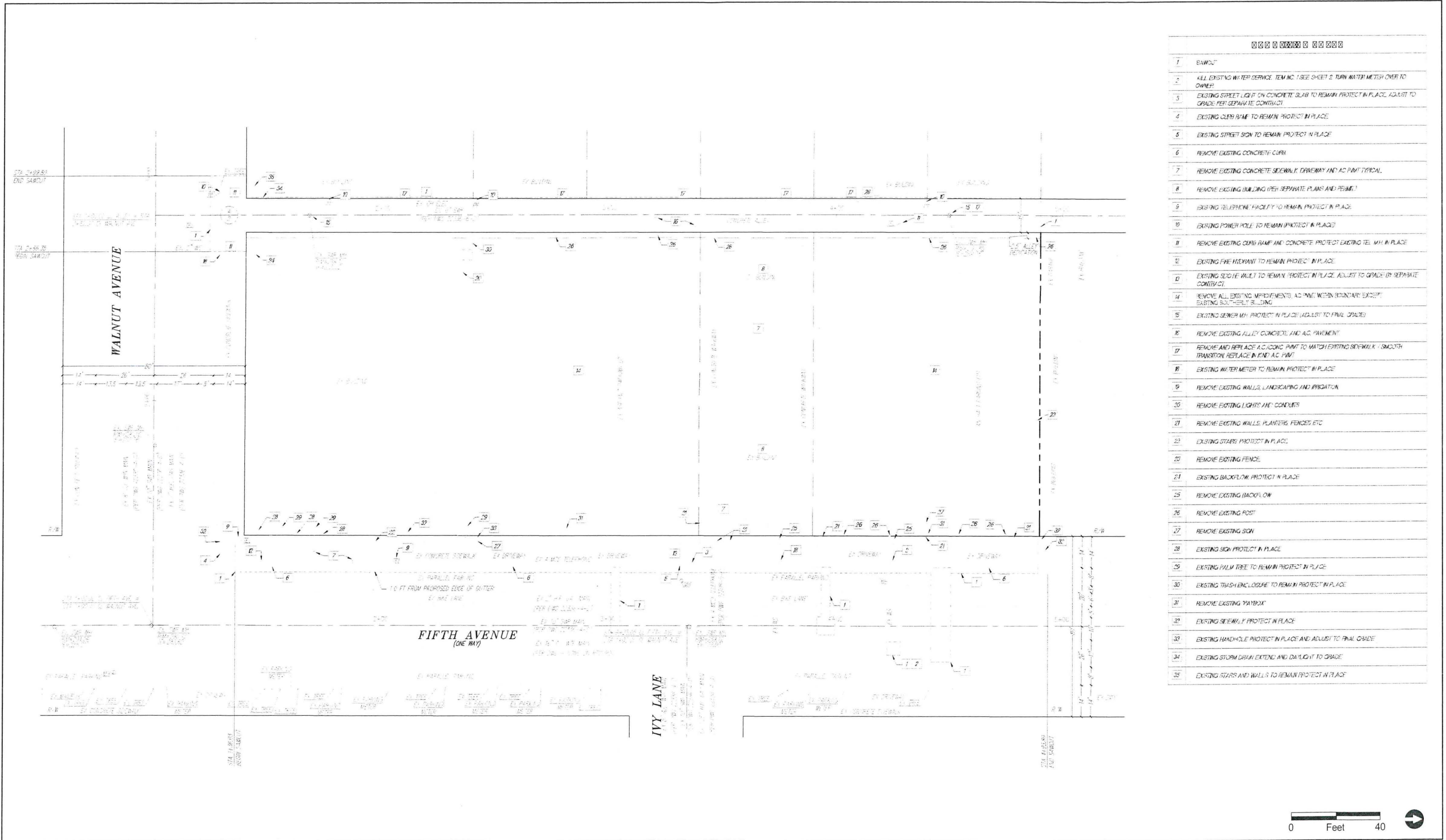
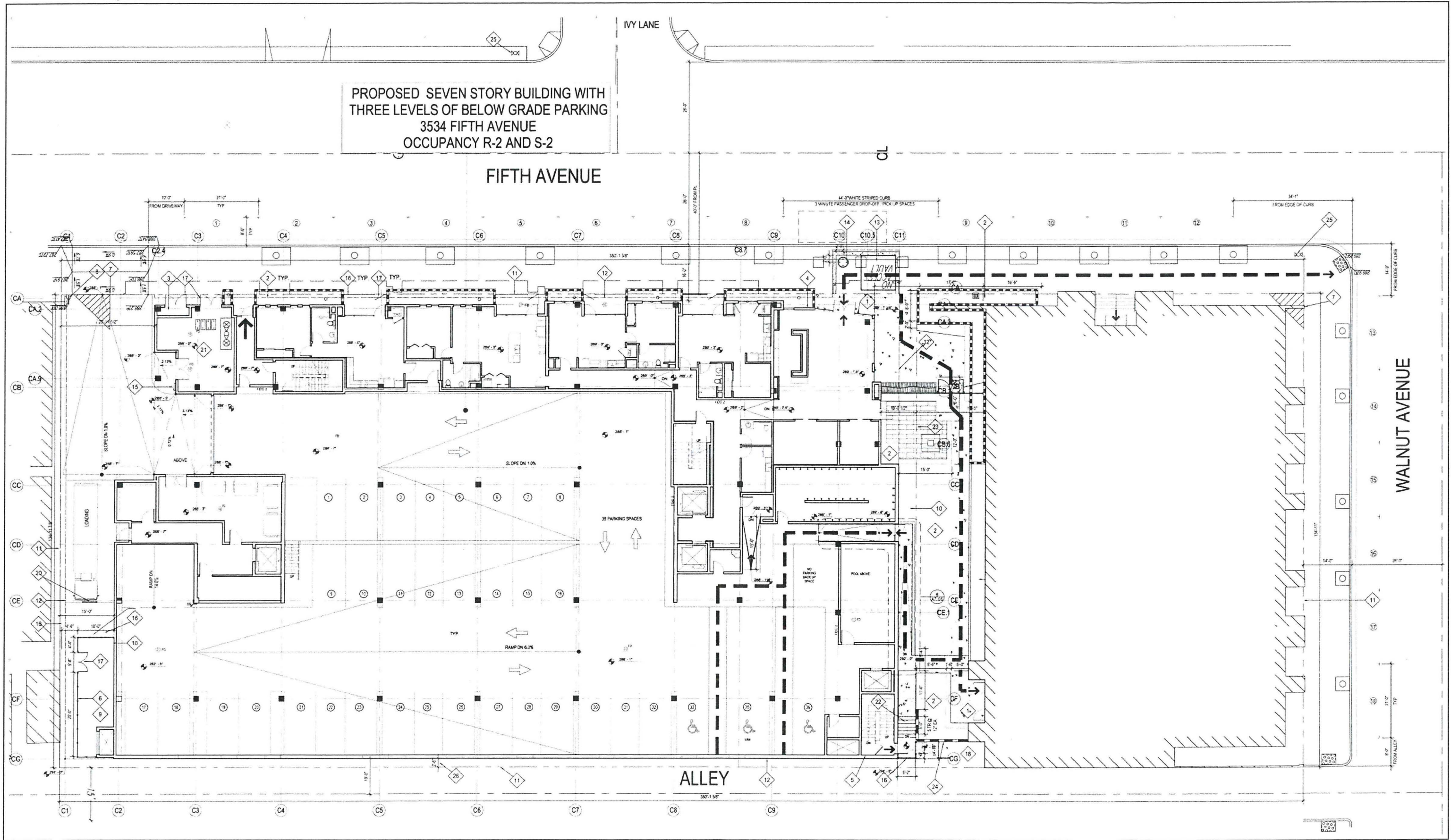


FIGURE 3
Demolition Plan



5.1 Demolition

Demolition activities would include two existing 2-story residential structures, totaling approximately 8,600 square feet, and approximately 39,800 square feet of paved areas (see Figures 2 and 3). According to a 2009 study by the U.S. Environmental Protection Agency (U.S. EPA), a sample of residential demolition projects generated an average of 50 pounds of waste per square foot (U.S. EPA 2009). Based on this generation rate, and weight estimates of asphalt and concrete pavement from the ESD C&D Debris Conversion Rate Table Directory (Attachment 1), it is estimated that 831 tons of waste would be generated during demolition.

Estimates of material type and amounts are included in Table 1 and discussed below. Anticipated portions of demolition debris to be diverted for recycling are 91 percent from the buildings and 100 percent from the paved areas, for a total diversion rate of 98 percent. This rate of diversion would exceed the current state requirement of 50 percent and the 2020 goal of 75 percent.

Estimates of building material type and amounts are based on the specific characteristics of the buildings to be demolished. Estimates have a degree of uncertainty and would be revised as the proposed project progresses and demolition debris is more specifically identified. Material weights are based on the ESD C&D Debris Conversion Rate Table (Attachment 1, City of San Diego 2008b). As outlined in Table 1, building materials are classified as:

- Building materials (doors, windows, cabinets, etc.)
- Carpet, padding/foam
- Clean wood
- Concrete
- Drywall (used)
- Roofing materials
- Scrap metal
- Trash/garbage and treated wood

Paved areas to be demolished would include the two parking lots on-site (totaling approximately 29,000 square feet), the alley along the western boundary of the site (approximately 5,000 square feet), the sidewalk along Fifth Avenue (approximately 3,600 square feet), and the walkways and pads associated with the residential buildings at 3534 Fifth Avenue (totaling approximately 2,200 square feet). Of the approximately 39,800 square feet of paved areas to be demolished, 29,000 square feet would be asphalt and 10,800 square feet would be concrete. Asphalt and concrete paving depth varies by project and soil type, but is typically six inches for surface parking lots. Based on the same conversion rate table, estimated asphalt and concrete to be removed totals 616 tons. These materials would be entirely diverted for reuse at the appropriate facility recommended in Table 1. Removed landscaping and native vegetation would have a negligible weight relative to waste from other sources and would be recycled as green waste at the Miramar Greenery facility, achieving a 100 percent diversion rate.

Table 1 Materials Generated by Demolition Activities and the Percent Diverted							
Material ¹	Cubic Yards Generated	Tons per Cubic Yard ¹	Tons Generated ²	Percent Diverted ³	Nearest Handling Facility ³	Tons Diverted	Tons Disposed
Existing Buildings							
Building Materials (doors, windows, cabinets, etc.)	73	0.15	11	100	Reconstruction Warehouse	11	0
Carpet, Padding/Foam	233	0.3	17	100	DFS Flooring	17	0
Clean Wood	600	0.09	54	100	Miramar Greenery	54	0
Concrete (broken)	22	1.2	26	100	Hanson Aggregates West - Miramar	26	0
Drywall (used)	240	0.25	60	100	EDCO Recovery and Transfer, San Diego	60	0
Roofing Materials	7	1.5	11	65	EDCO Recovery and Transfer, San Diego	7	4
Scrap Metal	43	0.51	22	100	IMS Recycling Services	22	0
Trash/Garbage and Treated Wood	83	0.18	15	0	Miramar Landfill	0	15
Subtotal	1,301		215	91		196	19
Paved Areas							
Asphalt	537	0.70	376	100	Hanson Aggregates West - Miramar	376	0
Concrete	200	1.2	240	100	Hanson Aggregates West - Miramar	240	0
Parking Lots Total	737		616	100		616	0
Grand Total			831	98		812	19
Note: Totals may vary due to independent rounding. ¹ ESD C&D Debris Conversion Rate Table (Attachment 1). ² Portions of material types based on specific characteristics of buildings to be demolished. ³ City of San Diego ESD 2015 Certified C&D Recycling Facility Directory (Attachment 2).							

The diversion methods outlined in Section 5.4, Waste Diversion, would be implemented during demolition, and materials would be source separated to the greatest extent possible. The nearest acceptable recycling facilities and materials are shown in Table 1 and location details and alternative facilities are listed on the ESD 2015 Certified C&D Recycling Facility Directory (Attachment 2; City of San Diego 2015a).

5.2 Grading

As discussed in Section 1.0, Introduction, the entire site has been previously developed/disturbed (see Figure 2). Following cleanup and demolition activities, implementation of the proposed project would require approximately 39,885 cubic yards of soil cut to allow for subterranean parking, exporting all material. Based on the ESD Construction and Demolition Debris Conversion Rate Table, grading soil weighs approximately 1.3 tons per cubic yard (Attachment 1). Therefore, project grading would result in a net export of 51,851 tons, as shown in Table 2. All exported soil would be recycled using the City of San Diego Clean Fill Dirt Program or an approved clean fill dirt handler listed in Attachment 1 (City of San Diego 2015b).

Net Export (cubic yards)	Generation Rate ¹ (tons per cubic yard)	Tons Exported	Percent Diverted	Tons Diverted	Tons Disposed
39,885	1.3	51,851	100%	51,851	0

¹Source: City of San Diego C&D Debris Conversion Rate Table (Attachment 1).

Any vegetation removed would be taken to the Miramar Greenery facility for 100 percent reuse. Diversion goals will be communicated to contractors through contract documents, the CEQA document and corresponding MMRP, and the SWMC for the project.

5.3 Construction

According to a 2009 study by the U.S. EPA, a sample of multi-family residential construction projects generated an average of 4.0 pounds of construction waste per square foot and non-residential construction projects generated an average of 4.3 pounds of construction waste per square foot (U.S. EPA 2009). Based on these generation rates, the proposed multi-family residential construction area of 164,773square feet, and the 103,962square feet of proposed parking garage area (non-residential construction), it is estimated that 554 tons of waste would be generated during construction (see Table 3a).

Table 3a Construction Phase Waste Generation				
Structure	Land Use	Area (sf)	Generation Rate (pounds per sf) ¹	Tons Generated
Apartments	Multi-Family Residential	164,773	4.0	330
Subterranean Parking	Parking (non-residential)	103,962	4.3	224
Total	-	268,735	-	554
Note: Totals may vary due to independent rounding. sf = square feet ¹ U.S. Environmental Protection Agency 2009.				

Estimates of material types and portions are based on similar multi-family residential developments and parking structures. As outlined in Table 3b below, the types of construction waste anticipated to be generated include the following:

- Asphalt and concrete
- Brick/masonry/tile
- Carpet, padding/foam
- Clean wood/wood pallets
- Corrugated cardboard
- Drywall
- Metals
- Trash/garbage

With implementation of the diversion procedures described in Section 5.4, Waste Diversion, and outlined in Table 3b, it is estimated that 80 percent of the waste generated during the construction phase of the proposed project would be diverted to appropriate facilities for reuse. Only 109 tons of trash/garbage would be disposed in the landfill.

Table 3b Construction Waste Diversion and Disposal by Material Type					
Material Type	Estimated Waste (tons) ¹	Percent Diverted ²	Nearest Handling Facility ¹	Estimated Diversion (tons)	Estimated Disposal (tons)
Asphalt and Concrete	92	100	Hanson Aggregates West - Miramar	92	0
Brick/Masonry/Tile	44	100	Hanson Aggregates West - Miramar	44	0
Carpet, Padding/Foam	27	100	DFS Flooring	27	0
Clean Wood/Wood Pallets	25	100	Miramar Greenery	25	0
Corrugated Cardboard	39	100	Allan Company Miramar Recycling	39	0
Drywall	73	100	EDCO Recovery & Transfer	73	0
Metals	145	100	IMS Recycling Services	145	0
Trash/Garbage	109	0	Miramar Landfill	0	109
Total	554	-	-	445 (80%)	109 (20%)
Note: Totals may vary due to independent rounding. ¹ Portions of material types based on demolition estimates of similar residential developments and parking structures. ² City of San Diego ESD 2015 Certified C&D Recycling Facility Directory (Attachment 2).					

5.4 Waste Diversion

Methods of waste diversion would include mixed debris and source separation. With mixed debris diversion (Section 5.4.1), all material waste is disposed of in a single container for transport to a mixed C&D transfer station or facility. With source separated diversion (Section 5.4.2), materials are separated on-site before transport to appropriate facilities that accept specific material types.

As described below, the source separation strategy would be the primary method implemented during demolition and construction of the proposed project, and materials listed above would be separated and taken to source-separation facilities that achieve an almost 100 percent diversion rate. However, the City recognizes that some types of C&D waste are difficult to source separate. Therefore, ESD staff would be invited by the applicant (or applicant's successor in interest) to attend any Development Services Department-required preconstruction meetings. During the preconstruction meetings, strategies for waste diversion would be discussed, and source separation would be utilized to the greatest extent feasible. In order to provide a conservative estimate of the amount of construction waste to be diverted versus disposed, both types are discussed and the mixed debris method would be the "worst case" for several types of material generated during the demolition phase (see Table 1). Detailed requirements for implementation of the following diversion methods are discussed in Section 5.4.4, Contractor Education and Responsibilities.

5.4.1 Mixed Debris

Mixed debris recycling, where all material waste is disposed of in a single container at a mixed C&D transfer station or facility, would be implemented for disposal of items that are difficult to separate (e.g., some types of roofing materials; trash/garbage). As detailed in Section 5.4.4, containers would be placed throughout the project site and materials for recycling would be redirected to appropriate recipients selected from ESD's directory of facilities that recycle construction and demolition waste (Tables 1 and 3b; Attachment 2).

As shown in Attachment 2, most of the mixed debris facilities achieve less than a 68 percent diversion rate, meaning that co-mingled materials sent to a mixed debris facility would not meet the 75 percent diversion goal established by AB 341. To ensure that the overall diversion goal is attained, materials must be source separated and trucked to facilities with higher diversion rates when possible.

5.4.2 Source Separation

The types of construction and demolition waste discussed above would be separated on-site into material-specific containers to facilitate reuse and recycling. This source separation achieves a nearly 100 percent diversion rate and is essential to (1) ensure the appropriate waste diversion rate, (2) minimize costs associated with transportation and disposal, and (3) facilitate compliance with the C&D ordinance.

As detailed in Section 5.4.4, recycling, salvage, reuse, and disposal options would be determined before the job begins. Recyclable waste materials, outlined in Sections 5.1 and 5.3, would be diverted to an approved recycler selected from ESD's directory of facilities that recycle specific waste materials from construction and demolition (see Tables 1 and 3b; Attachment 2). These facilities achieve a 100 percent diversion rate, higher than for mixed C&D materials.

5.4.3 Total Diversion

Table 4 summarizes the amount of waste estimated to be generated and diverted by each phase of the proposed project. Including demolition, grading, and construction, 53,056 tons of waste would be generated, 52,922 tons of which would be diverted, primarily through source separation. This would result in 99.7 percent of waste material diverted from the landfill for reuse. As discussed in Section 5.4.4, a SWMC would be designated and contractor education would occur to ensure that diversion methods are carried out adequately.

Phase	Tons Generated	Tons Diverted	Tons Disposed
Demolition	724	686 (95%)	38 (5%)
Grading	51,851	51,851 (100%)	0 (0%)
Construction	554	445 (80%)	109 (20%)
Total	53,129	52,982 (99.7%)	147 (0.3%)

Note: Totals may vary due to independent rounding.

5.4.4 Contractor Education and Responsibilities

A SWMC for the proposed project would be designated to ensure that all contractors and subcontractors are educated 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 and mixed debris 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 demolition and construction materials (see Tables 1 and 3b; Attachment 2).
- Ensure removal of demolition and construction 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.
- Facilitate the return or reuse of excess materials and packaging.
- Coordinate implementation of a "buy recycled" program for green construction products where possible, 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 the proposed 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 2008a).
- The City's Recycling Ordinance, which requires that collection of recyclable materials be 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 will be provided to ESD at least 10 days prior to the start of any work and updated within 5 days of any changes.

6.0 Occupancy Phase

Unlike demolition, grading, and construction, occupancy is an ongoing process. Therefore, it requires an ongoing plan to manage and reduce waste in order to meet the waste reduction goals established by local and state policy.

6.1 Waste Generation

The estimated annual waste to be generated during occupancy of the proposed project is based on an average of findings from estimates of multi-family developments reported by the California Department of Resources Recycling and Recovery (State of California 2013). Table 5 summarizes the estimated occupancy phase waste generation which amounts to approximately 132 tons of waste per year. As discussed in Section 6.2, 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).

Land Use	Housing Units	Annual Generation Rate ¹ (tons per unit)	Waste Generated (tons)
Multi-family Residential	142	0.93	132
Total	–	–	132

¹ State of California 2013.

6.2 Waste Reduction Measures

Compliance with existing ordinances has been shown to achieve a 40 percent diversion rate. Therefore, waste anticipated to be diverted during the occupancy phase would be approximately 53 tons per year. The remaining 79 tons per year would still exceed the 60 ton-per-year the threshold of significance for having a cumulative impact on solid waste services in the City (City of San Diego 2011).

The applicant (or applicant's successor in interest) shall be responsible for implementing a long-term solid waste management plan to ensure that the development meets or exceeds the requirement of 50 percent diversion set forth in AB 939 and future AB 341 requirements of 75 percent diversion, and is in compliance with City Ordinances. Specific program measures provided by the applicant (or applicant's successor in interest) would include:

- Dedicated recycling signage, collection, both interior and exterior storage areas, and a means of handling landscaping and green waste materials as required by and in accordance with applicable City Ordinances.

- Educating all tenants annually and new tenants upon occupancy about recycling services including the types of recyclable materials accepted, the location of recycling containers, and the tenants' responsibility to recycle. All tenants shall be given information and instructions upon any change in recycling service to the facility.

6.3 Exterior Storage

This WMP follows the guidelines set by the City of San Diego's Municipal Code designating on-site refuse and recyclable material storage space requirements (City of San Diego 2007b). Table 6 shows exterior storage area requirements for residential developments pursuant to the City's guidelines.

Because the proposed project would include a total of 142 residential units, a minimum of 288 square feet of refuse storage area and a minimum of 288 square feet of recyclable material storage area would be required. The total exterior refuse/recyclable material storage requirement for the proposed project would be 576 square feet. The proposed project includes 260 square feet of trash storage area and 260 square feet of recycling storage area, totaling 520 feet and exceeding the area required.

Number of Dwelling Units Per Development	Minimum Refuse Storage Area Per Development (square feet)	Minimum Recyclable Material Storage Area per Development (square feet)	Total Minimum Storage Area per Development (square feet)
2-6	12	12	24
7-15	24	24	48
16-25	48	48	96
26-50	96	96	192
51-75	144	144	288
76-100	192	192	384
101-125	240	240	480
126-150	288	288	576
151-175	336	336	672
176-200	384	384	768
201+	384 plus 48 square feet for every 25 dwelling units above 201	384 plus 48 square feet for every 25 dwelling units above 201	768 plus 96 square feet for every 25 dwelling units above 201
Project Total	288	288	576

Source: City of San Diego Municipal Code, Article 2, Division 8: Refuse and Recyclable Material Storage Regulations, Section 142.0830, Table 142-08C; effective, January 2000.

6.4 Landscaping and Green Waste Recycling

The proposed project would require some landscaping and landscape maintenance. Drought-tolerant plants would be used to reduce the amount of green waste produced.

Collection of green waste and its disposal at recycling centers that accept green waste (e.g., the Miramar Greenery facility) would help further reduce the waste generated by the proposed project during the occupancy phase. As discussed in Section 6.2, Waste Reduction Measures, the ongoing waste management plan would include a means for handling landscaping and green waste materials.

7.0 Conclusion

7.1 Demolition, Grading, and Construction

A total of approximately 53,129 tons of waste would be generated in the demolition, grading, and construction phases of the proposed project (see Table 4). Most would be recycled at source separated facilities that achieve a 100 percent diversion rate. When necessary, mixed debris would be recycled at a lower diversion rate, leaving 147 tons to be disposed. This amounts to a 99.7 percent reduction in solid waste, which would be diverted from the landfill.

7.2 Occupancy

The proposed project would include 142 residential units, generating approximately 132 tons of waste per year; and would be required to provide a minimum of 288 square feet of exterior refuse and recyclable material storage area each (total of 576 square feet; see Table 6). The applicant (or applicant's successor in interest) would implement an ongoing waste management plan with measures to ensure that the waste is minimized and the operations phase of the project complies with the City ordinances. Compliance with existing ordinances has been shown to achieve a 40 percent diversion rate. Therefore, approximately 79 tons of waste per year would be generated from the proposed project, exceeding the 60 ton-per-year threshold of significance for having a cumulative impact on solid waste services by 19 tons per year. Thus, a near 100 percent diversion rate during the other phases would be required to offset the impact of the occupancy phase.

7.3 Overall Compliance

With implementation of this WMP, the proposed project would comply with all applicable City ordinances regarding collection, diversion, and disposal of waste generated from C&D, grading, and occupancy. During occupancy, an ongoing waste management plan would include provision of sufficient interior and exterior storage space for refuse and recyclable materials, and a means of handling and recycling landscaping and green waste materials.

This WMP outlines strategies to achieve 99.7 percent of waste being diverted from disposal during the C&D and grading phases of the proposed project. This would reduce the anticipated impact of waste disposal to below the threshold of direct significance as well as greatly exceed the state requirement of 50 percent and goal of 75 percent. Although the occupancy phase is anticipated to involve a recurring shortcoming of only 40 percent diversion with implementation of an ongoing waste management plan, this would be compensated for by the near 100 percent diversion rate during the other phases.

8.0 References Cited

California, State of

- 1986 Assembly Bill 2020. California Beverage Container Recycling and Litter Reduction Act.
- 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.
- 2013 Waste Characterization, Residential Developments: Estimated Solid Waste Generation Rates. California Department of Resources Recycling and Recovery. <http://www.calrecycle.ca.gov/wastechar/WasteGenRates/Residential.htm>. Updated January 16. Accessed online October 15, 2015.
- 2014 Assembly Bill 1826. Solid Waste: Organic Waste.

San Diego, City of

- 2000 Waste Composition Study 1999-2000. Final Report. San Diego Environmental Services Department. November 2000.
- 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.
- 2008a Construction and Demolition Debris Diversion Deposit Program. San Diego Municipal Code Chapter 6, Article 6, Division 6.
- 2008b Construction and Demolition Debris Conversion Rate Table. San Diego Environmental Services Department. May 2008.
- 2011 Significance Determination Thresholds. California Environmental Quality Act. January.
- 2015a 2015 Certified Construction and Demolition Recycling Facility Directory, San Diego Environmental Services Department.
- 2015b Clean Fill Dirt Program. San Diego Environmental Services Department. <http://www.sandiego.gov/environmental-services/miramar/cfdp.shtml>. Accessed online May 20, 2015.

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

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

ATTACHMENTS

ATTACHMENT 1

Environmental Services Department Construction & Demolition 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.

Category	Material	Column I		Column II		=	Column III	
		Volume	Unit	Tons/Unit	Tons	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	=	_____	

Total All _____

ATTACHMENT 2

**2015 Certified Construction & Demolition
Recycling Facility Directory**



2015 Certified Construction & Demolition Recycling Facility Directory



These facilities are certified by the City of San Diego to accept materials listed in each category. Hazardous materials are not accepted. The diversion rate for these materials shall be considered 100%, except mixed C&D debris which updates quarterly. The City is not responsible for changes in facility information. Please call ahead to confirm details such as accepted materials, days and hours of operation, limitations on vehicle types, and cost. For more information visit: www.recyclingworks.com.

<p><i>Please note: In order to receive recycling credit, Mixed C&D Facility and transfer station receipts must: -be coded as construction & demolition (C&D) debris -have project address or permit number on receipt *Make sure to notify weighmaster that your load is subject to the City of San Diego C&D Ordinance. Note about landfills: Miramar Landfill and other landfills do not recycle mixed C&D debris.</i></p>	Mixed C&D Debris	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
EDCO Recovery & Transfer 3660 Dalbergia St, San Diego, CA 92113 619-234-7774 www.edcodisposal.com/public-disposal	65%											•					
EDCO Station Transfer Station & Buy Back Center 8184 Commercial St, La Mesa, CA 91942 619-466-3355 www.edcodisposal.com/public-disposal	65%			•							•			•			
EDCO CDI Recycling & Buy Back Center 224 S. Las Posas Rd, San Marcos, CA 92078 760-744-2700 www.edcodisposal.com/public-disposal	89%			•										•			
Escondido Resource Recovery 1044 W. Washington Ave, Escondido 760-745-3203 www.edcodisposal.com/public-disposal	65%																
Fallbrook Transfer Station & Buy Back Center 550 W. Aviation Rd, Fallbrook, CA 92028 760-728-6114 www.edcodisposal.com/public-disposal	65%			•										•			
Otay C&D/Inert Debris Processing Facility 1700 Maxwell Rd, Chula Vista, CA 91913 619-421-3773 www.sd.disposal.com	66%																
Ramona Transfer Station & Buy Back Center 324 Maple St, Ramona, CA 92065 760-789-0516 www.edcodisposal.com/public-disposal	65%			•										•			
SANCO Resource Recovery & Buy Back Center 6750 Federal Blvd, Lemon Grove, CA 91945 619-287-5696 www.edcodisposal.com/public-disposal	65%			•										•			
All American Recycling 10805 Kenney St, Santee, CA 92071 619-508-1155 (Must call for appointment)					•												
Allan Company 6733 Consolidated Wy, San Diego, CA 92121 858-578-9300 www.allancompany.com/facilities.htm				•										•			
Allan Company Miramar Recycling 5165 Convoy St, San Diego, CA 92111 858-268-8971 www.allancompany.com/facilities.htm				•										•			
Allan Company 8514 Mast Blvd, Santee, CA 92701 619-448-4295 www.allancompany.com/facilities.htm				•										•			
AMS 4674 Cardin St, San Diego, CA 92111 858-541-1977 www.a-m-s.com							•										
AMS 1120 West Mission Ave, Escondido, CA 92025 858-541-1977 www.a-m-s.com							•										
Armstrong World Industries, Inc. 300 S. Myrida St, Pensacola, FL 32505 877-276-7876 (Press 1, Then 8) www.armstrong.com/commceilingsna							•										
Cactus Recycling 8710 Avenida De La Fuente, San Diego, CA 92154 619-661-1283 www.cactusrecycling.com				•								•		•			•

	Mixed C&D Debris	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
DFS Flooring 10178 Willow Creek Road, San Diego, CA 92131 858-630-5200 www.dfsflooring.com						•	•										
Enniss Incorporated 12421 Vigilante Rd, Lakeside, CA 92040 619-443-9024 www.enniss.net		•	•						•	•							
Escondido Sand and Gravel 500 N. Tulip St, Escondido, CA 92025 760-432-4690 www.weirasphalt.com/esg		•															
Habitat for Humanity ReStore 10222 San Diego Mission Rd, San Diego, CA 92108 619-516-5267 www.sdhfh.org/restore.php				•													
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		•								•							
Hidden Valley Steel & Scrap, Inc. 1342 Simpson Wy, Escondido, CA 92029 760-747-6330															•		
HVAC Exchange 2675 Faivre St, Chula Vista, CA 91911 619-423-1855 www.thehvacexchange.com															•		
IMS Recycling Services 2740 Boston Ave, San Diego, CA 92113 619-231-2521 www.imsrecyclingservices.com					•								•				
IMS Recycling Services 2697 Main St, San Diego, CA 92113 619-231-2521 www.imsrecyclingservices.com													•	•			
Inland Pacific Resource Recovery 12650 Slaughterhouse Canyon Rd, Lakeside, CA 92040 619-390-1418											•						
Lakeside Land Co., Inc. 10101 Riverford Rd, Lakeside, CA 92040 619-449-9083 www.lakesideland.com		•														•	
Lamp Disposal Solutions 8248 Ronson Ct, San Diego, CA 92111 858-569-1807 www.lampdisposalsolutions.com														•			
Lights Out Disposal 1097 Palm Ave, Ste 100, El Cajon, CA 92020 619-438-1093 www.lightsoutdisposal.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.sandiego.gov/environmental-services/miramar/greenery.shtml											•						
Moody's 3210 Oceanside Blvd., Oceanside, CA 92056 760-433-3316		•								•						•	
Otay Valley Rock, LLC 2041 Heritage Rd, Chula Vista, CA 91913 619-591-4717 www.otayrock.com		•															
Pacific Steel, Inc. 1700 Cleveland Ave, National City, CA 91950 619-474-7081															•		
Reclaimed Aggregates Chula Vista 855 Energy Wy, Chula Vista, CA 91913 619-656-1836		•														•	

	Mixed C&D Debris	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
Reconstruction Warehouse 3341 Hancock St., San Diego, CA 92110 619-795-7326 www.recowarehouse.com				•													
Robertson's Ready Mix 2094 Willow Glen Dr, El Cajon, CA 92019 619-593-1856		•								•						•	
Romero General Construction Corp. 8354 Nelson Wy, Escondido, CA 92026 760-749-9312 www.romerogc.com/crushing/nelsonway.htm		•															
SA Recycling 3055 Commercial St., San Diego, CA 92113 619-238-6740 www.sarecycling.com															•		
SA Recycling 1211 S. 32 nd St., San Diego, CA 92113 619-234-6691 www.sarecycling.com															•		
Vulcan Carol Canyon Landfill and Recycle Site 10051 Black Mountain Rd, San Diego, CA 92126 858-530-9465 www.vulcanmaterials.com/carrollcanyon		•	•							•						•	

Package Copy

**Waste Management Plan
Version 3
(Project Manager)**



3763417

Project



451832

Strauss Fifth Ave Apts SDP
PM: Godwin, Paul 446-5190

Review Cycle

Cycle 11
Submitted (Multi-Discipline)



THE CITY OF SAN DIEGO
Development Services Department
1222 First Avenue, San Diego, CA 92101-4154