

3Roots San Diego Project  
Environmental Impact Report  
SCH No. 2018041065; Project No. 587128

Appendix P

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Waste Management Plan

June 2019

# 3Roots San Diego Project

## Waste Management Plan

July 2018 | CAH-02.01

*Prepared for:*

**Mesa Canyon Community Partners**  
16465 Via Esprillo, Suite 150  
San Diego, CA 92127

*Prepared by:*

**HELIX Environmental Planning, Inc.**  
7578 El Cajon Boulevard  
La Mesa, CA 91942

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## INFORMATION FOR THE READER

Subsequent to the analysis of the 3Roots San Diego project described within this Waste Management Plan, there have been minor modifications to the project description. The site plan has been revised such that the number of units proposed within the Community Collective Residential (RM-3-9) zoning was reduced from 631 units to 609 units, while the number of units proposed within the RM-2-6 zoning was increased from 984 units to 1,006 units. The single-family residential (RX-1-2) unit count remains at 185. The overall residential lot count remains at 1,800. The shift in proposed zoning designations would result in a net increase of 22 single-family detached condominium units in the RM-2-6 zone, and a corresponding decrease in multi-family units in the RM-3-9 zone.

Units in the RM-2-6 zoning are assumed to be approximately 1,000 square feet more than units in the RM-3-9 zoning, thus incrementally increasing the associated construction waste generation. Specifically, the total amount of waste generated by construction of the larger units would increase by 26 tons, from 4,088 to 4,114 tons. Relative to the previously calculated project-wide total construction waste generation of 5,477 tons, the increase of 26 tons would increase construction waste generation by 0.47 percent. The construction waste diversion measures and rates would remain the same.

The operational waste generation rate for multi-family units is 1.2 tons per unit per year, while the rate for single-family units is 1.6 tons per unit per year. Therefore, the 22 additional single-family residential units would result in generation of an additional 8.8 tons of waste per year. Relative to the previously calculated project-wide total operational waste generation of 3,144 tons, the increase of 8.8 tons would increase the operational waste generation by 0.28 percent. The waste diversion measures and rates would remain the same.

The incremental increase in waste generation that would result from the changes to the proposed project, therefore, does not alter the significance conclusions contained herein.

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# ACRONYMS AND ABBREVIATIONS

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AB	Assembly Bill
Applicant	CalAtlantic Homes
BRT	Bus Rapid Transit
C&D	Construction and Demolition
CalRecycle	California Department of Resources Recycling and Recovery
CEQA	California Environmental Quality Act
City	City of San Diego
CIWMA	California Integrated Waste Management Act of 1989
CUP	Conditional Use Permit
CY	cubic yard(s)
DSD	Development Services Department (City of San Diego)
ESD	Environmental Services Department (City of San Diego)
EV	electric vehicle
FEMA	Federal Emergency Management Agency
I-15	Interstate 15
I-805	Interstate 805
IWMP	Integrated Waste Management Plan
lbs	pounds
MHPA	Multi-habitat Planning Area
Project	3Roots San Diego Project
SDMC	San Diego Municipal Code
SF	square foot/feet
SRRE	Source Reduction and Recycling Element
SWMC	Solid Waste Management Coordinator
WDM	Waste Diversion Measures
WMP	Waste Management Plan

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# 1.0 INTRODUCTION

## 1.1 PURPOSE OF THE REPORT

The purpose of this Waste Management Plan (WMP) is to identify the quantity of solid waste that would be generated by the 3Roots San Diego Project (project) throughout site preparation, construction, and operation, and to identify measures to reduce the potential impacts associated with management of such waste.

Proper separation and diversion of recyclable waste materials is required in order to divert each material type to a recycling/reuse facility with the highest possible diversion rate. As discussed further in Section 2.0, *Regulatory Framework*, to comply with City of San Diego's (City's) waste reduction ordinances and the waste diversion goals established in State Assembly Bill (AB) 341, the project must achieve a 75 percent diversion rate during construction. The City's California Environmental Quality Act (CEQA) Significance Thresholds for solid waste identify a threshold of 1,500 tons of waste or more during construction and demolition (C&D) for direct solid waste impacts, and 60 tons of waste or more during C&D for potentially significant cumulative solid waste impacts. The City Environmental Services Department's (ESD) Certified Construction & Demolition Recycling Facility Directory (City 2018; Appendix A) provides guidance on identifying recycling/reuse facility locations, accepted materials, recycling/reuse rates, and associated disposal fees and/or the value of the materials accepted for recycling/reuse.

This WMP has been prepared to be consistent with applicable federal, State, and local laws, regulations, and standards pertinent to the project. Its goal is to implement an approach for managing waste that conserves landfill space, preserves environmental quality, conserves natural resources, and reduces disposal costs. Responsibility for ensuring ongoing WMP compliance would be under the direction of the project Solid Waste Management Coordinator (SWMC), as assigned by CalAtlantic Homes (Applicant).

## 1.2 PROJECT LOCATION

The project is a proposed mixed-use community located on 413 acres in the central portion of the *Mira Mesa Community Plan* area in the City of San Diego (City; Figure 1, *Regional Location*). The project site is located east of Camino Santa Fe, approximately halfway between Mira Mesa Boulevard and Miramar Road (Figure 2, *Aerial Location*). The property was formerly operated as a mining site (sand and gravel). The site is currently in the process of reclamation activities, defined to be demolition of structures, clearing, grubbing, remedial grading, mass grading, and creek grading. These post mining obligations are affiliated with Conditional Use Permit (CUP) 89-0585 and were transferred with the property from Hanson Aggregates to the Applicant.

The site is zoned as Agricultural (AR-1-1), and includes areas designated as Park, Open Space, and Recreation, Residential, and Multiple Use in the City General Plan.

## 1.3 PROJECT DESCRIPTION

### 1.3.1 Development Concept and Summary

The proposed project includes approximately 260 acres of open space (including approximately 181 acres of natural open space, 39 acres of parks, and approximately 38 acres of slopes, enhanced landscape and water quality/retention basins), a mixed-use district also referred to as the “40-acre Community Collective,” which includes 13 acres of multi-family residential (RM-3-9 zoning) and 13 acres of non-residential (CM-2-4); 21 acres of residential (RX-1-2); 63 acres of residential (RM-2-6); and 46 acres of on-site roads and parkways and the SDG&E easement (see Figure 3, *Proposed Site Plan*).

#### 1.3.1.1 Residential Uses

##### **RX-1-2**

The project includes a total 185 single family small lots zoned as RX-1-2, with homes ranging in size from 2,500 square feet (SF) to 3,600 SF. Lot sizes would be a minimum of 3,000 SF in these areas with a density of 5 to 10 dwelling units per acre. These single family detached homes range between two and three stories with the maximum height of fifty feet.

##### **RM-2-6**

A total of 984 residential units are planned within the RM-2-6 as part of the proposed project. Units include a mix of single family attached condos built on a common lot, that are two and three stories with a maximum height of fifty feet. Many of the detached homes would be located on the periphery of the proposed community and the area to the north of Carroll Canyon Road across from the proposed community park. Most of the attached homes would be located in the central portion of the project along the western edge of the development footprint adjacent to Camino Santa Fe.

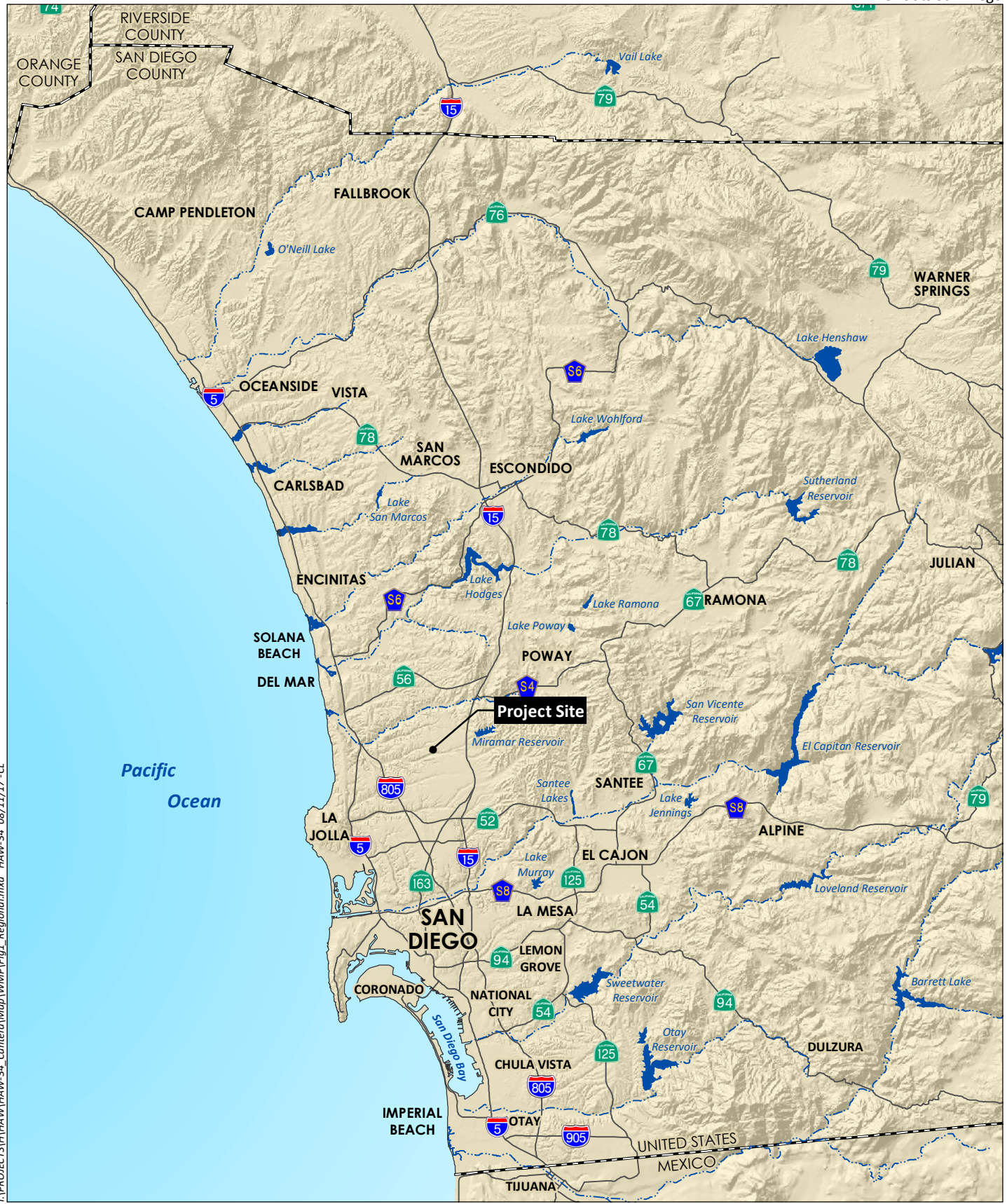
##### **RM-3-9 (Community Collective)**

The Community Collective includes 631 multi-family units on 13 acres designated as RM-3-9 which allows for densities up to 73 dwelling units per acre. Buildings would range from three to five stories high, with a maximum height of 65 feet. Parking would be included as surface lots on grade or provided in a structure within the residential parcel. Live work and retail uses can be included in the RM-3-9 product at the ground floor to activate the street character by introducing a commercial element.

#### 1.3.1.2 Commercial Uses

The 12-acre commercial component of the proposed project includes the 1.5-acre Mobility Hub and close to 10 acres of retail/commercial mixed uses. Public plazas and community gathering areas would connect the Mobility Hub to the commercial core and the surrounding residential uses.

The Mobility Hub is proposed to be a centralized multi-modal node within the project. It would provide pick up and drop off staging areas for both public transportation systems (future potential bus service) as well as private multimodal transportation options such as employer shuttles and rideshare services. A bike repair, rental, and maintenance shop would also be included. Solar electric vehicle (EV) charging stations may be provided in the Mobility Hub.



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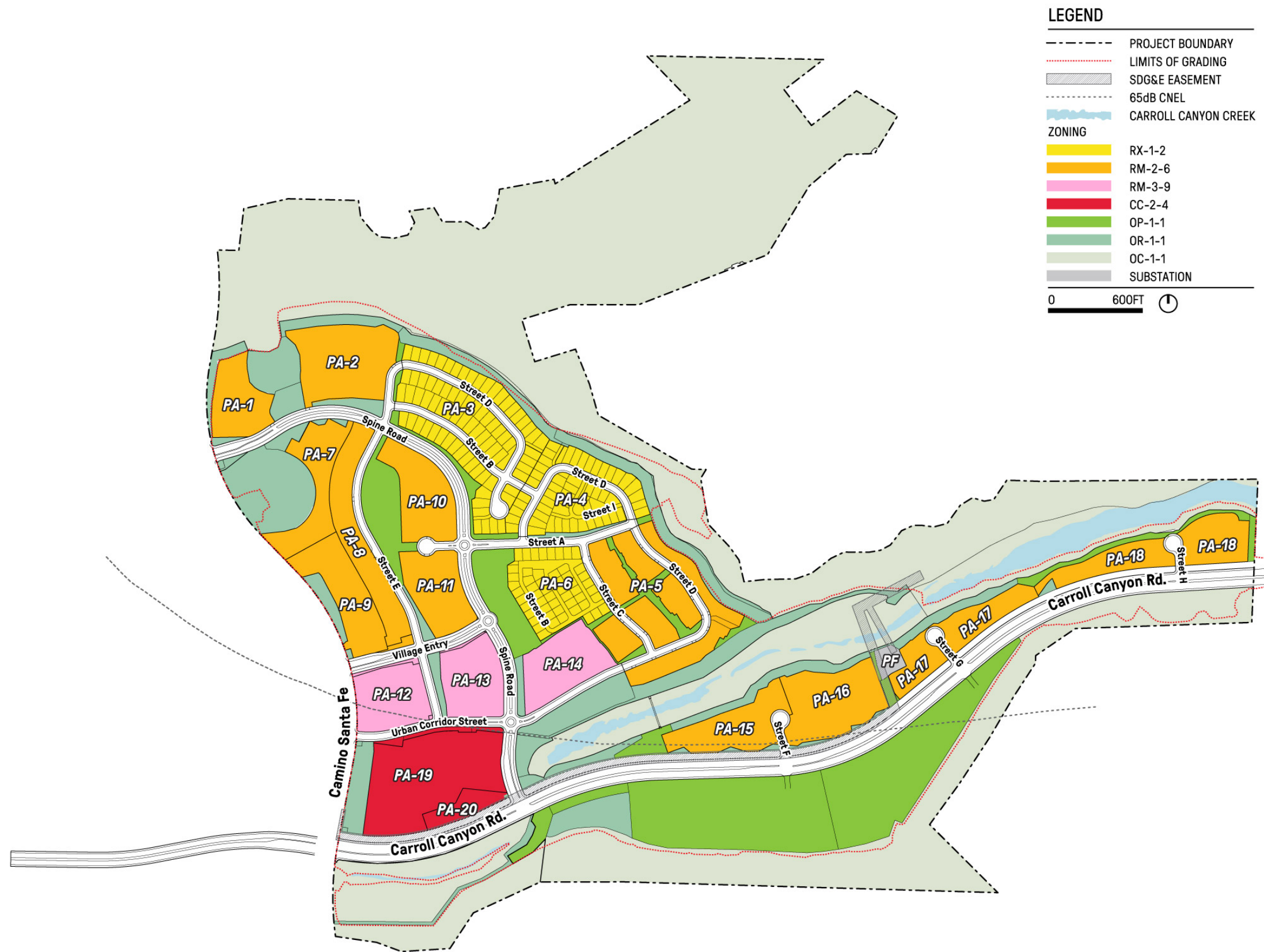
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Source: Aerial (SanGIS 2014)

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Adjacent to the Mobility Hub, the commercial uses would provide services and entertainment options connecting with the residential neighborhoods via a pedestrian trail system. The commercial area includes 160,000 square feet of retail and office. Food and beverage offerings may include fast casual restaurants, quality dining, breweries, cafes, and on-site craft foods. Health and wellness components may include such options as pharmacy, on-site medical clinic, sports performance training, and boutique fitness studios. The office component may include a 23,000 square foot co-working concept and offer services such as shipping, printing, conference rooms, and tele-meeting options.

### **1.3.1.3 Parks and Trails**

The proposed project would include a 25-acre community sports park as well as a collection of smaller neighborhood parks, mini parks ranging in size from approximately one to three acres as well as a series of trails connecting the neighborhoods to the recreational amenities, open space, Community Collective (Figure 3). The community sports park would be located immediately south of Carroll Canyon Road and would be used as a sports complex for the community of Mira Mesa. The community park may include lit soccer fields, baseball fields, restrooms, an indoor recreation facility, and a parking area with roughly 30 parking spaces per field, adhering to the City of San Diego Park and Recreation Design Guidelines. There would be night lighting associated with the use of the sports fields.

### **1.3.1.4 Open Space**

Approximately 43 percent of the project site would be retained as natural open space (Figure 3). Over 140 acres are planned to be included in the City's Multi-habitat Planning Area (MHPA), which is part of the Multiple Species Conservation Program. The project includes updating the limits of reclamation for the site, conducting new technical studies such as vegetation mapping, and the restoration and realignment of a portion of Carroll Canyon Creek.

### **1.3.1.5 Roads and Parkways**

The project would construct the on-site extension of Carroll Canyon Road, a main arterial facilitating a connection between Interstate 805 (I-805) and I-15. The future on-site segment of Carroll Canyon Road would be a 6-lane Prime Arterial with right-of-way widths ranging from 163 feet to 203 feet. As planned in the Mira Mesa Community Plan, Carroll Canyon Road is also proposed to extend off-site, west of Camino Santa Fe; a portion of this offsite segment, approximately 750 linear feet, directly south of the existing Fenton Technology Center, is referenced as T-5B in the 2016 Mira Mesa Public Facilities Financing Plan. The Project Applicant is responsible for participating in this extension up to the westerly end of the Fenton Technology Center for surface improvements only, with no major utility installations required.

### **1.3.1.6 Circulation/Access**

The main entry points to the project site would be from Camino Santa Fe and Carroll Canyon Road. A collector arterial roadway (Spine Road) would intersect with both Carroll Canyon Road and Camino Santa Fe and would run through the project site from north to south. Two smaller streets would intersect with Camino Santa Fe and would primarily be used for circulation to the Community Collective. Several arterial roads would extend into the surrounding residential neighborhoods (Figure 3).

### 1.3.1.7 Landscape and Hardscape Treatments

The project would include landscaping throughout the community. Proposed plantings include a variety of native trees, shrubs, ornamental grasses, groundcovers, and wildflowers, many of which are native species.

Proposed hardscape treatments would include concrete pavers set within gravel bands, distressed paint, cinderblock, granite boulders, textured and colored concrete, concrete with exposed or special aggregate, corrugated metal, or other similar finish treatments. Pedestrian seating/benches and bike racks would be placed throughout the project.

### 1.3.1.8 Grading

The project would require finish grading in addition to on-going reclamation activities for public streets, residential/commercial lots, and public and private in-tract improvements. In select locations, the grading of the project requires the construction of a number of retaining walls on-site.

### 1.3.1.9 Project Phasing and Schedule

The project would be constructed in two phases. Phase I could begin in July 2019 at the northern portion of the project site and would include the construction of residential development eastward from Camino Santa Fe. Phase II could begin in January 2020 and would include construction of residential development through the center of the project and the commercial development in the Community Collective including the completion of residential development to the proposed extension of Carroll Canyon Road; the realignment and enhancement of Carroll Canyon Creek; the SDG&E relocation discussed above; and the commencement of the 25-acre community park. Grading and installation of infrastructure would occur as-needed throughout the construction schedule.

## 2.0 REGULATORY FRAMEWORK

### 2.1 STATE REGULATIONS

The State of California (State) Integrated Waste Management Act (CIWMA) of 1989 [California AB 939], which is administered by the California Department of Resources Recycling and Recovery (CalRecycle), requires counties to develop an Integrated Waste Management Plan (IWMP) that describes local waste diversion and disposal conditions, and lays out realistic programs to achieve the waste diversion goals. IWMPs compile Source Reduction and Recycling Elements (SRREs) that are required to be prepared by each local government, including cities. SRREs analyze the local waste stream to determine where to focus diversion efforts and provide a framework to meet waste reduction mandates. The goal of the solid waste management efforts is not to increase recycling, but to decrease the amount of waste entering landfills. AB 939 required all cities and counties to divert a minimum 50 percent of all solid waste from landfill disposal.

In 2011, the State legislature enacted AB 341 (California Public Resource Code Section 42649.2), increasing the diversion target to 75 percent statewide. AB 341 also requires the provision of recycling service to commercial and residential facilities that generate 4 cubic yards (CY) or more of solid waste per week.

In October of 2014, Governor Brown signed AB 1826, Chesbro (Chapter 727, Statutes of 2014), requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. For businesses that generate 8 or more CY of organic waste per week, this requirement began April 1, 2016, while those that generate 4 CY of organic waste per week must have an organic waste recycling program in place beginning January 1, 2017. This law also requires that on and after January 1, 2016, local jurisdictions across the State implement an organic waste recycling program to divert organic waste generated by businesses, including multi-family residential dwellings that consist of five or more units. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties.

## 2.2 LOCAL REGULATIONS

The City has enacted codes and policies directed at the achievement of State-required diversion levels, including the Refuse and Recyclable Materials Storage Regulations (San Diego Municipal Code (SDMC) Chapter 14, Article 2 Division 8), Recycling Ordinance (City 2007; Municipal Code Chapter 6, Article 6, Division 7), and the C&D Debris Deposit Ordinance (City 2008; Municipal Code Chapter 6, Article 6, Division 6). The City's Zero Waste Plan, a component of the City's Climate Action Plan, was approved and adopted by City Council on July 13, 2015. The Zero Waste Plan identifies goals and strategies to achieve 75 percent diversion by 2020, 90 percent diversion by 2035, and "zero" waste by 2040 (City 2015).

As stated in the City Development Services Department (DSD) CEQA Significance Determination Thresholds (City 2016a), implementation of these regulations and ordinances alone is not projected to achieve a 50 percent diversion rate, far below the current 75 percent diversion level targeted by the State and identified in the Zero Waste Plan for 2020. The City's ESD estimates that compliance with existing City ordinances and regulations alone achieves only an approximate 40 percent diversion rate (City 2013). Therefore, discretionary projects must undertake additional measures to comply with existing regulations.

### 2.2.1 City of San Diego CEQA Significance Determination Thresholds

The City's CEQA Significance Determination Thresholds establish solid waste generation thresholds for discretionary projects. Proposed projects that involve construction, demolition, and/or renovation that meet or exceed the thresholds described below are considered to have potentially significant solid waste impacts and require the preparation of a WMP.

#### Direct Impacts

A project would have a direct impact on solid waste services if it would generate 1,500 tons of waste or more during demolition and construction. Projects that include the construction, demolition, or renovation of 1,000,000 SF or more of building space are considered by the City to have the potential to generate this amount of waste, and therefore may have direct impacts on solid waste services. Additional considerations are as follows:

- The generation of large amounts of waste result in direct impacts that bring facilities closer to daily throughput limits, shorten facility lifespans, require increased numbers of trucks and other equipment, and make it difficult for the City to achieve required waste reduction levels. Waste



management planning is based on a steady rate of waste generation and does not assume increased waste generation due to growth.

- While all projects are required to comply with the City’s waste management ordinances, direct and cumulative impacts are mitigated by the implementation of project-specific WMPs, which may reduce solid waste impacts to below a level of significance.
- For projects over 1,000,000 square feet, a significant direct and cumulative solid waste impact would result if the compliance with the City’s ordinances and the WMP fail to reduce the impacts of such projects to below a level of significance and/or if a WMP for the project is not prepared and conceptually approved by the ESD prior to distribution of the draft environmental document for public review.

### **Cumulative Impacts**

A project would have a cumulative impact on solid waste services if it would generate 60 tons of waste or more per year. Projects that include the construction, demolition, and/or renovation of 40,000 SF or more of building space are considered by the City to potentially generate this amount of waste, and therefore may have cumulative impacts on solid waste services. Other projects such as new single-family residences on public streets or projects creating a demand for litter bin service may also cumulatively impact solid waste services.

While all projects are required to comply with the City’s waste management ordinances, cumulative impacts are mitigated by the implementation of a project-specific WMP that reduces solid waste impacts to below a level of significance.

### **Project Potential Impacts**

The project proposes the construction of over 1,000,000 SF and may generate more than 1,500 tons of solid waste materials during construction, and therefore may exceed the City’s threshold for direct solid waste impacts. The project also proposes construction of more than 40,000 SF, thereby exceeding the City’s threshold for cumulative solid waste impacts without implementation of solid waste diversion measures. Furthermore, the project proposes public parks which would increase demand for litter bin service from the City.

Because implementation of the project without waste diversion measures may exceed direct and cumulative solid waste thresholds, the City has required preparation of this WMP in compliance with CEQA and City Guidelines, to ensure that the project contribution to the overall waste produced within the City would be reduced sufficiently to allow the City to comply with the waste reduction targets established in the Public Resources Code and State statutes.

#### **2.2.2 City of San Diego Refuse and Recyclable Materials Storage Ordinance**

San Diego Municipal Code (SDMC) Section 142.0801 et seq. contains the language of the City Refuse and Recyclable Materials Storage Ordinance (Storage Ordinance), an ordinance that is required by State law.

Table 1, *Required Minimum Storage Areas for Residential Development*, provides information on minimum exterior refuse and recyclable material storage areas for residential development.

**Table 1**  
**REQUIRED MINIMUM STORAGE AREAS FOR RESIDENTIAL DEVELOPMENT**

Number of Dwelling Units	Minimum Refuse Storage Area (SF)	Minimum Recyclable Material Storage Area (SF)	Total Minimum Storage Area (SF)
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	348
101-125	240	240	480
126-150	288	288	576
151-175	336	336	672
176-200	384	384	768
200+	384 + 48 for every 25 dwelling units above 201	384 + 48 for every 25 dwelling units above 201	768 + 96 for every 25 dwelling units above 201

Source: San Diego Municipal Code Table 142-08B

SF = square feet

Table 2, *Required Minimum Storage Areas for Non-residential Development*, provides information on minimum exterior refuse and recyclable material storage areas for non-residential development.

**Table 2**  
**REQUIRED MINIMUM STORAGE AREAS FOR NON-RESIDENTIAL DEVELOPMENT**

Gross Floor Area (SF)	Minimum Refuse Storage Area (SF)	Minimum Recyclable Material Storage Area (SF)	Total Minimum Storage Area (SF)
0-5,000	12	12	24
5,001-10,000	24	24	48
10,001-25,000	48	48	96
25,001-50,000	96	96	192
50,001-75,000	144	144	288
75,001-100,000	192	192	384
100,001+	192+48 SF for every 25,000 SF of building area above 100,001	192+48 SF for every 25,000 SF of building area above 100,001	384+96 SF for every 25,000 SF of building area above 100,001

SF = square feet

### 2.2.3 City of San Diego Recycling Ordinance

The City's Recycling Ordinance, found in SDMC Section 66.0701 et seq., was adopted in November 2007 (City 2007). The Recycling Ordinance requires the provision of recycling service for all commercial facilities, all single-family residences, and multi-family residences with more than 49 units. The Ordinance also provides an exemption for land uses that generate less than 6 CY of waste per week. However, as noted above, AB 341, which was chaptered after the City enacted this ordinance, has imposed a requirement that "captures" any uses being served with 4 CY or more of refuse capacity. This State requirement makes the provision of recycling service a virtually universal requirement. In addition,

the Recycling Ordinance also requires development of educational materials to ensure occupants are informed about the City's ordinance and recycling services, including information on types of recyclable materials accepted.

## **2.2.4 City of San Diego Construction and Demolition Debris Deposit Ordinance**

On July 1, 2008, the City's C&D Debris Deposit Ordinance became effective (City 2008). An amendment to the ordinance and revisions to the associated C&D deposit schedule were approved by the City Council on December 10, 2013 and went into effect on (effective January 1, 2014) and on April 19, 2016 (effective June 22, 2016). The C&D Debris Deposit Ordinance is designed to keep C&D materials out of local landfills and ensure that materials are diverted from disposal. The ordinance creates an economic incentive to recycle C&D debris through the collection of fully refundable deposits that are returned, in whole or in part, upon proof of the amount of C&D debris the project applicant diverted from landfill disposal. The ordinance requires that the majority of construction, demolition and remodeling projects requiring building, combination, and demolition permits pay a refundable C&D Debris Recycling Deposit and divert at least 65 percent of their debris by recycling, reusing, or donating usable materials. The deposit is held until the applicant provides receipts demonstrating that a minimum 65 percent of the material generated has been diverted from disposal in landfills.

The C&D Ordinance stipulates that projects will be required to divert 75 percent of their wastes when mixed debris facilities with a permitted daily tonnage capacity of at least 1,000 tons maintain a 75 percent diversion rate for three consecutive calendar year quarters. Greater than 75 percent diversion also may be required for a project if a higher goal is specified during discretionary permitting. Mixed debris recyclers in San Diego County currently achieve between 66 and 83 percent diversion rates at their facilities (refer to the City's Certified Construction & Demolition Recycling Facility Directory, provided in Appendix A of this report). This is because not everything that is brought to be recycled is usable or marketable. While there is one facility that achieves a diversion rate greater than 75 percent, the others have a diversion rate of 66 to 71 percent. For a project that would dispose of mixed debris at one of the facilities that achieve a less than 75 percent diversion rate, virtually all clean C&D waste from a project must be source-separated and sent to a material-specific recycling facility, such as aggregate and metal recyclers, in order to achieve an overall diversion rate of 75 percent. Higher diversion rates can also be accomplished by salvage and/or on-site reuse of C&D materials. The City's C&D thresholds and deposit amounts are shown below in Table 3, *City C&D Deposit Schedule*.

**Table 3**  
**CITY C&D DEPOSIT SCHEDULE**

Building Category	Deposit per SF <sup>1</sup>	Minimum SF Subject to Ordinance	Maximum SF Subject to Ordinance	Range of Deposits
Residential New Construction, Non-residential Alterations, Demolition	\$0.40	1,000	100,000	\$400-\$40,000
Non-residential New Construction	\$0.20	1,000	50,000	\$200-\$10,000
<b>Flat Rate</b>				
Residential Alterations	\$1,000	1,000	6,999	\$1,000

Source: City 2016b

<sup>1</sup> Deposit amounts are applied to the entire area(s) where work will be performed, and are calculated based on square footage.

SF = square feet

## 3.0 PRE-CONSTRUCTION WASTE

All C&D-generated waste would be subject to compliance with the source separation and diversion requirements contained in this WMP to divert, recycle, and/or re-use these materials to the maximum degree possible. As identified in the City's Certified Construction & Demolition Recycling Facility Directory (City 2018; Appendix A), "Mixed C&D Debris" recyclers attain at most an 83 percent diversion rate, whereas "source-separated" material recyclers can attain nearly 100 percent diversion rates. As a result, in order to achieve the highest level of waste diversion from landfills and highest dollar value for the quality of materials, the project would source separate (segregate) clean recyclable materials on the site by material type, to the maximum extent practicable, and divert them for recycling or reuse at City-certified facilities specializing in each material type.

### 3.1 CLEARING/GRUBBING

Clearing/grubbing involves the removal of existing vegetation. Clearing/grubbing of the site would be limited as most the site has been previously disturbed as part of reclamation and mining activities pursuant to CUP 89-0585, or would be preserved as part of the proposed open space areas.

The project site contains a variety of vegetation communities/habitat types, as documented in the Biological Technical Report (HELIX 2018) prepared for the project. Table 4, *Existing On-site Vegetation*, shows the various vegetation communities/habitat types, as well as the impact acreage and estimated average height of each.

**Table 4**  
**EXISTING ON-SITE VEGETATION**

<b>Vegetation Community/Habitat Type<sup>1</sup></b>	<b>Impact Acreage</b>	<b>Estimated Average Height (feet)</b>
Mule fat scrub	0.11	5
Southern riparian woodland	2.16	15
Southern willow scrub	1.13	15
Coast live oak woodland	0.05	10
Diegan coastal sage scrub	5.01	2
Baccharis scrub	0.30	3
Coastal sage – chaparral transition	0.20	2
Chamise chaparral	0.80	3
Southern mixed chaparral	2.70	3
Non-native grassland	0.20	2
Eucalyptus woodland	0.66	10
Disturbed upland	1.60	1
Non-native vegetation	0.34	10
<b>TOTAL</b>	<b>15.26</b>	<b>5.5</b>

Source: HELIX 2018

<sup>1</sup> Developed, unvegetated channel, disturbed wetland, industrial pond, and active quarry communities/habitat types contain a negligible amount of vegetative material and are not included in the calculations.

The Federal Emergency Management Agency (FEMA) Debris Estimating Field Guide (2010) estimates that one acre of mixed debris 10 feet high converts to 16,133 CY of material. With an approximate average vegetation height of 5.5 feet, and 15.26 acres of vegetated area to be cleared, clearing/grubbing would require the removal of approximately 135,404 CY of material. Using the City of San Diego C&D Debris Conversion Rate Table (City 2016c, Appendix B), approximately 20,311 tons of vegetation would require removal.

Most of the existing landscaping on the project site would be removed; however, some existing trees may be retained on site, where possible. For the purposes of this analysis, no removed vegetation is assumed to be reused or mulched on-site.

Vegetation would be processed and recycled at a target rate of 100 percent diversion at Miramar Greenery, a City-certified green waste recycling facility. The City's Certified Construction & Demolition Recycling Facility Directory (City 2018; Appendix A) states the diversion rate for clean source-separated materials shall be 100 percent. Other waste materials associated with the clearing and grubbing are anticipated to include relatively negligible amounts of waste generated by contractors working on the site during the clearing and grubbing process.

## 3.2 DEMOLITION

On-site demolition would occur under the reclamation plan for the site pursuant to CUP 89-0585 and is not included in the proposed project. Therefore, waste generation and diversion associated with demolition is not analyzed in this WMP.

### 3.3 GRADING

Reclamation and remedial grading currently ongoing as part of reclamation activities pursuant to CUP 89-05084 are not part of the proposed project. Therefore, only finish grading required for the project is considered in this document. Project grading is anticipated to be balanced and no soil or fill is anticipated to require disposal off-site. In the event that soil is required for removal, it would be diverted at a rate of 100 percent to one of the facilities from the City's Certified Construction & Demolition Recycling Facility Directory (City 2018; Appendix A).

Negligible amounts of other waste materials would also likely be generated by contractors working on site during the grading process.

### 3.4 SUMMARY OF PRE-CONSTRUCTION WASTE GENERATION AND DIVERSION

As discussed above, the waste materials to be generated during clearing and grubbing would achieve a target rate of 100 percent diversion at Miramar Greenery. A summary of anticipated waste generation volumes and diversion rates for pre-construction activities is provided in Table 4, *Pre-Construction Solid Waste Generation, Diversion Rates, and Facilities*. As shown in the table, the pre-construction phase of the project is estimated to generate 20,311 tons and divert 20,311 tons of waste.

#### 3.4.1 Summary of Salvaged Material

No salvage of material generated during pre-construction is proposed.

#### 3.4.2 Summary of Recycled Material

Materials generated during the pre-construction phase designated for recycling would be source-separated on site during these activities. The City's Certified Construction & Demolition Recycling Facility Directory, updated quarterly, states the diversion rate for these materials shall be 100 percent, except mixed C&D debris which achieves a maximum 83 percent diversion rate at the EDCO CDI Recycling and Buy Back Center (City 2018; Appendix A). As shown in the table, an overall 100 percent diversion rate is targeted for the project's pre-construction materials.

**Table 4**  
**PRE-CONSTRUCTION SOLID WASTE GENERATION, DIVERSION RATES, AND FACILITIES**

Source of Material	Material	Volume (CY)	Tons/Unit Conversion Factor	Tons	Diversion Rate (Percent)	Facility/ Destination of Materials	Tons Diverted	Tons Disposed
Clearing/Grubbing	Vegetation	135,404	0.15	20,311	100	A	20,311	0
<b>TOTAL</b>				<b>20,311</b>	<b>100</b>	--	<b>20,311</b>	<b>0</b>

Sources: City's Certified Construction & Demolition Recycling Facility Directory (City 2018; Appendix A), City's C&D Debris Conversion Rate Table (City 2016c; Appendix B)  
 Facility/Destination Key:

A. Miramar Greenery, 5180 Convoy Street, San Diego, CA 92111

Notes:

- Table information subject to field verification during pre-construction.
- The Applicant would contract with source separating recycling facilities listed in the City's Certified Construction & Demolition Recycling Facility Directory (City 2018) with an equal or greater diversion rate to ensure diversion rates meet those estimated in this table.
- Total diversion rate based on the percentage of total tons of waste diverted over the total tons of waste generated.
- Columns may not total due to rounding

CY = cubic yards

## 4.0 CONSTRUCTION WASTE

In order to estimate the quantity of waste generated during construction, City ESD staff recommends assuming each material type (carpet, ceiling tiles, etc.) would approximately equal the square footage of each structure. This square footage can then be multiplied by the weight of the material and divided by 10 (percent) to account for waste generated during the construction process. A 10 percent construction waste generation rate is a very conservative figure, used here for analysis based on the following reasoning:

- The costs of purchasing construction materials in excess of the quantity required are prohibitive.
- Many materials, such as metal studs, come prefabricated in specific sizes, such that the contractor can accurately predict and purchase the specific quantity that would be required.
- Contractors can return unused and unneeded items (such as metal studs, appliances, fixtures, etc.) and/or utilize materials (such as brick or drywall) on other projects.
- Not all materials would be utilized throughout project square footage, so generation rates based on the total square footage are bound to be overestimated.

The project proposes Type V construction. This construction type typically consists of wood-framed structures. Floor coverings are anticipated to consist of carpeting and ceramic tiling. Based on the proposed structures, the following building materials that may generate waste are likely to be used during construction:

- Metals
- Concrete/Asphalt
- Wood
- Drywall
- Carpet/Carpet padding
- Ceramic tile
- Ceiling tile
- Roofing materials

Other waste would consist of packaging materials from construction material, appliances, windows, etc., including the following:

- Corrugated cardboard (packaging)
- Industrial plastics (plastic wrap, fasteners, etc.)
- Styrofoam (appliance packaging)

### 4.1 ESTIMATED CONSTRUCTION WASTE GENERATION AND DIVERSION

The City uses a rule of thumb of 3 lbs/SF of waste materials generated during construction (City 2013). Material quantities are based on City guidance as follows:

- Total Project SF x each material type = Total quantity of construction materials required
- Total construction material required x 10 percent = Anticipated quantity of construction waste generated



Anticipated project construction waste generation is shown in Table 5, *Construction Solid Waste Generation, Diversion Rates, and Facilities*. As shown, construction of buildings totaling up to 4,263,500 SF and streets/drives totaling 2,404,512 SF is estimated to generate a total of 5,477 tons of debris.

**Table 5**  
**CONSTRUCTION SOLID WASTE GENERATION, DIVERSION RATES, AND FACILITIES**

Source of Material	New Gross SF	Material	Diversion Rate (Percent) <sup>1</sup>	Tons Diverted <sup>2</sup>	Tons Disposed
Building Construction	4,263,500	Metals	100	640	0
		Concrete/Asphalt	100	640	0
		Wood	100	640	0
		Drywall	66	384	256
		Carpet	66	384	256
		Carpet Padding	66	384	256
		Mixed Debris	66	384	256
		Trash	0	0	639
Streets/Drives	2,404,512	Concrete/Asphalt	100	361	0
<b>TOTAL</b>			<b>70</b>	<b>3,814</b>	<b>1,663</b>

Note: Columns may not total due to rounding.

<sup>1</sup> Trash would be taken to the Miramar Landfill (5180 Convoy Street, San Diego, CA 92111) at a zero percent diversion rate. All other construction debris would be taken to an appropriate facility listed on the City's Certified Construction & Demolition Recycling Facility Directory. Facilities that process metals, concrete/asphalt, and wood all achieve a 100 percent diversion rate for these materials. Although the facility directory indicates that drywall and carpet/carpet padding would achieve a 100 percent diversion rate, City staff have indicated that applicable facilities to handle these types of construction debris may not be available and these materials should be assumed to be sent to a mixed debris facility with a 66 percent diversion rate (City 2018). Facilities that process mixed debris achieve a minimum 66 percent diversion rate, which was conservatively assumed for this project (City 2018; Appendix A).

<sup>2</sup> For each material type, construction waste quantities are calculated based on:  
Three lbs of waste per building SF (e.g., 4,263,500 SF for buildings x 3 lbs per SF = 12,790,500 lbs, or 6,395 tons);  
Total construction material required x 10 percent = anticipated quantity of construction waste generated (640 tons)

#### 4.1.1 Proposed Post-Consumer Content Construction Materials

In order to further minimize waste, the project would utilize recycled content construction materials, where feasible. Given the preliminary nature of the project plans, a minimum target of five percent is anticipated, with verification of purchase of materials equating to this target to be provided prior to or during the pre-construction meeting. See Section 6.1, for the construction waste management, coordination, and oversight measures that would be implemented pursuant to this WMP.

## 5.0 OCCUPANCY WASTE

The project would be managed under the Applicant or its designee(s). The City's Storage Ordinance (SDMC Section 142.0801 et. seq.) requires the provision of separate bins for recyclable waste products to be separated from non-recyclable solid waste. Recycling containers would be provided at convenient locations throughout the development in compliance with the Storage Ordinance, exceeding the minimums shown in Table 1.

Based on the 1,169 attached and detached single-family residential units, 631 multi-family residential units, and 191,000 SF of non-residential land uses, a total of 7,645 SF of storage area would be provided, including a minimum of 3,823 SF of recycling and 3,823 SF of non-recyclable solid waste storage areas, as required by the Storage Ordinance (refer to Table 1).

The City's ESD provides a list of waste generation factors for the occupancy phase of development, (see Appendix C). The estimated waste generation and diversion for the proposed residential and non-residential uses is shown in Table 6, *Estimated Annual Solid Waste Generation and Diversion Rates*.

**Table 6**  
**ESTIMATED ANNUAL SOLID WASTE GENERATION AND DIVERSION RATES**

Land Use	Square Footage/Unit Count	Waste Generation Factor	Tons Generated (per year)	Expected Diversion from Source-Separated Recycling (Percent) <sup>1,2</sup>	Tons Diverted (per year)	Tons Disposed (per year)
Single-Family Residential	1,169	1.6 tons per year per unit	1,870	40	748	1,122
Multi-Family Residential	631	1.2 tons per year per unit	757	40	303	454
Commercial	160,000	0.0028	448	40	179	269
Park/Recreation Facilities	27,000	0.0013	35	40	14	21
Mobility Hub Support Buildings	4,000	0.0085	34	40	14	20
<b>TOTAL</b>			<b>3,144</b>	<b>--</b>	<b>1,258</b>	<b>1,886</b>

Source: City 2012 (Appendix C)

Note: Columns may not total due to rounding.

<sup>1</sup> Reflects compliance with existing City Storage Ordinance and City Recycling Ordinance.

<sup>2</sup> The Applicant would contract with City-approved recycling haulers and disposal facilities.

The estimates in Table 6 are based on the City's current waste generation factors, which do not take into consideration additional sustainability measures and recycling programs that may be implemented at the project to exceed the overall 40 percent diversion estimated by the City for occupancy. Based on this consideration, the actual waste generation may be lower than the estimated waste generation rates.

## 6.0 WASTE REDUCTION, RECYCLING, AND DIVERSION MEASURES

The Applicant is committed to waste reduction during all aspects of project demolition, clearing, grading, construction, and operation, and would incorporate the Waste Diversion Measures (WDM) described below to ensure compliance with applicable solid waste disposal and waste reduction regulations and ordinances. Mandatory compliance with these measures shall be included in all project contractor agreements, clearly reflected on project plans, and verifiable by City ESD staff through written submittals and/or site inspections as described below.

## 6.1 CONSTRUCTION WASTE MANAGEMENT COORDINATION AND OVERSIGHT

### 6.1.1 Contractor Agreements and City Coordination

All WDM described herein shall be included as part of contractor agreements and clearly reflected on project plans identifying activities required to be undertaken during clearing, grading, and construction. These measures shall also be provided in checklist format to City ESD staff prior to the initiation of any activities identified in the WMP. ESD staff shall be allowed access to the project site, project plans, and contractor education program meetings and materials (described below) to verify conformance with these measures.

### 6.1.2 Designation of a Solid Waste Management Coordinator

Prior to initiation of any construction, clearing, grading, or grubbing activities on site, the Applicant shall designate a SWMC for the property with the authority to provide guidelines and procedures for contractor(s) and staff to implement waste reduction and recycling efforts. These responsibilities shall include, but are not limited to, the following:

- Prepare a Contractor Education Program on the waste separation and diversion/disposal procedures specified in this WMP. The Contractor Education Program shall contain, at a minimum, the following information:
  - Written and visual description of each waste type required to be source-separated;
  - Written and graphic description of how each waste type must be treated prior to and during source separation;
  - Direction on which waste types go to mixed-debris facilities;
  - Direction on which waste types go to Miramar Landfill;
  - Direction on materials requiring special handling, such as hazardous materials;
  - Contact for designated contractor in case of questions or emergency;
  - Contact at City ESD in case of questions or emergency; and
  - Phone number, address, and telephone contact information for each contracted hauler and disposal/diversion facility to be utilized.
- Ensure the correct number and signage of bins, as specified in this WMP.
- Ensure a maximum 5 percent contamination by different waste types/non-recyclable materials by weight in the bins.
- Ensure no overtopping of bins occurs.

- Work with contractor(s) to refine estimated quantities of each type of material that would be recycled, reused, or disposed of as waste, then assist contractor(s) with documentation of that waste through receipts at each recycling and landfill facility identified in this WMP, or as otherwise agreed to by ESD staff.
- Issue stop work orders if procedures and standards specified in this WMP are not being followed/met.
- Coordinate with ESD and/or Mitigation Monitoring staff, including regular communication and invitations to the work site, and ensure appropriate staff members are involved at every stage.
- Ensure ESD staff attendance at the contractor education meeting and pre-construction meetings of each phase of the development.

### **6.1.3 Contractor Waste Management Training**

The project's SWMC or an ESD-approved contractor designee shall carry out Contractor Education Program presentations ensuring all project personnel are trained regarding content and requirements of this WMP. Prior to beginning work on any portion of the project, each member of the team, including all workers, subcontractors, and suppliers, shall be provided with a copy of the WMP, and undergo training on proper waste management procedures applicable to the project.

- The project's SWMC, or ESD-approved Contractor-designee shall carry out contractor waste management training presentations for each new group or individual hired, contracted, or assigned to work on the project.
- The SWMC and/or Contractor-designee shall ensure that each person working on the project has completed the waste management training by maintaining a written log to be signed and dated by each trainee upon completion of the training program. Copies of this written log, along with a list of all applicable personnel, shall be provided to City ESD staff for verification during each phase of project activities.

### **6.1.4 Daily Site Inspections by Contractor(s)**

The project contractor(s) shall conduct daily inspections of the construction site to ensure compliance with the requirements of this WMP and with all other applicable laws and ordinances. Daily inspections shall include verifying the availability and number of dumpsters based on amount of debris being generated, verifying trash and recycled materials dumpsters are correctly labeled, ensuring proper sorting and segregation of materials, and ensuring excess materials are properly salvaged. The project contractor(s) shall report the results of the daily site inspections to the SWMC.

### **6.1.5 Regular Removal of Waste Materials**

The project contractor(s) shall ensure removal of construction waste materials in sufficient frequency to prevent over-topping of bins. The accumulation and burning of on-site grading/ land-clearing and construction waste materials shall be prohibited.

### 6.1.6 City Verification

The Applicant shall ensure a representative of the City’s ESD attends pre-construction meetings prior to clearing, grading, and construction to ensure that the following items are verified:

- Material segregation, recycling, and reuse is occurring per the WMP;
- Soil is being transported to an appropriate facility for reuse;
- Grubbed materials are sent to a suitable green waste recycling facility;
- Contract documents have appropriate estimates and constraints to avoid “overbuying” construction materials;
- Contract documents specify methods to achieve five percent post-consumer content goal;
- Contamination levels (i.e., different waste types/non-recyclable materials) do not exceed five percent by weight;
- An appropriate diversion rate (as specified in this WMP) has been included on the deposit form;
- Contract documents specify agreements for each recyclable/reusable material type to be taken to an appropriate recycling/reuse facility, as specified in this WMP; and
- Minimum exterior refuse and recyclable material storage areas have been incorporated into project plans, as a requirement of the City of San Diego Storage Ordinance (Municipal Code Section 142.0801 et. seq.).

## 6.2 CONSTRUCTION WASTE REDUCTION, DIVERSION COMPLIANCE, AND VERIFICATION

### 6.2.1 Identification, Separation, and Diversion of Recyclable/Reusable Materials

The Applicant shall ensure that:

- Throughout project activities, waste materials shall be source-separated on site into the appropriate bin based on materials type, according to the categories in this WMP. Materials generated during clearing, grading, and construction that would be source-separated and recycled, if present on-site, are listed below:
  - Mixed C&D (wood, dirt, concrete, drywall, brick, metals, rock, asphalt, tile, cardboard)
  - Metals
  - Concrete/Asphalt
  - Brick/Masonry
  - Wood

- Drywall
  - Carpet/Carpet padding
  - Clean fill dirt
  - Green waste
- A separate bin for each clean waste material type to be generated during each phase of clearing, grading, and construction activity shall be provided on the site, subject to the following requirements:
    - Containers shall be clearly labeled, with a list of acceptable and unacceptable materials. The list of acceptable materials must be the same as the materials recycled at the receiving material recovery facility or recycling processor.
    - The collection containers for recyclable grading/land-clearing and construction waste shall contain no more than five percent non-recyclable materials, by weight.
    - Regular visual inspections of dumpsters and recycling bins shall be conducted to remove contaminants.
    - Recycling areas shall be clearly identified with large signs. Lists of acceptable and unacceptable materials shall be posted on recycling bins and throughout the project site and all recycled material signage shall be visible on at least two sides of haul containers.
    - Recycling bins shall be placed in areas that would be readily accessible and would minimize misuse or contamination. The SWMC shall be responsible for these efforts and they shall be reviewed at pre-construction meetings and/or during contractor education meetings, if conducted separately.
    - Recyclable and/or reusable waste materials collected in source-separated bins shall be diverted to recycling/reuse facilities as designated in Tables 4 through 6 of this WMP, or to another facility listed on the City's Certified Construction & Demolition Recycling Facility Directory, should the designated facilities not be available.

### 6.2.2 Source Reduction Measures

Project contractors and subcontractors, in cooperation with the project's SWMC and ESD staff, as applicable, shall coordinate to minimize the over-purchasing of construction materials to lower the amount of materials taken to recycling and disposal facilities. The project shall minimize over-purchasing through purchase of pre-cut materials, whenever feasible. The following steps shall be undertaken:

- Detailed material estimates shall be used to reduce risk of unplanned and potentially wasteful material cuts.
- Contractor and subcontractor material purchasing agreements shall include a waste reduction provision requesting that: materials and equipment be delivered in packaging made of recyclable material; vendors reduce the amount of packaging; packaging be taken back by

vendors for reuse or recycling; and vendors take back all unused product. Contracts containing this language shall be made available to ESD staff during ESD site visits for inspection.

- Post-consumer content products shall be employed in the design and construction of the new facilities with the goal of achieving five percent post-consumer content materials. Efforts to use post-consumer content may include using products manufactured with post-consumer content materials (i.e., products that were bought, used, and recycled by consumers), such as natural textiles, aggregate, or concrete. Receipts demonstrating post-consumer content shall be provided to ESD staff at or prior to the pre-construction meetings.
- Prior to submittal, final project plans shall indicate the anticipated source and quantity of materials to be reused on site, and the source, quantity, and percentage of post-consumer content waste products anticipated to be utilized for project construction.
- Contractors shall include the anticipated source and quantity of post-consumer content products proposed for reuse or purchase in their project bid.
- Final project plans inclusive of the information above shall be provided to ESD for verification.

### **6.3 OPERATIONAL WASTE MANAGEMENT AND DIVERSION MEASURES**

The Applicant shall undertake and/or shall specify in contract language and/or sales/lease agreements with any tenant, operator, and/or future owner, a list of recycling requirements with which the Applicant or future tenants, operators, and/or owners shall be obligated to comply, including, but not limited to, the following:

- Recycling areas shall be clearly identified with large signs.
- Lists of acceptable and unacceptable materials shall be posted on recycling bins.
- All recycled material signage shall be visible on at least two sides of recycling containers.
- Recycling bins shall be placed in areas that would be readily accessible and would minimize misuse or contamination.
- Prepare and distribute recycling educational materials for inspection by ESD prior to certificate of occupancy.
- After materials are approved, distribute to all project site owners/occupants.
- Green waste generated by ongoing landscaping and landscape maintenance activities shall be source-separated by the landscaping contractor and diverted to Miramar Greenery.

Prior to issuance of any certificate of occupancy/tentative certificate of occupancy, the Applicant shall invite a representative of the City ESD to:

- Inspect and approve storage areas that have been provided consistent with the City's Storage Ordinance;
- Ensure that a hauler has been retained to provide recyclable materials collection, and, if applicable, landscape waste collection; and
- Inspect and approve education materials for building tenants/owners that are required pursuant to the City's Recycling Ordinance.

For specialized product purchasing (e.g., with recycled content) to be used during occupancy, the Applicant shall provide for inspection by ESD the documentation that would be used to carry out this requirement.

## 7.0 CONCLUSION

As discussed under Regulatory Framework, a project may result in a significant direct impact under the City CEQA Significance Thresholds if it generates more than 1,500 tons of solid waste materials during construction and demolition. Projects that include the construction, demolition, and/or renovation of 40,000 SF or more of building space or generate approximately 60 tons of waste or more are considered to have potentially significant cumulative impacts on solid waste services. Further, AB 341 requires the diversion of 75 percent of solid waste and mandatory provision of recycling collection service during occupancy.

### 7.1 SUMMARY OF WASTE GENERATION AND DIVERSION

During the pre-construction phase, the project would produce an estimated 20,311 tons of green waste, and divert all of these materials from the landfill, as identified in Table 4. The project would achieve an overall pre-construction diversion rate of 100 percent.

During construction, the project would produce an estimated 5,477 tons of solid waste (metal, concrete, concrete/steel, asphalt, brick/masonry, wood, drywall, carpet/carpet padding, mixed debris, and trash), and divert approximately 3,814 tons of solid waste materials from the landfill, as identified in Table 5. The diverted material would consist of clean, source-separated (segregated) recyclable and/or reusable material, as well as mixed debris, to be deposited at the recycling/reuse facilities identified in the City's Certified Construction & Demolition Recycling Facility Directory (Appendix A). Approximately 1,663 tons of solid waste material generated during construction is anticipated to be disposed of as non-recyclable/non-reusable waste at Miramar Landfill, for an overall diversion rate during construction of approximately 70 percent.

With the combined pre-construction and construction phases, the project would produce 25,788 tons of solid waste and would divert 24,125 tons. This would be an overall diversion rate during pre-construction and construction of 94 percent.

During occupancy, it is estimated that the project would generate approximately 3,144 tons of waste per year and would divert approximately 1,258 tons per year to recycling/reuse facilities, resulting in an estimated 40 percent diversion of waste from the landfill, as identified in Table 6. These materials would consist of clean, recyclable materials, gathered in on-site recycling bins. Approximately 1,886 tons per



year, or 60 percent of occupancy material generated, are estimated to be disposed of as non-recyclable/non-reusable waste at Miramar Landfill.

## 7.2 COMPLIANCE WITH STATE REGULATIONS

Based on the quantified waste generation and diversion rates discussed above, the project would exceed the 75 percent solid waste diversion rate for waste produced during each of the construction phases. It is anticipated that the project would fail to meet the 75 percent waste reduction target annually once the buildings are occupied. This shortcoming is overcome by the following factors:

- The segregation proposed during pre-construction and construction would achieve an overall 94 percent diversion rate, exceeding the 75 percent target.
- The project would incorporate mandatory waste reduction, recycling, and diversion measures as identified in Sections 6.1 and 6.2 of this WMP during pre-construction and construction, to further reduce solid waste impacts.
- Ongoing diversion of green waste (landscaping debris) to Miramar Greenery would avoid unnecessary contributions to Miramar Landfill.

In addition to the measures implemented during pre-construction and construction activities, the Applicant would commit to the recycling requirements identified in Section 6.3 of this WMP, to further reduce solid waste impacts during occupancy.

## 7.3 COMPLIANCE WITH CITY REGULATIONS

Based on the quantified waste generation and diversion rates discussed above, the project would result in a significant impact regarding the City's CEQA Significance Determination Threshold for direct impacts to solid waste facilities during demolition and construction. The project would be above the City's threshold (generation of more than 1,500 tons of solid waste materials) for direct impacts to solid waste facilities during demolition and construction.

Regarding cumulative impacts, the project proposes greater than 40,000 SF of building space, and the project would be above the City's CEQA Significance Determination Threshold of 60 tons for disposal of waste during C&D. During occupancy, the project would achieve an average 40 percent diversion of waste via source-separated recycling and would dispose of approximately 1,886 tons of waste per year once the buildings are occupied. This would exceed the City's CEQA Significance Determination Threshold for cumulative impacts to solid waste services.

As mitigation, the City requires implementation of this document, a project-specific WMP, to identify measures for waste reduction. These waste exceedances would be overcome by the waste reduction achieved during construction through measures described in Sections 6.1 and 6.2 of this WMP. Through the quantified waste generation and diversion rates discussed in this document, the project would exceed the 75 percent solid waste diversion rate for waste produced during pre-construction and construction phases by achieving an overall 94 percent diversion rate. In addition, the measures specified for operation in Section 6.3 of this WMP would provide adequate waste management. Regarding trash and recycling storage space during operation, the project would provide at least 7,645 SF of trash and recycling storage

space, per the City Storage Ordinance (Table 1). The project would comply with the City Recycling Ordinance by providing adequate space, bins, and educational materials for recycling during occupancy.

Through compliance with waste diversion measures included in this WMP, plus implementation of sustainability and efficiency features, the project's direct solid waste impact would be less than significant and the project's contribution to a cumulative solid waste generation would be reduced to a level that is less than cumulatively considerable.

## 8.0 REFERENCES

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# Appendix A

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2018 Certified C&D Recycling  
Facility Directory

## 2018 Certified Construction & Demolition (C&D) 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 percent, except mixed C&D debris, which update 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](http://www.recyclingworks.com).

<p><b><i>*Transfer Stations offer both recycling and trash disposal services. In order to receive recycling credit, you must:</i></b></p> <p><i>-Notify the weighmaster your load is subject to the City of San Diego C&amp;D Ordinance.</i></p> <p><i>-If your load is mixed Construction and Demolition (C&amp;D) debris, ensure it is coded correctly on the receipt. Tickets coded as "MSW, trash or refuse" will receive 0% credit.</i></p> <p><i>-Ensure the project address and Permit number are added to the receipt.</i></p> <p><b><i>Please note: Miramar Landfill and other landfills DO NOT recycle mixed C&amp;D debris.</i></b></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	Trash
<p><b>*EDCO Recovery &amp; Transfer*</b> 3660 Dalbergia St, San Diego, CA 92113 619-234-7774   <a href="http://www.edcodisposal.com">www.edcodisposal.com</a></p>	71%											•						•
<p><b>*EDCO Station Transfer Station &amp; Buy Back Center*</b> 8184 Commercial St, La Mesa, CA 91942 619-466-3355   <a href="http://www.edcodisposal.com">www.edcodisposal.com</a></p>	71%				•							•			•			•
<p><b>*EDCO CDI Recycling &amp; Buy Back Center*</b> 224 S. Las Posas Rd, San Marcos, CA 92078 760-744-2700   <a href="http://www.edcodisposal.com">www.edcodisposal.com</a></p>	83%				•										•			•
<p><b>Escondido Resource Recovery</b> 1044 W. Washington Ave, Escondido 760-745-3203   <a href="http://www.edcodisposal.com">www.edcodisposal.com</a></p>	71%																	
<p><b>*Fallbrook Transfer Station &amp; Buy Back Center*</b> 550 W. Aviation Rd, Fallbrook, CA 92028 760-728-6114   <a href="http://www.edcodisposal.com">www.edcodisposal.com</a></p>	71%				•										•			•
<p><b>Otay C&amp;D/Inert Debris Processing Facility</b> 1700 Maxwell Rd, Chula Vista, CA 91913 619-421-3773   <a href="http://www.sd.disposal.com">www.sd.disposal.com</a></p>	66%																	
<p><b>*Ramona Transfer Station &amp; Buy Back Center*</b> 324 Maple St, Ramona, CA 92065 760-789-0516   <a href="http://www.edcodisposal.com">www.edcodisposal.com</a></p>	71%				•										•			•
<p><b>SANCO Resource Recovery &amp; Buy Back Center</b> 6750 Federal Blvd, Lemon Grove, CA 91945 619-287-5696   <a href="http://www.edcodisposal.com">www.edcodisposal.com</a></p>	71%				•										•			
<p><b>All American Recycling</b> 10805 Kenney St, Santee, CA 92071 619-508-1155 (Must call for appointment)</p>						•												
<p><b>Allan Company</b> 6733 Consolidated Wy, San Diego, CA 92121 858-578-9300   <a href="http://www.allancompany.com/facilities">www.allancompany.com/facilities</a></p>					•										•			
<p><b>Allan Company Miramar Recycling</b> 5165 Convoy St, San Diego, CA 92111 858-268-8971   <a href="http://www.allancompany.com/facilities">www.allancompany.com/facilities</a></p>					•										•			
<p><b>AMS</b> 8515 Miramar Pl., San Diego, CA 92121 858-541-1977   <a href="http://www.a-m-s.com">www.a-m-s.com</a></p>								•										

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<p><b>Armstrong World Industries, Inc.</b> 300 S. Myrida St, Pensacola, FL 32505 877-276-7876 (Press 1, Then 8) <a href="http://www.armstrong.com/commceilingsna">www.armstrong.com/commceilingsna</a></p>								•										
<p><b>Cactus Recycling</b> 2225 Avenida Costa Este Suite 1600, San Diego, CA 92154 619-446-7093   <a href="http://www.cactusrecycling.com">www.cactusrecycling.com</a></p>					•							•		•			•	
<p><b>DFS Flooring</b> 10178 Willow Creek Road, San Diego, CA 92131 858-630-5200   <a href="http://www.dfsflooring.com">www.dfsflooring.com</a></p>						•	•											
<p><b>Duco Metals</b> 220 Bingham Drive Suite 100, San Marcos, CA 92069 760-747-6330   <a href="http://www.ducometals.com">www.ducometals.com</a></p>															•			
<p><b>Enniss Incorporated</b> 12421 Vigilante Rd, Lakeside, CA 92040 619-443-9024   <a href="http://www.ennissinc.com">www.ennissinc.com</a></p>		•	•						•	•								
<p><b>Escondido Sand and Gravel</b> 500 N. Tulip St, Escondido, CA 92025 760-432-4690   <a href="http://www.weirasphalt.com">www.weirasphalt.com</a></p>		•																
<p><b>Habitat for Humanity ReStore</b> 10222 San Diego Mission Rd, San Diego, CA 92108 619-516-5267   <a href="http://www.sandiegohabitat.org">www.sandiegohabitat.org</a></p>				•														
<p><b>Hanson Aggregates West – Lakeside Plant</b> 12560 Highway 67, Lakeside, CA 92040 858-547-2141</p>		•																
<p><b>Hanson Aggregates West – Miramar</b> 9229 Harris Plant Rd, San Diego, CA 92126 858-974-3849</p>		•								•								
<p><b>HVAC Exchange</b> 2675 Faivre St, Chula Vista, CA 91911 619-423-1855   <a href="http://www.hvacx.com">www.hvacx.com</a></p>															•			
<p><b>IMS Recycling Services</b> 2740 Boston Ave, San Diego, CA 92113 619-423-1564   <a href="http://www.imsrecyclingservices.com">www.imsrecyclingservices.com</a></p>					•								•					
<p><b>IMS Recycling Services</b> 2697 Main St, San Diego, CA 92113 619-231-2521   <a href="http://www.imsrecyclingservices.com">www.imsrecyclingservices.com</a></p>													•		•			
<p><b>Inland Pacific Resource Recovery</b> 12650 Slaughterhouse Canyon Rd, Lakeside, CA 92040 619-390-1418</p>											•							
<p><b>Lamp Disposal Solutions</b> 1405 30<sup>th</sup> Street, San Diego, CA 92154 858-569-1807   <a href="http://www.lampdisposalsolutions.com">www.lampdisposalsolutions.com</a></p>														•				
<p><b>Los Angeles Fiber Company</b> 4920 S. Boyle Ave, Vernon, CA 90058 323-589-5637   <a href="http://www.lafiber.com">www.lafiber.com</a></p>						•	•											

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<b>Miramar Greenery, City of San Diego</b> 5180 Convo St, San Diego, CA 92111 858-694-7000   <a href="http://www.miramargreenery.com">www.miramargreenery.com</a>											•							
<b>Moody's</b> 3210 Oceanside Blvd., Oceanside, CA 92056 760-433-3316   <a href="http://www.moodyselecorazonrecycling.com">http://www.moodyselecorazonrecycling.com</a>		•								•						•		
<b>Otay Valley Rock, LLC</b> 2041 Heritage Rd, Chula Vista, CA 91913 619-591-4717   <a href="http://www.otayrock.com">www.otayrock.com</a>		•																
<b>Reclaimed Aggregates Chula Vista</b> 855 Energy Way, Chula Vista, CA 91913 619-656-1836		•														•		
<b>Robertson's Ready Mix</b> 2094 Willow Glen Dr, El Cajon, CA 92019 619-593-1856		•								•						•		
<b>RAMCO</b> 8354 Nelson Way, Escondido, CA 92026 760-205-1797   <a href="http://www.ramco.us.com">www.ramco.us.com</a>		•																
<b>SA Recycling</b> 3055 Commercial St., San Diego, CA 92113 619-238-6740   <a href="http://www.sarecycling.com">www.sarecycling.com</a>															•			
<b>SA Recycling</b> 1211 S. 32 <sup>nd</sup> St., San Diego, CA 92113 619-234-6691   <a href="http://www.sarecycling.com">www.sarecycling.com</a>															•			
<b>Universal Waste Disposal</b> 8051 Wing Avenue, El Cajon, CA 92020 619-438-1093   <a href="http://www.universalwastedisposal.com">www.universalwastedisposal.com</a>														•				
<b>Vulcan Carol Canyon Landfill and Recycle Site</b> 10051 Black Mountain Rd, San Diego, CA 92126 858-530-9465   <a href="http://www.vulcanmaterials.com">www.vulcanmaterials.com</a>		•	•							•						•		
<b>Vulcan Otay Asphalt Recycle Center</b> 7522 Paseo de la Fuente, San Diego, CA 92154 619-571-1945   <a href="http://www.vulcanmaterials.com">www.vulcanmaterials.com</a>		•																



# Appendix B

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## City of San Diego 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 is a tool that should be used for preparing your Waste Management Form - Part I, which requires that quantities be provided in tons.

**Note: Weigh receipts are required for your refund request.**

**Step 1:** Enter the estimated quantity for each applicable material in Column I, based on units

**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 - Part I.

Category	Material	Column I		Column II		Column III
		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	=	_____
<b>Total All</b>						_____

# Appendix C

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## 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