

# Appendix I

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## Waste Management Plan

# Lusk on Lusk Project

## Waste Management Plan

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## Acronyms and Abbreviations

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|            |                                                           |
|------------|-----------------------------------------------------------|
| AB         | Assembly Bill                                             |
| APN        | Assessor's Parcel Number                                  |
| C&D        | Construction and Demolition                               |
| CalRecycle | California Department of Resources Recycling and Recovery |
| CDP        | Coastal Development Permit                                |
| CEQA       | California Environmental Quality Act                      |
| CUP        | Central Utility Plant                                     |
| CY         | cubic yard(s)                                             |
| DSD        | Development Services Department (City of San Diego)       |
| ESD        | Environmental Services Department (City of San Diego)     |
| FEMA       | Federal Emergency Management Agency                       |
| IBC        | International Building Code                               |
| ICC        | International Code Council                                |
| IWMP       | Integrated Waste Management Plan                          |
| lbs        | pounds                                                    |
| NDP        | Neighborhood Development Permit                           |
| SB         | Senate Bill                                               |
| SDMC       | San Diego Municipal Code                                  |
| SDP        | Site Development Permit                                   |
| SF         | square foot/feet                                          |
| SRRE       | Source Reduction and Recycling Element                    |
| SWMC       | Solid Waste Management Coordinator                        |
| TM         | Tentative Parcel Map                                      |
| WDM        | Waste Diversion Measure                                   |
| 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 Lusk on Lusk Project (project) throughout demolition, 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 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 (City) waste reduction ordinances and the waste diversion goals established by State Assembly Bill (AB) 341, the project must achieve a 75 percent diversion rate during demolition and 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 C&D Recycling Facility Directory (City 2023; 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.

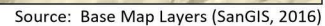
This WMP has been prepared consistent with applicable federal, State, and local laws, regulations, and standards pertinent to the project. Its goal is to implement an approach for managing waste that conserves landfill space, preserves environmental quality, conserves natural resources, and reduces disposal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

## 1.2 PROJECT LOCATION

The project includes four parcels, approximately 15.07 acres in total, located within the Mira Mesa Community Plan area of the City of San Diego (City), south of Los Peñasquitos Lagoon and east of Interstate (I-)5 (Figure 1, *Regional Location*). The project area is located within Section 4 of Township 15 South, Range 2 West, on the Del Mar U.S. Geological Survey (USGS) topographic quadrangle (Figure 2, *USGS Topography*). The proposed project parcels are situated south and west of Lusk Boulevard, south of the intersection of Lusk Boulevard and Pacific Center Boulevard, within Assessor's Parcel Numbers (APNs) 341-033-01-00 to -04-00 (Figure 3, *Aerial Photograph*).

## 1.3 PROJECT DESCRIPTION

The project proposes to redevelop the existing 15.07-acre property into multi-story, lab and office buildings as part of an interconnected science campus (Figure 4, *Site Plan*). The project proposes the construction of approximately 1,283,190 square feet (SF) of research and development (R&D) use, 30,000 SF of tenant-serving amenity space (such as gym facilities, bike facilities, large conference hall, public art, information and welcoming hub, coffee shop, and restaurant) and 1,083,080 SF of parking structures.



0 2,000 Feet



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Neemap; SANDAG, SanGIS

Source: Aerial (SanGIS, 2019)

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Source: Longfellow 2023

The project site is currently occupied by 278,491 SF of office and light industrial uses split among six buildings. All existing buildings will be removed as a part of the project. Access to the site is currently provided by existing driveways along Lusk Road. Grading is estimated to require a cut of 211,000 cubic yards (CY) and a fill of 37,000 CY, for a total export quantity of 174,000 CY.

## **2.0 REGULATORY FRAMEWORK**

### **2.1 STATE OF CALIFORNIA**

The State of California (State) Integrated Waste Management Act of 1989 (California Assembly Bill [AB] 939; as modified in 2010 by Senate Bill [SB] 1016), 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 identifies realistic programs to achieve 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 of 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 CY or more of solid waste per week.

In October 2014, Governor Brown signed AB 1826 Chesbro (Chapter 727, Statutes of 2014), which builds on the success of the mandatory commercial recycling program established by AB 341 by mandating a phased recycling program based on the amount of organic waste businesses 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 begins 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 or 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.

In September 2016, SB 1383 (Chapter 395, Statutes of 2016) was approved, requiring a statewide reduction of organic waste disposal. Specifically, SB 1383 requires a 50 percent reduction of the statewide disposal of organic waste from the 2014 level by 2020, and a 75 percent reduction of the 2014 level by 2025. SB 1383 requires cities and counties to adopt regulations to achieve the specified targets for reducing organic waste in landfills. Further, CalRecycle adopted regulations in November 2020 that took effect in January 2022.

## 2.2 LOCAL REGULATIONS

The City has enacted codes and policies directed at the achievement of State-required diversion levels, including the Refuse, Organic Waste, and Recyclable Materials Storage Regulations (City 2022a; Municipal Code Chapter 14, Article 2 Division 8), Recycling Ordinance (City 2022b; Municipal Code Chapter 6, Article 6, Division 7), and the Construction and Demolition 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 the 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). Additionally, the City is in the process of implementing extensive procedural changes to comply with SB 1383, including developing collection operations, adopting purchasing policies, amending the City's Municipal Recycling Code, enacting building requirements, preparing enforcement responsibilities, and strategizing public education and outreach efforts. As part of this effort, starting in 2022, the City and City-certified private waste haulers will expand organic waste collection services for residents and businesses to meet the organic waste reduction goals set by SB 1383. This is reflected in the recent updates to the Refuse, Organic Waste, and Recyclable Materials Storage Regulations and the Recycling Ordinance.

As stated in the City Development Services Department (DSD) CEQA Significance Determination Thresholds (City 2022c), 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 30 and 40 percent diversion rate for small and large projects, respectively (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 (City 2022c). 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 SF, 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 may generate more than 1,500 tons of solid waste materials during demolition and 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.

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, Organic Waste, and Recyclable Materials Storage Regulations (Storage Ordinance), an ordinance that is required by State law. The Storage Ordinance was adopted in December 1997. An amendment to the ordinance was approved by the City Council on January 27, 2022 (effective February 26, 2022). The purpose of the Storage Ordinance is to provide permanent, adequate, and convenient space for the storage and collection of refuse, organic waste, and recyclable material (City 2022a). The storage required for the project would meet the general regulations detailed within the Storage Ordinance and the total storage area requirement would be based on the gross floor area of the nonresidential buildings on the premises. Additionally, the project would provide at least one exterior refuse, organic waste, and recyclable material storage area for each building.

Table 1, *Minimum Exterior Refuse, Organic Waste, and Recyclable Material Storage Areas for Nonresidential Development*, (SDMC Table 142 08C) provides information on minimum exterior refuse and recyclable material storage areas for non-residential development.

**Table 1**  
**MINIMUM EXTERIOR REFUSE, ORGANIC WASTE, AND RECYCLABLE MATERIAL STORAGE AREAS FOR NONRESIDENTIAL DEVELOPMENT**

| Gross Floor-Area Per Development (SF) | Minimum Refuse Storage Area Per Development (SF)                  | Minimum Recyclable Material Storage Area Per Development (SF)     | Minimum Organic Waste Storage Area Per Development (SF)           | Total Minimum Area Per Development (SF)                            |
|---------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------|
| 0-5,000                               | 12                                                                | 12                                                                | 12                                                                | 36                                                                 |
| 5,001-10,000                          | 24                                                                | 24                                                                | 24                                                                | 72                                                                 |
| 10,001-25,000                         | 48                                                                | 48                                                                | 48                                                                | 144                                                                |
| 25,001-50,000                         | 96                                                                | 96                                                                | 96                                                                | 288                                                                |
| 50,001-75,000                         | 144                                                               | 144                                                               | 144                                                               | 432                                                                |
| 75,001-100,000                        | 192                                                               | 192                                                               | 192                                                               | 576                                                                |
| 100,001+                              | 192 plus 48 SF for every 25,000 SF of building area above 100,001 | 192 plus 48 SF for every 25,000 SF of building area above 100,001 | 192 plus 48 SF for every 25,000 SF of building area above 100,001 | 576 plus 144 SF for every 25,000 SF of building area above 100,001 |

SF = square feet

Additionally, Section 142.0820 of the Storage Ordinance provides allowances for alternative compliance regarding the required storage area set forth in SDMC Table 142 08C. The Storage Ordinance states that alternative compliance may be allowed using mechanical compactors or other comparable technology, or by use of private refuse, recyclable materials, and organic waste hauling to meet the specific needs of a development (City 2022a). Ministerial approval of alternative compliance during building plan review may occur if it can be demonstrated to the satisfaction of the City Engineer that the alternative compliance accommodates the same or greater capacity than Table 142-08C requires.

### 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 2022b). An amendment to the ordinance was approved by the City Council on May 5, 2022 (effective June 8, 2022). The Recycling Ordinance requires the provision of a recycling service for all commercial facilities, all single-family residences, and multi-family residences. The ordinance states that nonresidential development, or additions to existing nonresidential development where the gross floor area would be increased by 30 percent or more, shall provide at least one exterior refuse, organic waste, and recyclable material storage area for each building. The ordinance also provides an exemption for multi-family residential facilities, commercial facilities, and mixed use facilities that generate 0.001 CY or less per week of solid waste including recyclable materials mixed with solid waste. This requirement makes the provision of recycling service a virtually universal requirement. In addition, the Recycling Ordinance requires that businesses and institutional facilities recycle organic waste food scraps, food-soiled paper, yard trimmings and nonhazardous wood waste and provide weekly collection services. 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.

## 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 (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 most of the 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 65 and 93 percent diversion rates at their facilities (City 2023; Appendix A). This is because not everything that comes through the door is usable or marketable. While one of the facilities achieves a diversion rate equal to or greater than 93 percent, six facilities have a diversion rate of 65 percent. For a project that would dispose of mixed debris at the facility that achieves a 65 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, 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 2, *City C&D Deposit Schedule*.

**Table 2**  
**CITY C&D DEPOSIT SCHEDULE**

| <b>Building Category</b>                                                 | <b>Deposit per SF<sup>1</sup></b> | <b>Minimum SF Subject to Ordinance</b> | <b>Maximum SF Subject to Ordinance</b> | <b>Range of Deposits</b> |
|--------------------------------------------------------------------------|-----------------------------------|----------------------------------------|----------------------------------------|--------------------------|
| Residential New Construction,<br>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 2016a

<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 foot/feet

## 3.0 PRE-CONSTRUCTION WASTE

Prior to initiation of the project's construction activities, site preparation would require clearing/grubbing and demolition. Clearing and grubbing would require removal of existing ornamental vegetation associated with the existing buildings. Project construction would require demolition of multiple buildings, and paved areas within the existing site.

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 C&D Recycling Facility Directory (City 2023; Appendix A), "Mixed C&D Debris" recyclers attain at most a 93 percent diversion rate, whereas "source separated" material recyclers can attain nearly 100 percent diversion rates (City 2023). As a result, 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 (refer to Appendix A).

### 3.1 DEMOLITION

#### 3.1.1 Building Demolition

The existing development includes multiple two-story buildings that are proposed to be demolished as part of the project. Such structures include the 35,898-SF building at 6370 Lusk Blvd; the 54,264-SF building at 6440 Lusk Blvd; the 49,431-SF building at 6450 Lusk Blvd; the 87,812-SF building at 6540 Lusk Blvd; the 27,042-SF building at 6650 Lusk Blvd; and the 24,044-SF building at 6640 Lusk Blvd. In total, 278,491 SF of building space would be demolished. The buildings are Type III construction. A summary of structures to be demolished is provided below.

- 6370 Lusk Blvd (35,898 SF, 25 feet tall)
- 6440 Lusk Blvd (54,264 SF, 25 feet tall)
- 6450 Lusk Blvd (49,431 SF, 25 feet tall)
- 6540 Lusk Blvd (87,812 SF, 29 feet tall)
- 6650 Lusk Blvd (27,042 SF, 29 feet tall)
- 6640 Lusk Blvd (24,044 SF, 29 feet tall)

##### 3.1.1.1 Salvage

No salvage of materials in the existing building is proposed.

### 3.1.1.2 Recycling

The overall estimated quantity of debris from the buildings is based on the “General Building Formula” contained in the Federal Emergency Management Agency’s (FEMA) Debris Estimating Field Guide (2010). The formula multiplies building length, width, and height (in feet) by a constant of 0.33 to account for air space in the building, and divides the resulting number by 27 to convert cubic feet to cubic yards (FEMA 2010):

$$\frac{\text{Length} \times \text{Width} \times \text{Height} \times 0.33}{27} = \text{CY}$$

The existing buildings were assumed to have an approximate height of 14 feet per story to be demolished. The square footage listed above equals their length times width for both stories. To fit into the FEMA formula, the buildings were divided in two to get the length and width of a single story, which was then multiplied by the total height of the building. Using these dimensions, structural debris for the 6370 Lusk Blvd building as an example is estimated as follows:

$$\frac{(35,898 \text{ SF} / 2 \times 25 \text{ feet} \times 0.33)}{27} = 5,484 \text{ CY}$$

Using this formula for the remaining structures provides the following estimated quantities of debris, totaling approximately 45,943 CY of demolition debris for the buildings and underground parking garages:

- 6440 Lusk Blvd: 8,290 CY
- 6450 Lusk Blvd: 7,552 CY
- 6540 Lusk Blvd: 15,562 CY
- 6650 Lusk Blvd: 4,792 CY
- 6640 Lusk Blvd: 4,261 CY

As specific materials contained in the existing building are not known, estimates were pulled from the Military Base Closure Handbook - A Guide to Construction and Demolition Materials Recovery (CalRecycle 2002). According to this handbook, demolition of typical brick structures results in a C&D waste stream (by volume) as follows:<sup>1</sup>

- 73 percent brick
- 23 percent wood
- 3 percent paperboard
- 2 percent metal

<sup>1</sup> The *Military Base Closure Handbook – A Guide to Construction and Demolition Materials Recovery* has the percentage total of waste equaling 99 percent. This is likely due to rounding that was not disclosed in the document. To allow for balanced equations, 0.2 percent was added to concrete, brick, wood, and metal materials in the calculations.

In addition to the percentages listed above, it is assumed that there are other recyclable “mixed debris” materials present in unknown quantities, which are estimated to comprise 20 percent of the total demolition debris. These materials would be too damaged or mixed to be source separated into clean materials and would be disposed of accordingly. An additional eight percent of non-recyclable “waste” also was factored into the total waste stream anticipated for demolition of the buildings.

Factoring in the 28 percent mixed debris and trash that would be generated during demolition, the concrete, brick, wood, paperboard, and metal breakdown provided in the Military Base Closure Handbook would account for the remaining 72 percent of total waste. The complete breakdown of waste types and volumes of demolition waste anticipated to be generated are shown in Table 3, *Existing Structure Demolition Waste Content*.

**Table 3**  
**EXISTING STRUCTURE DEMOLITION WASTE CONTENT**

| <b>Material</b>             | <b>Percent Waste by Material (%)<sup>1</sup></b> | <b>Volume Waste by Material (CY)<sup>2</sup></b> |
|-----------------------------|--------------------------------------------------|--------------------------------------------------|
| <b>Structures</b>           |                                                  |                                                  |
| Brick                       | 53                                               | 24,350                                           |
| Wood – Clean <sup>3</sup>   | 8                                                | 3,675                                            |
| Wood – Treated <sup>3</sup> | 8                                                | 3,675                                            |
| Paperboard                  | 2                                                | 919                                              |
| Metal                       | 1                                                | 459                                              |
| Mixed debris                | 20                                               | 9,189                                            |
| Trash                       | 8                                                | 3,675                                            |
| <b>Structures Total</b>     | <b>100</b>                                       | <b>45,943</b>                                    |

Sources: FEMA 2010; CalRecycle 2002

<sup>1</sup> Estimated percentages for concrete, brick, wood, paperboard, and metal provided by the Military Base Closure Handbook – A Guide to Construction and Demolition Materials Recovery (CalRecycle 2002) were broken down from the 72 percent of demolition materials remaining after subtracting 20 percent mixed debris and 8 percent trash. For example, the percent waste by material for brick was generated by multiplying 72 percent by 73 percent (the brick composition in brick structures) to yield 53 percent of the total waste generated during demolition.

<sup>2</sup> Table information subject to field verification during demolition.

<sup>3</sup> For estimation purposes, wood waste materials are split 50 percent clean, and 50 percent treated to conservatively account for inability to recycle treated wood.

CY = cubic yards

It is assumed that treated wood, in addition to approximately eight percent of demolition waste, would not be recyclable. These materials would be disposed of at a local landfill at a zero percent diversion rate. The additional 20 percent of “mixed debris” demolition materials would be disposed of at a City-approved mixed debris materials recycling facility at a minimum 65 percent diversion rate (City 2023; Appendix A).

### 3.1.2 Pavement Demolition

Pavement demolition is expected to occur within areas paved with concrete and asphalt throughout the site during project construction, including demolition of existing concrete walkways/sidewalks, curbs/gutters, and the asphalt parking lot. In total, the project would include the removal of 41,913 SF of concrete and 302,727 SF of asphalt. Demolition estimates for these materials have been calculated based on the following assumptions:

- Demolition estimate for concrete assumes 4 inches thick and 150 pounds (lbs) per cubic foot. This would equate to approximately 2,095,651 lbs, or 1,048 tons, based on the 41,913 SF of existing on-site concrete to be demolished.
- Demolition estimate for asphalt assumes 5 inches thick and 142 lbs per cubic foot. This would equate to approximately 17,911,348 lbs, or 8,956 tons, based on the 302,727 SF of existing on-site asphalt to be demolished.

Therefore, the project would result in a combined total of 20,006,999 lbs, or 10,003 tons, of concrete and asphalt to be demolished.

### Salvage

Concrete may have the potential to be salvaged and reused on-site. As a conservative estimate, it is assumed that all pavement material will be removed from the site.

### Recycling

Quantities of paved concrete and asphalt materials are estimated to total approximately 10,003 tons. The diversion rate for asphalt and concrete is 100 percent. Therefore, by adding 100 percent of the asphalt (8,956 tons) and 100 percent of the concrete (1,048 tons), the quantity diverted and recycled is estimated to total 10,003 tons.

## 3.2 CLEARING AND GRUBBING

Clearing and grubbing involves the removal of existing vegetation. Based on information provided by the Applicant, the project is anticipated to require a net export of approximately 18,553 CY of removed vegetation consisting of brush, landscaping, trees, and grass during the clearing and grubbing process. Based on the City's C&D Debris Conversion Rate Table, which identifies a weight of 0.15 tons/CY of vegetation (City 2016b; Appendix B), the net export of removed brush, landscaping, trees, and grass during the clearing and grubbing process is anticipated to be approximately 2,783 tons. 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.

### Salvage

Although there is potential for some existing landscaping to be retained and reused on site, most of the existing ornamental landscaping within the project is assumed to be removed.

### Recycling

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 C&D Recycling Facility Directory (City 2023; 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 negligible amounts of waste generated by contractors working on the site during the clearing and grubbing process.

### 3.3 GRADING

According to information provided by the Applicant, grading is anticipated to require a total soil export of 174,000 CY, or 226,200 tons, which would be exported offsite. Estimates were based on the City's C&D Debris Conversion Rate Table, which identifies an excavated soil weight of 1.30 tons/CY (City 2016b; Appendix B). Excavated soil is anticipated to be diverted at a rate of 100 percent to one of the facilities from the City's Certified C&D Recycling Facility Directory (City 2023; Appendix A). Certified facilities include the following:

- Alpine Asphalt and Concrete Recycling, 5690 Willows Road, Alpine, CA 91901
- Alpine Asphalt and Concrete Recycling, 0 Duro Road, Escondido, CA 92028
- Enniss Inc., 12421 Vigilante Road, Lakeside, CA 92040
- Hanson Aggregates West, Miramar, 9229 Harris Plant Road, San Diego, CA 92126
- Moody's, 3210 Oceanside Boulevard, Oceanside, CA 92056
- Robertson's Ready Mix, 2094 Willow Glen Drive, El Cajon, CA 92019
- Terra Bella Nursery, 302 Hollister Street, San Diego, CA 92154
- Vulcan Carol Canyon Landfill and Recycle Site, 10051 Black Mountain Road, San Diego, CA 92126

Other waste materials associated with grading are anticipated to include negligible amounts of waste 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 demolition, clearing and grubbing, and grading for project implementation would be source-separated for recycling or reuse at City-certified facilities specializing in each material type, as applicable. A summary of anticipated waste generation volumes and diversion rates for pre-construction activities is provided in Table 4, *Pre-Construction Demolition, Clearing/Grubbing, and Grading Solid Waste Generation, Diversion Rates, and Facilities*. As shown in the table, during pre-construction the project would generate 269,021 tons and divert 263,970 tons.

**Table 4**  
**PRE-CONSTRUCTION DEMOLITION, CLEARING/GRUBBING, AND GRADING 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 |
|---------------------|------------------|-------------|-----------------------------|----------------|--------------------------|-----------------------------------|----------------|---------------|
| Building Demolition | Brick            | 24,350      | 0.7                         | 17,045         | 100%                     | A                                 | 17,045         | 0             |
|                     | Clean Wood       | 3,675       | 0.15                        | 551            | 100%                     | B                                 | 551            | 0             |
|                     | Treated Wood     | 3,675       | 0.15                        | 551            | 0%                       | C                                 | 0              | 551           |
|                     | Paperboard       | 919         | 0.05                        | 46             | 100%                     | A                                 | 46             | 0             |
|                     | Metal            | 459         | 0.51                        | 234            | 100%                     | A                                 | 234            | 0             |
|                     | Mixed Debris     | 9,189       | 1.19                        | 10,934         | 65%                      | A                                 | 7,107          | 3,827         |
|                     | Trash            | 3,675       | 0.18                        | 662            | 0%                       | C                                 | 0              | 662           |
| Pavement Demolition | Asphalt/Concrete | --          | --                          | 10,003         | 100%                     | A                                 | 10,003         | 0             |
| Clearing/Grubbing   | Vegetation       | 18,553      | 0.15                        | 2,783          | 100%                     | B                                 | 2,783          | 0             |
| Utilities           | Pipeline         | --          | --                          | 11             | 0%                       | C                                 | 0              | 11            |
| Grading             | Earth/Soil       | 174,000     | 1.3                         | 226,200        | 100%                     | A                                 | 226,200        | 0             |
| <b>TOTAL</b>        |                  |             |                             | <b>269,021</b> | <b>98%</b>               | --                                | <b>263,970</b> | <b>5,051</b>  |

Sources: City's Certified C&D Recycling Facility Directory (City 2023; Appendix A), City's C&D Debris Conversion Rate Table (City 2016b; Appendix B)

Facility/Destination Key:

A. Appropriate facility on City's Certified C&D Recycling Facility Directory

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

C. Sycamore Landfill, 8514 Mast Boulevard, Santee, CA 92071

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 C&D Recycling Facility Directory (City 2023) with an equal or greater diversion rate to ensure diversion rates meet those estimated in this table.
- The Tons/Unit Conversion Factor for concrete/steel was not provided in the City's C&D Debris Conversion Rate Table; therefore, concrete's factor of 1.2 was used in the estimates.
- Total diversion rate based on the percentage of total tons of waste diverted over the total tons of waste generated.

CF = cubic feet; CY = cubic yards

### 3.4.1 Summary of Salvage Material

Demolition of the buildings, parking lot, and curb/gutter/sidewalk would generate salvageable materials such as concrete to be used for aggregate, soils, etc. However, the values of salvage and recycling are not defined for the existing buildings, no specific inventory of reusable items has been conducted at this preliminary stage, and no salvage plan has been prepared. Therefore, the amount of salvage is undefined.

### 3.4.2 Summary of Recycled Material

Materials generated during pre-construction demolition, clearing and grubbing, and grading that are designated for recycling would be source separated on site during these activities. The City's Certified C&D 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 93 percent diversion rate at the Otay C&D/Inert Debris Processing Facility (City 2023).

## 4.0 CONSTRUCTION WASTE

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 to account for 10 percent waste generated during the construction process. A 10 percent construction waste generation rate is a very conservative figure based on the following reasoning:

- The cost of purchasing construction materials in excess of the quantity required is 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 to build multiple structures throughout the site, including Building L1, a 242,446-SF building containing lab, office, and amenity space; Building L2, a 291,247 SF building containing lab, office, and food and beverage amenity space; Building L3, a 367,451 SF building containing lab, office, and amenity space; Building L4, a 392,046 SF building containing lab, office, and amenity space; Building LA1, a 20,000-SF building containing food and beverage amenity space; Structure LP1, a 447,990-SF parking structure; and Structure LP2, a 635,090 SF parking structure.

In the International Building Code (IBC), the International Code Council (ICC) classifies buildings into five categories based on their type of construction (ICC 2015). Construction Type I buildings are fire resistive, often by using non-combustible materials such as steel with a fire-resistant coating and concrete. Construction Type II buildings typically have non-combustible walls but are not considered to be fire resistive. Construction Type III buildings are combustible, typically built with block or brick walls and a wooden roof. Buildings that utilize heavy timber in their framework are classified as Construction

Type IV. Construction Type V buildings have wooden frames that are combustible. The classifications of each of the project's proposed structures are provided below:

- Type IA: Building L1, Building L2, Building L3, Building L4
- Type IB: LP1 and LP2 parking structures
- Type IIB: Building LA1

There is also construction for "common areas," which would include concrete paving and asphalt paving. The total area for the common areas would be 202,000 SF. Based on the proposed structures and common areas, the following building materials that may generate waste are likely to be used during construction:

- |                         |                     |
|-------------------------|---------------------|
| • Wood/Heavy timber     | • Asphalt           |
| • Drywall               | • Ceramic tile      |
| • Carpet/Carpet padding | • Ceiling tile      |
| • Metals                | • Brick/Masonry     |
| • Concrete              | • Roofing materials |

Other waste generated 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, not peanuts)

## 4.1 ESTIMATE CONSTRUCTION WASTE GENERATION AND DIVERSION

The City uses a rule of thumb of 3 lbs/SF of waste materials generated during construction (3 lbs = 0.0015 tons). 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*.

**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 L1        | 242,446           | Metals                | 100%                                  | 36.4                       | 0.0           |
|                    |                   | Concrete/Asphalt      | 100%                                  | 36.4                       | 0.0           |
|                    |                   | Wood                  | 100%                                  | 36.4                       | 0.0           |
|                    |                   | Brick/Masonry         | 100%                                  | 36.4                       | 0.0           |
|                    |                   | Drywall               | 65%                                   | 23.6                       | 12.7          |
|                    |                   | Carpet/Carpet Padding | 65%                                   | 23.6                       | 12.7          |
|                    |                   | Mixed Debris          | 65%                                   | 23.6                       | 12.7          |
|                    |                   | Trash                 | 0%                                    | 0.0                        | 36.4          |
|                    | Building L1 Total |                       | 74%                                   | 216.4                      | 74.6          |
| Building L2        | 291,247           | Metals                | 100%                                  | 43.7                       | 0.0           |
|                    |                   | Concrete/Asphalt      | 100%                                  | 43.7                       | 0.0           |
|                    |                   | Wood                  | 100%                                  | 43.7                       | 0.0           |
|                    |                   | Brick/Masonry         | 100%                                  | 43.7                       | 0.0           |
|                    |                   | Drywall               | 65%                                   | 28.4                       | 15.3          |
|                    |                   | Carpet/Carpet Padding | 65%                                   | 28.4                       | 15.3          |
|                    |                   | Mixed Debris          | 65%                                   | 28.4                       | 15.3          |
|                    |                   | Trash                 | 0%                                    | 0.0                        | 43.7          |
|                    | Building L2 Total |                       | 74%                                   | 259.9                      | 89.6          |
| Building L3        | 367,451           | Metals                | 100%                                  | 55.1                       | 0.0           |
|                    |                   | Concrete/Asphalt      | 100%                                  | 55.1                       | 0.0           |
|                    |                   | Wood                  | 100%                                  | 55.1                       | 0.0           |
|                    |                   | Brick/Masonry         | 100%                                  | 55.1                       | 0.0           |
|                    |                   | Drywall               | 65%                                   | 35.8                       | 19.3          |
|                    |                   | Carpet/Carpet Padding | 65%                                   | 35.8                       | 19.3          |
|                    |                   | Mixed Debris          | 65%                                   | 35.8                       | 19.3          |
|                    |                   | Trash                 | 0%                                    | 0.0                        | 55.1          |
|                    | Building L3 Total |                       | 76%                                   | 328.0                      | 113.0         |
| Building L4        | 392,046           | Metals                | 100%                                  | 58.8                       | 0.0           |
|                    |                   | Concrete/Asphalt      | 100%                                  | 58.8                       | 0.0           |
|                    |                   | Wood                  | 100%                                  | 58.8                       | 0.0           |
|                    |                   | Brick/Masonry         | 100%                                  | 58.8                       | 0.0           |
|                    |                   | Drywall               | 65%                                   | 38.2                       | 20.6          |
|                    |                   | Carpet/Carpet Padding | 65%                                   | 38.2                       | 20.6          |
|                    |                   | Mixed Debris          | 65%                                   | 38.2                       | 20.6          |
|                    |                   | Trash                 | 0%                                    | 0.0                        | 58.8          |
|                    | Building L4 Total |                       | 74%                                   | 349.9                      | 120.6         |

| Source of Material          | New Gross SF | Material              | Diversion Rate (Percent) <sup>1</sup> | Tons Diverted <sup>2</sup> | Tons Disposed |
|-----------------------------|--------------|-----------------------|---------------------------------------|----------------------------|---------------|
| Building LA1                | 20,000       | Metals                | 100%                                  | 3.0                        | 0.0           |
|                             |              | Concrete/Asphalt      | 100%                                  | 3.0                        | 0.0           |
|                             |              | Wood                  | 100%                                  | 3.0                        | 0.0           |
|                             |              | Brick/Masonry         | 100%                                  | 3.0                        | 0.0           |
|                             |              | Drywall               | 65%                                   | 2.0                        | 1.1           |
|                             |              | Carpet/Carpet Padding | 65%                                   | 2.0                        | 1.1           |
|                             |              | Mixed Debris          | 65%                                   | 2.0                        | 1.1           |
|                             |              | Trash                 | 0%                                    | 0.0                        | 3.0           |
| Building LA1 Total          |              |                       | 74%                                   | 17.9                       | 6.2           |
| Parking Structure LP1       | 447,990      | Metals                | 100%                                  | 67.2                       | 0.0           |
|                             |              | Concrete/Asphalt      | 100%                                  | 67.2                       | 0.0           |
|                             |              | Brick/Masonry         | 100%                                  | 67.2                       | 0.0           |
|                             |              | Mixed Debris          | 65%                                   | 43.7                       | 23.5          |
|                             |              | Trash                 | 0%                                    | 0.0                        | 67.2          |
| Parking Structure LP1 Total |              |                       | 73%                                   | 245.3                      | 90.7          |
| Parking Structure LP2       | 635,090      | Metals                | 100%                                  | 95.3                       | 0.0           |
|                             |              | Concrete/Asphalt      | 100%                                  | 95.3                       | 0.0           |
|                             |              | Brick/Masonry         | 100%                                  | 95.3                       | 0.0           |
|                             |              | Mixed Debris          | 65%                                   | 61.9                       | 33.3          |
|                             |              | Trash                 | 0%                                    | 0.0                        | 95.3          |
| Parking Structure LP2 Total |              |                       | 73%                                   | 347.7                      | 128.6         |
| Common Areas <sup>3</sup>   | 202,000      | Concrete/Asphalt      | 100%                                  | 30.3                       | 0.0           |
| Common Areas Total          |              |                       | 100%                                  | 30.3                       | 0.0           |
| TOTAL                       |              |                       | 70%                                   | 1,467.4                    | 623.1         |

<sup>1</sup> Trash would be taken to a local landfill at a zero percent diversion rate. All other construction debris would be taken to an appropriate facility listed on the City's Certified C&D Recycling Facility Directory (City 2023). Facilities that process metals, concrete/asphalt, and wood all achieve a 100 percent diversion rate for these materials. Facilities that process mixed debris achieve a minimum 65 percent diversion rate, which was conservatively assumed for this project (City 2023; 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., 242,446 SF for Building L1 x 3 lbs/SF = 727,338 lbs, or 334 tons);  
 Total construction material required x 10 percent = anticipated quantity of construction waste generated (33.4 tons)

<sup>3</sup> Common areas include pedestrian concrete paving and vehicular concrete paving.

Note that numbers may not total due to rounding.

lbs = pounds; SF = square feet/footage

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

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

### 5.1 STORAGE

Per the SDMC, the storage requirements for the 1,313,190 SF of combined lab and office use and amenity space would be 2,521 SF for organic waste storage, 2,521 SF required for refuse storage, and 2,521 SF of recycling storage, resulting in a total of 7,564 SF of required storage space.

As mentioned in Section 2.2.2 above, alternative compliance for the storage requirements is allowed by SDMC Section 142.0820, using compactors or similar technology (City 2022a). The proposed project would utilize four mechanical compactors. Two compactors would be shared by each pair of office buildings (L1/L2 and L3/L4). The compactors would be used for refuse and recyclable materials. Organic waste would not utilize compactors. No compactors would be used for Building LA1.

The pairs of office buildings would be connected through loading areas, which is where the compactors would be located. These loading areas would provide adequate access to the compactors from both buildings within the pair. Use of the compactors at the office buildings would reduce the size of refuse and recyclable materials by a ratio of 4:1 from non-compacted methods. Utilization of this alternative compliance method would therefore result in the following storage areas for organic, refuse, and recycling storage:

- Buildings L1 and L2 have a combined area of 533,693 SF, which would require a total of **3,074 SF** of storage for trash, organic waste, and recycling according to the Storage Ordinance. Approximately 1,025 SF would be allocated for each material type. However, though the use of a compactor with a ratio of 4:1 from non-compacted methods, the required storage area for refuse would be reduced to 256 SF for trash storage and 256 SF for recycling storage. The required organic storage area would remain 1,025 SF. Buildings L1 and L2 would therefore require a total of **1,537 SF** of storage area. The project would provide at least 1,537 SF of storage for Buildings L1 and L2 and would therefore be in compliance with the Storage Ordinance. Refer to Figure 4 for the storage area and compactor locations.
- Buildings L3 and L4 have a combined area of 759,497 SF, which would require a total of **4,375 SF** of storage for trash, organic waste, and recycling according to the Storage Ordinance. Approximately 1,458 SF would be allocated for each material type. However, though the use of a compactor with a ratio of 4:1 from non-compacted methods, the required storage area for refuse would be reduced to 364 SF for trash storage and 364 SF for recycling storage. The required organic storage area would remain 1,458 SF. Buildings L3 and L4 would therefore require a total of **2,186 SF** of storage area. The project would provide at least 2,186 SF of storage for Buildings L3 and L4 and would therefore be in compliance with the Storage Ordinance. Refer to Figure 4 for the storage area and compactor locations.
- Building LA1 has an area of 20,000 SF, which would require 38 SF for organic waste storage, 38 SF for trash storage, and 38 SF for recycling storage, totaling **115 SF** of area according to the Storage Ordinance. Compactors would not be provided for this building, and therefore the area required would remain unchanged. The project would provide at least 115 SF of storage for Building LA1 and would therefore be in compliance with the Storage Ordinance.

The total required storage area for the Lab and Office buildings would be 3,838 SF using the alternative compliance methods described above, and the project would be in compliance with the Storage Ordinance. In addition, The project would provide co-located trash, recycling, and organic waste bins on all floors of the proposed buildings (L1 through L4 and LA1). The bins would be serviced by janitorial staff on at least a weekly basis and brought to the ground-level storage areas as described above.

## 5.2 WASTE GENERATION – EXISTING USES

The project site's existing uses that would be demolished as part of the project include office, educational laboratory, and amenity uses. To understand the change in waste generated during occupancy, estimates of existing waste generation of buildings that will be demolished were calculated. The City's ESD provides a list of waste generation factors for the occupancy phase of development, included as Appendix C of this report (City 2012). Table 6, *Estimated Annual Solid Waste Generation and Diversion Rates – Existing Buildings*, shows the estimated waste generation and diversion for the existing buildings on the site.

**Table 6**  
**ESTIMATED ANNUAL SOLID WASTE GENERATION AND DIVERSION RATES – EXISTING BUILDINGS**

| Source of Material Use | Square Footage | Waste Generation Factor <sup>1</sup> | Tons Generated (per year) | Expected Percent Diverted from Source-Separated Recycling <sup>2</sup> | Tons Diverted (per year) | Tons Disposed (per year) |
|------------------------|----------------|--------------------------------------|---------------------------|------------------------------------------------------------------------|--------------------------|--------------------------|
| Office                 | 278,491        | 0.0017                               | 473.4347                  | 50%                                                                    | 237                      | 237                      |
| <b>TOTAL</b>           |                |                                      | <b>473</b>                | <b>--</b>                                                              | <b>237</b>               | <b>237</b>               |

<sup>1</sup> Waste generation factors provided in Appendix C to this WMP; for buildings providing a variety of uses, the most conservative waste generation factor was used.

<sup>2</sup> Reflects compliance with existing City Storage Ordinance and City Recycling Ordinance (City 2022b) and SB 1383. Note that numbers may not total due to rounding.

As shown in the table, the existing buildings planned to be demolished currently generate approximately 473 tons of waste. With compliance with the City's Recycling Ordinance and SB 1383, the existing buildings are assumed to divert 50 percent, which estimates that 237 tons of waste generated by the existing use would be disposed and 237 tons would be diverted. These estimates are based on the City's 2012 waste generation factors, and do not consider any additional sustainability measures and recycling or organic waste diversion programs that may be implemented by current vendors.

## 5.3 WASTE GENERATION – PROJECT USES

The estimated waste generation and diversion for the proposed uses of the buildings are shown in Table 7, *Estimated Annual Solid Waste Generation and Diversion Rates – Proposed Uses*.

**Table 7**  
**ESTIMATED ANNUAL SOLID WASTE GENERATION AND DIVERSION RATES – PROPOSED USES**

| Source of Material              | Square Footage | Waste Generation Factor <sup>1</sup> | Tons Generated (per year) | Expected Percent Diverted from Source-Separated Recycling <sup>2,3</sup> | Tons Diverted (per year) | Tons Disposed (per year) |
|---------------------------------|----------------|--------------------------------------|---------------------------|--------------------------------------------------------------------------|--------------------------|--------------------------|
| Restaurants and Bars (Amenity)  | 12,000         | 0.0122                               | 146                       | 50%                                                                      | 73                       | 73                       |
| Unclassified Services (Amenity) | 18,000         | 0.0042                               | 75.6                      | 50%                                                                      | 38                       | 38                       |
| Office                          | 1,283,190      | 0.0017                               | 2,181                     | 50%                                                                      | 1,091                    | 1,091                    |
| <b>TOTAL</b>                    |                |                                      | <b>2,403</b>              | <b>--</b>                                                                | <b>1,202</b>             | <b>1,202</b>             |

<sup>1</sup> Waste generation factors provided in Appendix C to this report; for buildings providing a variety of uses, the most conservative waste generation factor was used.

<sup>2</sup> Reflects compliance with existing City Storage Ordinance and City Recycling Ordinance (City 2022b) and SB 1383.

<sup>3</sup> The Applicant would contract with City-approved recycling haulers and disposal facilities.

Note that numbers may not total due to rounding.

As shown in the table, it is anticipated that at full buildout, approximately 1,202 tons of waste are anticipated to be disposed of annually, and approximately 1,202 tons are estimated to be diverted in association with the new buildings. These estimates are based on the City's 2012 waste generation factors, which do not take into consideration additional sustainability measures and recycling and organic waste diversion programs that may be implemented at the project and exceed the overall 50 percent diversion estimated by the City for occupancy.

In addition, where a mix of uses is proposed such as the amenity space, a conservative waste generation factor was used since the anticipated square footage for each use is not currently known at this time. For example, the 18,000 SF of non-food and beverage amenity space may include gym facilities, bike facilities, a large conference hall, public art, information or welcoming hub, so a waste generation factor of 0.0042 for unclassified services was applied (compared to a waste generation rate of 0.0017 for office space space).

## 5.4 CHANGE IN WASTE GENERATION

Based on the difference between the existing buildings' waste generation and the proposed project's waste generation, the project would result in a net increase of 1930 tons of waste. Using an estimated 50 percent diversion rate, which accounts for compliance with the City's Storage Ordinance and Recycling Ordinance and SB 1383, 965 tons would be disposed and 965 tons would be diverted from the landfill. As noted, these estimates are conservative based on the assigned building uses, and do not consider potential additional sustainability programs that are proposed to be implemented by the project, as discussed in Chapter 6.0, below.

While the City's Recycling Ordinance currently requires recycling of recyclable materials generated by residential and commercial facilities, the City is in the process of implementing extensive procedural changes to comply with SB 1383 to increase diversion of organic waste starting in 2022, which is reflected in the 2022 updates to the Recycling Ordinance and the Storage Ordinance. (City 2022b). Studies show that approximately 17 percent of the waste generated in the City and delivered for landfill

disposal is paper and 32 percent is compostable organics (City 2022b; Municipal Code Section 66.0701). The City's Zero Waste Plan evaluates the composition of the City's waste-stream, with waste materials for commercial uses such as the proposed project characterized as approximately 23.3 percent C&D materials; 21.5 percent paper; 17.4 percent food scraps; 14.2 percent organics (e.g., green waste); 11.6 percent plastic; and 11.8 percent other waste types such as special waste, metal, glass, mixed residue, electronics, and household hazardous waste (City 2015).

Assuming compliance with the City's changes in organic waste diversion pursuant to SB 1383, the project would divert a minimum of 50 percent of organic waste generated on site. The project would add organic waste disposal bins accompanied by educational information explaining how to dispose of compostable waste to building occupants. Additionally, organic waste generated by the project's routine landscaping would be diverted from the landfill. Therefore, project operation may exceed the 50 percent diversion rate; however, a 50 percent diversion is conservatively used in this analysis. Additional waste reduction, recycling, and diversion measures that would further reduce the project's operational waste disposal are described below in Section 6.3.

## **6.0 WASTE REDUCTION, RECYCLING, AND DIVERSION MEASURES**

The Applicant is committed to waste reduction during all aspects of project demolition, 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 the 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 SMWC, 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 SMWC 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 5 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 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 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 and 5 of this WMP, or to another facility listed on the City's *Certified C&D 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 the 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 buildings and associated structures 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 and organic waste composting requirements with which the Applicant or future tenants, operators, and/or owners shall be obligated to comply, including, but not limited to, the following:

- Individual bins for recycling, organic waste, and refuse shall be placed in areas that would be readily accessible and co-located to prevent misuse or contamination.
- Individual recycling, organic waste, and refuse bins on occupied floors of the project would be serviced by appropriate staff on at least a weekly basis.
- Recycling and organic waste composting areas shall be clearly identified with large signs.
- Lists of acceptable and unacceptable materials shall be posted on recycling and compost bins.
- All recycled and organic material signage shall be visible on at least two sides of containers.
- Prepare and distribute recycling and composting 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.
- Vendor(s) for on-site custodial duties shall be educated regarding the appropriate waste diversion program to ensure the proper handling of waste.
- Pursuant to SB 1383 and the Recycling Ordinance, all tenants, operators, and/or future owners shall subscribe to a City-certified organic waste collection service that either “source-separates” the waste (e.g., separate bins), or transports all unsegregated waste to a facility that recovers 75 percent of the organic content collected from the system.
- Organic waste shall be collected in separate container(s) for pick up weekly for yard trimmings, non-hazardous wood waste, food scraps, and food-soiled paper.

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 and organic 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 pre-construction demolition, clearing/grubbing, and grading, the project would produce 269,021 tons of excavated soils, green waste, asphalt/concrete, and other C&D waste, and divert 263,970 tons of these materials from the landfill, as identified in Table 4. Approximately 5,051 tons of solid waste material generated during pre-construction is anticipated to be disposed of as non-recyclable/non-reusable waste at a local landfill, for an overall pre-construction diversion rate of 98 percent.

During construction, the project would produce approximately 2,091 tons of solid waste (metal, concrete, concrete/steel, asphalt, brick/masonry, wood, drywall, carpet/carpet padding, mixed debris, and trash), and divert 1,467 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 C&D Recycling Facility Directory (City 2023; Appendix A). Approximately 623 tons of solid waste material generated during construction is anticipated to be disposed of as non-recyclable/non-reusable waste at a local landfill, for an overall diversion rate during construction of approximately 70 percent.

With the combined pre-construction and construction phases, the project would produce 271,112 tons of solid waste and would divert 265,437 tons. This would be an overall diversion rate during pre-construction and construction of 98 percent.

During occupancy, it has been estimated that the project would generate an additional 1,930 tons of waste per year over existing conditions. Using an estimated 50-percent diversion rate, which is based on compliance with SB 1383, 965 tons per year are calculated to be diverted to recycling/reuse facilities (refer to Table 7). An additional 965 tons per year, or 50 percent of occupancy material generated, are estimated to be disposed of as non-recyclable/non-reusable waste at a local landfill. The project would also be required to comply with the changes in organic waste diversion pursuant to SB 1383 and the Recycling Ordinance, which requires diversion of a minimum of 50 percent of organic waste generated on site, and a minimum of 75 percent of organic waste generated on site by 2025. Thus, the project is expected to achieve a waste diversion rate of greater than 50 percent overall. Additional waste

reduction, recycling, and diversion measures would further reduce the project's operational waste disposal.

## 7.2 COMPLIANCE WITH CITY AND STATE REGULATIONS

Project compliance with City and State regulations is addressed below.

### 7.2.1 State of California

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 the pre-construction and construction phases. 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 98 percent diversion rate, far 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.
- The project would subscribe to an organic waste collection service that either "source-separates" the waste (e.g., separate bins), or transports all unsegregated waste to a facility that recovers 75 percent of the organic content collected from the system.
- Ongoing diversion of green waste (landscaping debris) to Miramar Greenery would avoid unnecessary contributions to the regional landfills.
- To minimize generation of waste materials, the project would incorporate recycled, post-consumer content materials in interiors and exteriors, to the extent practicable.

In addition to these 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.

### 7.2.2 City of San Diego

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 (5,051 + 623 = 5,674 tons C&D materials to regional landfills).

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 50 percent diversion of waste via source-separated recycling and would dispose of approximately 965 additional tons of waste

per year once the buildings are occupied, compared to existing conditions. 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 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 demolition and construction phases by achieving an overall 98 percent diversion rate. In addition, the measures specified for operation in Section 6.3 of this WMP would provide adequate waste management. Regarding trash, organic waste, and recycling storage space during operation, for the proposed buildings, the project would provide 1,978 SF of trash, organic waste, and recycling storage space, per the City Storage Ordinance Alternative Compliance Methods (see Section 5.1). 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 LIST OF PREPARERS

Jason Runyan  
Ellia Simmons  
Yara Fisher

Project Manager  
Environmental Planner  
Principal Planner

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## Appendix A

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### Construction & Demolition Recycling Facility Directory



• **Material taken to a landfill is DISPOSAL. NO diversion credit is given for any material taken to a landfill.**

• You must use one of these facilities to receive diversion credit.

• Please call ahead to confirm details such as accepted materials, days and hours of operation, limitations on vehicle types, and cost.

• Ensure the project address and permit number are on the receipt.

**\*The facilities marked below with an asterisk are transfer stations\***

**IMPORTANT DRIVER INSTRUCTIONS - If you deliver to a transfer station, you must have your driver:**

- State that your load is Construction and Demolition (C&D) debris, and ensure it is coded correctly on the receipt.

- Tickets coded as "MSW, trash, or refuse" will receive 0% credit.

|                                                                                                                                              | Asphalt/Concrete | Brick/Block/Rock | Building Materials for Reuse | Cardboard | Carpet | Carpet Padding | Ceiling Tile | Ceramic Tile/Porcelain | Clean Fill Dirt | Clean Wood/Green Waste | Drywall | Industrial Plastics | Lamps/Light Fixtures | Metal | Mixed Inerts | Styrofoam Blocks | Trash | Mixed C & D Debris |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------------------|-----------|--------|----------------|--------------|------------------------|-----------------|------------------------|---------|---------------------|----------------------|-------|--------------|------------------|-------|--------------------|
| <b>*EDCO Recovery &amp; Transfer*</b><br>3660 Dalbergia St, San Diego, CA 92113<br>619-234-7774   www.edcodisposal.com                       | •                |                  |                              |           |        |                |              |                        | •               |                        |         |                     |                      |       |              | •                |       | 65%                |
| <b>*EDCO Station Transfer Station &amp; Buy Back Center*</b><br>8184 Commercial St, La Mesa, CA 91942<br>619-466-3355   www.edcodisposal.com | •                |                  |                              | •         |        |                |              |                        | •               |                        |         | •                   |                      |       |              | •                |       | 65%                |
| <b>*EDCO CDI Recycling &amp; Buy Back Center*</b><br>224 S. Las Posas Rd, San Marcos, CA 92078<br>760-744-2700   www.edcodisposal.com        |                  |                  |                              | •         | •      | •              |              |                        |                 |                        |         | •                   |                      |       |              | •                |       | 70%                |
| <b>Escondido Resource Recovery</b><br>1044 W. Washington Ave, Escondido<br>760-745-3203   www.edcodisposal.com                               |                  |                  |                              |           |        |                |              |                        |                 |                        |         |                     |                      |       |              |                  |       | 65%                |
| <b>*Fallbrook Transfer Station &amp; Buy Back Center*</b><br>550 W. Aviation Rd, Fallbrook, CA 92028<br>760-728-6114   www.edcodisposal.com  |                  |                  |                              | •         |        |                |              |                        |                 |                        |         | •                   |                      |       |              | •                |       | 65%                |
| <b>Otay C&amp;D/Inert Debris Processing Facility</b><br>1700 Maxwell Rd, Chula Vista, CA 91911<br>619-421-3773   www.republicservices.com    |                  |                  |                              |           |        |                |              |                        |                 |                        |         |                     |                      |       |              |                  |       | 93%                |
| <b>*Ramona Transfer Station &amp; Buy Back Center*</b><br>324 Maple St, Ramona, CA 92065<br>760-789-0516   www.edcodisposal.com              |                  |                  |                              | •         |        |                |              |                        |                 |                        |         | •                   |                      |       |              | •                |       | 65%                |
| <b>SANCO Resource Recovery &amp; Buy Back Center</b><br>6750 Federal Blvd, Lemon Grove, CA 91945<br>619-287-5696   www.edcodisposal.com      |                  |                  |                              | •         | •      | •              |              |                        |                 |                        |         | •                   |                      |       |              |                  |       | 65%                |
| <b>Allan Company</b><br>6733 Consolidated Wy, San Diego, CA 92121<br>858-578-9300   www.allancompany.com/facilities                          |                  |                  |                              | •         |        |                |              |                        |                 |                        |         | •                   |                      |       |              |                  |       |                    |
| <b>Allan Company Miramar Recycling</b><br>5165 Convoy St, San Diego, CA 92111<br>858-268-8971   www.allancompany.com/facilities              |                  |                  |                              | •         |        |                |              |                        |                 |                        |         | •                   |                      |       |              |                  |       |                    |
| <b>Alpine Asphalt &amp; Concrete Recycling</b><br>5690 Willows Rd, Alpine, CA 91901<br>760-451-6481   www.alpineasphaltandconcrete.com       | •                | •                | •                            |           |        |                |              | •                      |                 |                        |         |                     |                      |       |              |                  |       |                    |
| <b>Alpine Asphalt &amp; Concrete Recycling</b><br>0 Duro Rd, Escondido, CA 92028<br>760-451-6481   www.alpineasphaltandconcrete.com          | •                | •                | •                            |           |        |                |              | •                      |                 |                        |         |                     |                      |       |              |                  |       |                    |
| <b>Aquafil Carpet Collection</b><br>187 Mace St, Chula Vista, CA 91911<br>619-816-0787   www.aquafil.com                                     |                  |                  |                              | •         | •      |                |              |                        |                 |                        |         |                     |                      |       |              |                  |       |                    |



• **Material taken to a landfill is DISPOSAL. NO diversion credit is given for any material taken to a landfill.**

• You must use one of these facilities to receive diversion credit.

• Please call ahead to confirm details such as accepted materials, days and hours of operation, limitations on vehicle types, and cost.

• Ensure the project address and permit number are on the receipt.

**\*If using a transfer station, you must:**

- State that your load is Construction and Demolition (C&D) debris, and ensure it is coded correctly on the receipt.

- Tickets coded as **"MSW, trash, or refuse"** will receive 0% credit.

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



• **Material taken to a landfill is DISPOSAL. NO diversion credit is given for any material taken to a landfill.**

• You must use one of these facilities to receive diversion credit.

• Please call ahead to confirm details such as accepted materials, days and hours of operation, limitations on vehicle types, and cost.

• Ensure the project address and permit number are on the receipt.

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- Tickets coded as **"MSW, trash, or refuse"** will receive 0% credit.

|                                                                                                                                   | Asphalt/Concrete | Brick/Block/Rock | Building Materials for Reuse | Cardboard | Carpet | Carpet Padding | Ceiling Tile | Ceramic Tile/Porcelain | Clean Fill Dirt | Clean Wood/Green Waste | Drywall | Industrial Plastics | Lamps/Light Fixtures | Metal | Mixed Inerts | Styrofoam Blocks | Trash | Mixed C & D Debris |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------------------|-----------|--------|----------------|--------------|------------------------|-----------------|------------------------|---------|---------------------|----------------------|-------|--------------|------------------|-------|--------------------|
| <b>HVAC Exchange</b><br>2675 Faivre St, Chula Vista, CA 91911<br>619-423-1564   www.hvacx.com                                     |                  |                  |                              |           |        |                |              |                        |                 |                        |         |                     |                      | •     |              |                  |       |                    |
| <b>Inland Pacific Resource Recovery</b><br>12650 Slaughterhouse Canyon Rd, Lakeside, CA 92040<br>619-390-1418   www.iprrgreen.com |                  |                  |                              |           |        |                |              | •                      |                 |                        |         |                     |                      |       |              |                  |       |                    |
| <b>Los Angeles Fiber Company</b><br>4920 S. Boyle Ave, Vernon, CA 90058<br>323-589-5637   www.lafiber.com                         |                  |                  |                              | •         | •      |                |              |                        |                 |                        |         |                     |                      |       |              |                  |       |                    |
| <b>Miramar Greenery, City of San Diego</b><br>5180 Convoy St, San Diego, CA 92111<br>858-694-7000   www.miramargreenery.com       |                  |                  |                              |           |        |                |              | •                      |                 |                        |         |                     |                      |       |              |                  |       |                    |
| <b>Moody's</b><br>3210 Oceanside Blvd, Oceanside, CA 92056<br>760-433-3316   www.moodyselfcorazonrecycling.com                    | •                |                  |                              |           |        |                | •            |                        |                 |                        |         |                     |                      | •     |              |                  |       |                    |
| <b>RAMCO</b><br>8354 Nelson Way, Escondido, CA 92026<br>760-205-1797   www.ramco.us.com                                           | •                |                  |                              |           |        |                |              |                        |                 |                        |         |                     |                      |       |              |                  |       |                    |
| <b>Reclaimed Aggregates Chula Vista</b><br>855 Energy Way, Chula Vista, CA 91913<br>619-656-1836                                  | •                |                  |                              |           |        |                |              |                        |                 |                        |         |                     |                      | •     |              |                  |       |                    |
| <b>Robertson's Ready Mix</b><br>2094 Willow Glen Dr, El Cajon, CA 92019<br>619-593-1856   www.rrmca.com                           | •                |                  |                              |           |        |                | •            |                        |                 |                        |         |                     |                      | •     |              |                  |       |                    |
| <b>Rockridge Crushing</b><br>12485 Highway 67, Lakeside, CA 92040<br>619-324-7065                                                 | •                |                  |                              |           |        |                |              |                        |                 |                        |         |                     |                      |       |              |                  |       |                    |
| <b>SA Recycling</b><br>3055 Commercial St, San Diego, CA 92113<br>619-238-6740   www.sarecycling.com                              |                  |                  |                              |           |        |                |              |                        |                 |                        |         |                     | •                    |       |              |                  |       |                    |
| <b>SA Recycling</b><br>1211 S. 32nd St, San Diego, CA 92113<br>619-234-6691   www.sarecycling.com                                 |                  |                  |                              |           |        |                |              |                        |                 |                        |         |                     | •                    |       |              |                  |       |                    |
| <b>San Pasqual Valley Soils</b><br>16111 Old Milky Way, Escondido, CA 92027<br>760-746-4769   www.spvsoils.com                    |                  |                  |                              |           |        |                |              | •                      |                 |                        |         |                     |                      |       |              |                  |       |                    |



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|                                                                                                                                                                                             | Asphalt/Concrete | Brick/Block/Rock | Building Materials for Reuse | Cardboard | Carpet | Carpet Padding | Ceiling Tile | Ceramic Tile/Porcelain | Clean Fill Dirt | Clean Wood/Green Waste | Drywall | Industrial Plastics | Lamps/Light Fixtures | Metal | Mixed Inerts | Styrofoam Blocks | Trash | Mixed C & D Debris |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------------------|-----------|--------|----------------|--------------|------------------------|-----------------|------------------------|---------|---------------------|----------------------|-------|--------------|------------------|-------|--------------------|
| <b>SCOR Industries</b><br>2321 South Willow Ave, Bloomington, CA 92316<br>909-820-5046   <a href="http://www.scorindustries.com">www.scorindustries.com</a>                                 | •                | •                | •                            |           |        |                | •            | •                      | •               | •                      |         | •                   | •                    |       |              |                  |       |                    |
| <b>Terra Bella Nursery</b><br>302 Hollister St, San Diego, CA 92154<br>619-585-1118   <a href="http://www.terrabellanursery.com">www.terrabellanursery.com</a>                              |                  |                  |                              |           |        |                | •            | •                      |                 |                        |         |                     |                      |       |              |                  |       |                    |
| <b>Vulcan Carol Canyon Landfill and Recycle Site</b><br>10051 Black Mountain Rd, San Diego, CA 92126<br>858-530-9465   <a href="http://www.vulcanmaterials.com">www.vulcanmaterials.com</a> | •                | •                |                              |           |        |                | •            |                        |                 |                        |         |                     | •                    |       |              |                  |       |                    |
| <b>Vulcan Materials Company</b><br>2275 Hard Rock Rd, Chula Vista, CA 91913<br>858-530-9472   <a href="http://www.vulcanmaterials.com">www.vulcanmaterials.com</a>                          | •                |                  |                              |           |        |                |              |                        |                 |                        |         |                     |                      |       |              |                  |       |                    |
| <b>Vulcan Otay Asphalt Recycle Center</b><br>7522 Paseo de la Fuente, San Diego, CA 92154<br>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 | =          |  |
| Total All                                           |                           |          |       |           |          |            |  |

## Appendix C

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### City of San Diego Waste Generation Factors – Occupancy Phase

## Waste Generation Factors – Occupancy Phase

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

### **Residential Uses**

Residential Unit = 1.6 tons/year/unit

Multi-family Unit = 1.2 tons/year/unit

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

100 single family homes x 1.6 = 160 tons/year

100 multi-family units x 1.2 = 120 tons/year

### **Commercial/Industrial Uses**

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

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

10,000 square feet x 0.0017 = 17 tons/year

10,000 square feet x 0.0059 = 59 tons per year

Total estimated waste generation for building = 76 tons/year