

**PRELIMINARY
WASTE MANAGEMENT PLAN
FOR THE
TOWNE CENTRE VIEW PROJECT**

Lead Agency

City of San Diego
1222 First Avenue
San Diego, CA 92101

Prepared By:

T&B Planning, Inc.
4909 Murphy Canyon Road, Suite 405
San Diego, CA 92123



December 22, 2020

Table of Contents

1.0	Introduction	3
2.0	Project Description	4
3.0	Applicable Regulatory Requirements.....	6
3.1	State Regulations	6
3.1.1	California Solid Waste Integrated Waste Management Act (AB 939, 1989).....	6
3.1.2	Waste Management (AB 1594).....	6
3.1.3	Waste Reuse and Recycling Act (AB 1327).....	7
3.1.4	Mandatory Commercial Recycling Program (AB 341)	7
3.1.5	2019 California Green Building Standards Code.....	7
3.1.6	Mandatory Commercial Organics Recycling (AB 1826).....	8
3.1.7	Short-Lived Climate Pollutants (SLCP): Organic Waste Methane Emissions Reductions (SB 1383).....	8
3.2	Local Regulations	8
3.2.1	City of San Diego Zero Waste Plan: Road to Zero Waste, Next Stop 75%	8
3.2.2	The Whitebook: Standard Specifications for Public Works Construction.....	9
3.2.3	City of San Diego Ordinance No. O-19420 & O-19694 (Municipal Code Chapter 6, Article 6, Division 6).....	9
3.2.4	City of San Diego Ordinance No. O-19678 (Municipal Code Chapter 6, Article 6, Division 7).....	9
3.2.5	Municipal Code Chapter 14, Article 2, Division 8	10
4.0	Demolition Waste	10
4.1	Salvage.....	10
4.2	Recycling.....	10
5.0	Construction Waste	12
5.1	On-Site Grading.....	13
5.2	Building Construction.....	13
6.0	Operational Waste	15
6.1	Solid Waste Storage Areas	15
6.2	Project Compliance with SB 1383.....	16
6.3	Operational Solid Waste.....	16
6.4	Change in Waste Generation Compared to Existing Conditions.....	16
6.5	Waste Reduction, Recycling, and Diversion Measures.....	17

6.6	Landscaping and Green Waste Recycling	17
7.0	Conclusion.....	18
8.0	Waste Reduction, Recycling, and Diversion Measures.....	18
9.0	References	23

1.0 INTRODUCTION

The purpose of this Waste Management Plan (WMP) for the Towne Centre View Project (Project) in the City of San Diego (City) is to identify potential impacts of the Project on solid waste services and if necessary, identify mitigation measures to reduce these impacts to less-than-significant levels. This Project shall strive for a goal of 75 percent of waste reduction for construction and demolition debris, consistent with the requirements of Chapter 6, Article 6, Division 6 of the Municipal Code and City policies regarding waste reduction and recycling. The Project shall also divert waste generated during occupancy in accordance with City policies regarding waste reduction and recycling.

This WMP addresses site demolition, building construction, and occupancy of the Project. This WMP addresses the projected amount of waste that could be generated by the Project based on current City generation rates and estimates; waste reduction goals; and recommended techniques to achieve the waste reduction goals, such as recycling.

The City has established thresholds of significance for cumulative and direct impacts related to solid waste generation. Projects that include the construction, demolition and/or renovation of 40,000 square feet or more of building space may generate sufficient waste (approximately 60 tons) to have a potentially cumulatively significant impact on solid waste facilities. Additionally, projects that include the construction, demolition, or renovation of 1,000,000 square feet or more of building space may generate 1,500 tons of waste or more and are considered to have direct impacts on solid waste facilities. The Project as proposed exceeds both of these thresholds.

Because the Towne Centre View Project exceeds the thresholds for solid waste generation, this WMP has been prepared to mitigate the direct and cumulative impacts of this Project by addressing the following elements for the demolition, construction, and occupancy phases of the Project as applicable:

- Tons of waste anticipated to be generated;
- Material type of waste to be generated;
- Source separation techniques for waste generated;
- How materials will be reused on-site;
- Name and location of recycling, reuse, and landfill facilities where recyclables and waste will be taken if not reused on-site;
- A “buy recycled” program;
- How the Project will aim to reduce the generation of construction/demolition debris;
- A plan of how waste reduction and recycling goals will be communicated to subcontractors; and
- A timeline for each of the three main phases of the Project (demolition, construction, and occupancy).

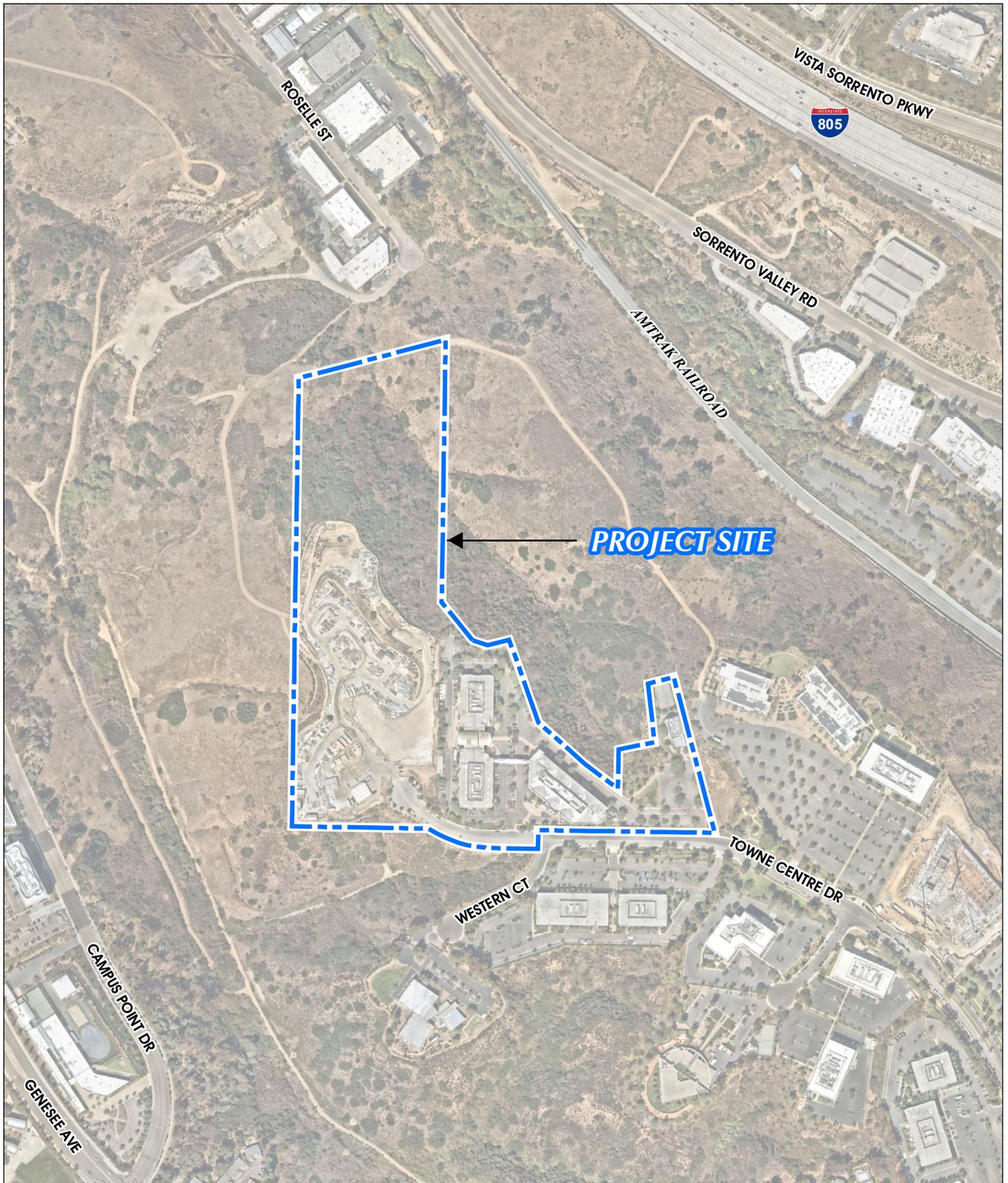
2.0 PROJECT DESCRIPTION

The 33.54-acre¹ Project site is located generally at the terminus of Towne Centre Drive the University Community Plan area of the City of San Diego and is shown on Figure 1, Aerial Photograph. The Project proposes development of a five-building campus consisting of research and development and headquarters office uses on the approximately 25.4-acre developable portion of the Project site. The Project may also include sports fields, an amphitheater and other amenities for Project employees. The proposed land use is consistent with the land use designation applied to the site by the University Community Plan. The Project currently proposes a Community Plan Amendment (to add intensity to the Development Intensity table), Planned Development Permit, Site Development Permit, Vesting Tentative Map, and Airport Land Use Authority Consistency Determination, which would be processed prior to construction.

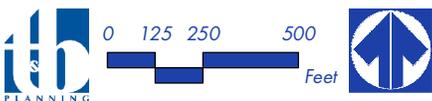
This WMP evaluates all components of the Project, including waste that would be generated by demolition of existing structures throughout the Project site, and waste that would be generated with construction and occupancy of the proposed uses on-site.

Under existing conditions, the eastern portion of the Project site is developed with two scientific research buildings owned by the Project Applicant, with a building area of approximately 200,000 square feet (s.f.); these buildings would be demolished to implement the Project. Additionally, approximately 107,000 s.f. of landscape debris associated with these existing buildings would be removed. The western portion of the Project site (APN 343-121-4200) is entitled for 190,000 square feet of R&D uses, and is currently being used as a staging area for the Mid-Coast Trolley construction. Additionally, during grading, approximately 305,500 cubic yards (c.y.) of cut and 132,500 c.y. of fill is anticipated, with the export of approximately 173,000 c.y. of soil materials.

¹ Assessor Parcel Numbers (APNs) 343-121-3500, -3600, - 3700, -4200, and -4300, as well as public right-of-way associated with existing Towne Centre Drive.



Source(s): ESRI, Nearmap Imagery (2020), SANGIS (2020)



Aerial Photograph

Towne Centre View

Date: December 10, 2020
Job #: 1142-001

3.0 APPLICABLE REGULATORY REQUIREMENTS

The following is a brief description of the state and local environmental laws and related regulations related to solid waste.

3.1 State Regulations

3.1.1 California Solid Waste Integrated Waste Management Act (AB 939, 1989)

The California Integrated Waste Management Act was enacted by the California Legislature in 1989 with the goal of reducing dependence on landfills for the disposal of solid waste and to ensure an effective and coordinated system for the safe management of all solid waste generated within the state. Assembly Bill (AB) 939 mandated a reduction in the amount of solid waste disposed of by jurisdictions and required diversion goals of 25% by 1995 and 50% by the year 2000. The Integrated Waste Management Act established a hierarchy of preferred waste management practices, which include (1) source reduction, (2) recycling and composting, and (3) environmentally safe disposal by transformation or landfilling. It addresses all aspects related to solid waste regulation, including the details regarding the lead enforcement agency's requirements and responsibilities; the permit process, including inspections and denials of permits; enforcement; and site clean-up and maintenance. It requires that each county prepare a countywide integrated waste management plan that is reviewed at least once every 5 years to assure that waste management practices remain consistent with the practices defined in the California Public Resources Code. In 2013, AB 341 increased the waste diversion target to 75% by 2020.

3.1.2 Waste Management (AB 1594)

"Alternative daily cover" (ADC) is cover material other than earthen material placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging. CalRecycle has approved 11 ADC material types that can currently be reported as diversion: ash and cement kiln dust, treated auto shredder waste, construction and demolition waste, compost, green material, contaminated sediment, sludge, and shredded tires. Generally, these materials must be processed so that they do not allow gaps in the exposed landfill face (CalRecycle 2015a).

Pursuant to California Public Resources Code Section 41781.3 and AB 1594, beginning January 1, 2020, the use of green material as ADC will not constitute diversion through recycling and will be considered disposal. "Green material" is defined as any plant material that is either separated at the point of generation, or separated at a centralized facility that employs methods to minimize contamination. Green material includes, but is not limited to, yard trimmings, untreated wood wastes, paper products, and natural fiber products. Green material does not include treated wood waste, mixed demolition or mixed construction debris, or manure and plant waste from the food processing industry, alone or blended with soil. As of August 1, 2018, local jurisdictions are required to include information in an annual report on how the local jurisdiction intends to address the diversion requirements and divert green material that is being used as ADC. A jurisdiction that does not meet certain diversion requirements as a result of not being able to claim diversion for the use of green material as ADC

would be required to identify and address, in an annual report, barriers to recycling green material and, if sufficient capacity at facilities that recycle green material is not expected to be operational before a certain date, to include a plan to address those barriers.

3.1.3 Waste Reuse and Recycling Act (AB 1327)

The Waste Reuse and Recycling Act (WRRRA) required the CIWMB to approve a model ordinance for adoption by any local government for the transfer, receipt, storage, and loading of recyclable materials in development projects by March 1, 1993. The WRRRA also required local agencies to adopt a local ordinance by September 1, 1993 or allow the model ordinance to take effect. The WRRRA requires all development projects that are commercial, industrial, institutional, or marina in nature and where solid waste is collected and loaded, to provide an adequate area for collecting and loading recyclable materials over the lifetime of the project. The area is required to be provided before building permits are issued. (CalRecycle, 2018b)

3.1.4 Mandatory Commercial Recycling Program (AB 341)

Assembly Bill 341 (AB 341), adopted in 2011, amended AB 939 by making a legislative declaration that it is the policy goal of the State of California that not less than 75% of solid waste generated be reduced, recycled, or composted by the year 2020. While a policy goal may not be legally enforceable, city and/or county ordinances and other mechanisms make AB 341 provisions enforceable within their jurisdictions. AB 341 also required a business (defined to include a commercial or public entity) that generates more than 8 cubic yards of commercial solid waste per week or is a multifamily residential dwelling of five units or more to arrange for recycling services, starting July 1, 2012. (CalRecycle, 2019)

3.1.5 2019 California Green Building Standards Code

California Code of Regulations, Title 24, Part 11 is referred to as the California Green Building Standards Code (CALGreen Code). CALGreen went into effect in January 2011. The most recently approved update to Cal Green became effective January 1, 2020, and is applicable to the planning, design, operation, construction, use, and occupancy of newly constructed buildings and structures throughout the State of California. The purpose of the CALGreen Code is to “improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality.” The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). Section 5.408.1 of the CALGreen Code requires that 65 percent of construction and demolition waste be diverted from landfills and that 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on-site until the storage site is developed. Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CALGreen Code.

3.1.6 Mandatory Commercial Organics Recycling (AB 1826)

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

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

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

As it pertains to CalRecycle, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. The provisions of SB 1383 will go into effect on January 1, 2022.

3.2 Local Regulations

3.2.1 City of San Diego Zero Waste Plan: Road to Zero Waste, Next Stop 75%

State of California regulations for solid waste (California Public Resources Code, Section 41700 et seq.) require that each region have a plan with adequate capacity to manage or dispose of solid waste for at least 15 years into the future. The City of San Diego's Zero Waste Plan (City of San Diego 2015b) establishes goals to target 75% diversion by 2020, 90% diversion by 2035, and "zero" by 2040 and outlines potential diversion strategies to help the City achieve these goals.

3.2.2 The Whitebook: Standard Specifications for Public Works Construction

The City created the Whitebook (City of San Diego 2015c), a supplement which takes precedence over the specification language contained in the "Greenbook." Standard Specifications for Public Works Construction (Public Works Standards 2015), and addresses the unique conditions in the City that are not addressed in the Greenbook. Specifically, Part 1 - General Provisions (A), Section 7-21 addresses construction and demolition waste management.

3.2.3 City of San Diego Ordinance No. O-19420 & O-19694 (Municipal Code Chapter 6, Article 6, Division 6)

Starting on July 1, 2008, all new construction projects are required to pay a refundable solid waste deposit on construction waste. This ordinance requires the applicant to do the following:

- All applicants for a Building Permit or a Demolition/Removal Permit shall submit a properly completed Waste Management Form Part I with the Building Permit or Demolition/Removal Permit application, in accordance with the requirements set forth in the Land Development Manual.
- All applicants shall pay a refundable deposit at the time the Building Permit or Demolition/Removal Permit is issued.
- No Building Permit or Demolition/Removal Permit shall be issued unless the applicant has submitted a properly completed Waste Management Form Part I and paid the required deposit.

3.2.4 City of San Diego Ordinance No. O-19678 (Municipal Code Chapter 6, Article 6, Division 7)

Starting on December 20, 2007, commercial facilities which receive solid waste collection service from a Franchisee shall participate in a recycling program by separating recyclable materials from other solid waste and depositing the recyclable materials in the recycling container provided by the Franchisee or Recyclable Materials Collector. The recycling services required by Section § 66.0706 of the San Diego Municipal code shall include, at a minimum, all of the following:

- 1) collection of recyclable materials at least two times per month;
- 2) collection of plastic bottles and jars, paper, newspaper, metal containers, cardboard, and glass containers;
- 3) utilization of recycling receptacles which comply with the standards in the Container and Signage Guidelines established by the Department;
- 4) designated recycling collection and storage areas; and
- 5) signage on all recycling receptacles, containers, shuts, and/or enclosures which complies with the standards described in the Container and Signage Guidelines by the Department.

Additionally, for commercial facilities, the responsible person shall ensure that occupants are educated about recycling services as follows:

- 1) Information, including the types of recyclable materials accepted, the location of recycling containers, and the occupant's responsibility to recycle pursuant to Chapter 6, Article 6 Division 7 of the San Diego Municipal Code, shall be distributed to all occupants annually;
- 2) All new occupants shall be given information and instructions upon occupancy; and
- 3) All occupants shall be given information and instructions upon any change in recycling service to the commercial facility.

3.2.5 Municipal Code Chapter 14, Article 2, Division 8

Municipal Code Chapter 14 Article 2 Division 8 sets forth the general regulations for refuse and recyclable materials storage for residential and commercial development. These sections include guidelines for the size of material storage areas based on the number of residential dwelling units and non-residential commercial square footage; location of material storages areas; and screening of material storage areas. (City of San Diego, 2009)

4.0 DEMOLITION WASTE

As previously discussed, all existing structures on-site would be demolished to accommodate the Project. Although specific statistical information is not currently available regarding the generation of waste associated with the demolition of the 200,000 s.f. of structures and approximately 107,000 s.f. of landscape debris identified in Exhibit A, , based on the City's Construction & Demolition Debris Conversion Rate Table, approximately 20,000 c.y. of waste would be generated during the demolition phase. The actual tonnage of materials to be removed would be determined by the contractor at the time of removal.

The summary of the waste types and volumes of demolition waste anticipated to be generated by the Project are shown in Table 1, *Existing Use Demolition Waste Content*. Table 2, *Estimated Demolition Waste – Quantities and Percent Diverted*, shows the estimated demolition waste separated by material, and the percentage of each material that would be diverted from the landfill through salvage or recycling. The assumptions for Table 1 and Table 2 are based on the City's Construction & Demolition Debris Conversion Rate Table which assumes approximately 20,000 c.y. of waste would be generated during the demolition phase.

4.1 Salvage

In order to provide a conservative analysis, this WMP assumes that no salvage of materials in the existing building is proposed.

4.2 Recycling

The Project site currently includes research and development office uses. All of the green waste materials would be sent to Miramar Greenery located at 5180 Convoy Street for 100% diversion.

Table 1 Existing Use Demolition Waste Content

Material	Percentage Waste by Material (%) ¹	Volume Waste by Material (cy)	Tons/Unit Conversion Factor ¹	Volume Waste by Material (Tons)
Asphalt, Concrete, Stone, and Masonry	50	10,000	1.01	10,100
Wood – Clean	10	2,000	0.15	300
Wood – Treated	10	2,000	0.15	300
Metal Waste	2	400	0.51	204
Mixed Debris	20	4,000	1.19	4,760
Garbage/Trash	8	1,600	0.18	280
TOTAL:	--	20,000	--	15,944

cy = cubic yard

1. Tons/Unit Conversion Factor per the City of San Diego Construction & Demolition (C&D) Debris Conversion Rate Table. (City of San Diego, 2016b)

Table 2 Estimated Demolition Waste – Quantities and Percent Diverted

Material	Estimated Waste Quantity (tons)	Handling ¹	Diversion Rate (%)	Estimated Diversion (tons)	Estimated Disposal (tons)
Asphalt, Concrete, Stone, and Masonry	10,100	Vulcan Carol Canyon Landfill and Recycle Site	100	10,100	0.0
Wood – Clean	300	SCOR Industries	100	300	0.0
Wood – Treated	300	EDCO Station Transfer & Buy Back Center	0	0	300
Landscape Debris	160.5 ²	Miramar Greenery	100	160.5	0.0
Metal Waste	204	Allan Company	100	204	0.0
Mixed Debris	4,760	EDCO Station Transfer & Buy Back Center	75	3,570	1,190
Garbage/Trash	280	EDCO Station Transfer & Buy Back Center	0	--	280
TOTAL:	16,105.5	--	95.8%	14,334.5	1,770

1. Handling Facilities were selected from the City of San Diego “2020 Certified Construction and Demolition (C&D) Recycling Facility Directory” (City of San Diego, 2020)

2. Landscape debris was estimated at a generation rate of three pounds per square foot (107,00 s.f. x 3 lbs per s.f. x .0005 tons = 160.5 tons)

The following materials would be segregated from the mixed debris for recycling at a recycling facility achieving 100% diversion:

- Asphalt, Concrete, Stone, and Masonry
- Metal waste

It is anticipated that approximately 95.8% of the waste materials generated during the demolition phase of the Project would be diverted by source separating the materials as described in Table 2 above. Therefore, the Project would exceed the 75% waste reduction requirement for construction and demolition debris as required by the City's Municipal Code. Tonnage for each material is subject to change based on actual data and would ultimately be documented by the contractor in a Construction Report. The Construction Report is required to be completed prior to issuance of any certificate of occupancy/tentative certificate of occupancy for the Project. This requirement applies to the Project as Mitigation Measure 3, discussed below under Section 8.0 of this WMP. Additionally, the recycling facilities identified above in Table 2 are subject to change based on their availability at the time demolition operations commence. Each year, the City of San Diego updates and maintains a directory of approved demolition recycling facilities, which should be consulted by the contractor prior to the start of demolition (City of San Diego, 2020). The contractor may elect to utilize one of the equally appropriate facilities listed in this directory. Furthermore, as required by Municipal Code Chapter 6, Article 6, Division 6, the Project would be required to submit a properly completed Waste Management Form Part I and pay a refundable solid waste deposit on demolition waste.

5.0 CONSTRUCTION WASTE

During construction of the Project, solid waste requiring landfill disposal would be required. The solid waste generated would primarily consist of discarded materials and packaging generated by the construction process. Construction debris would be separated on-site into material-specific containers to facilitate reuse and recycling and to increase the efficiency of waste reclamation and/or would be collected by a contracted waste hauler and separated at an off-site waste collection facility. Separation of materials at the construction site is necessary in order to ensure appropriate waste diversion rate, minimize costs associated with transportation and disposal, and facilitate compliance with the C&D ordinance. The types of construction waste anticipated to be generated include:

- Asphalt and concrete
- Brick/Masonry/Tile
- Cabinets/Doors/Fixtures
- Cardboard
- Carpet, padding/foam
- Ceiling Tile
- Drywall
- Landscape debris
- Mixed C&D material
- Roofing Materials

- Scrap metal
- Stucco
- Unpainted wood and pallets
- Garbage/Trash

Materials to be recycled would be redirected to appropriate recipients selected from the City of San Diego Environmental Services Department's (ESD) directory of facilities that recycle construction materials, scrap metal, and yard waste.

5.1 On-Site Grading

As previously identified, approximately 173,000 c.y. of soil would be exported from the site. According to the City's C&D Conversion Rate Table, soil has a conversion factor of 1.30 tons/c.y. Thus, the Project would require export of 224,900 tons of soil during grading (173,000 c.y. x 1.30 = 224,900 tons). Therefore, the grading phase of the Project would generate waste. Excavated soil is anticipated to be diverted at a rate of 100% at a suitable facility certified by the City of San Diego. Certified facilities include the following:

- Hanson Aggregates West, Miramar, 9229 Harris Plant Road, San Diego, CA 92126
- Vulcan Carol Canyon Landfill and Recycle Site, 10051 Black Mountain 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

Existing vegetation would also be removed as part of the grading process (clearing and grubbing) and would be processed and recycled 100% at a suitable green waste recycling facility. No vegetation would be sent to the landfill.

Other anticipated waste associated with grading operations includes negligible amounts of trash generated by contractors working on-site.

5.2 Building Construction

Construction of the Project would occur in one phase. The City of San Diego ESD requires projects to estimate tonnage of expected construction waste. The City's *Guidelines for a Waste Management Plan* estimates a solid waste generation rate of three pounds per square foot during the construction phase of project (City of San Diego, 2013, p. 10). The Project would involve the construction of 999,386 s.f. of building area and 1,027,650 s.f. of areas considered "exempt" from the Project's square footage under the City of San Diego Municipal Code Chapter 11, Article 3, Division 1. The exempt areas include balconies, roof deck, parking garage, amenity space, high bay laboratory space, building support, and storage. Construction of the building area and exempt features would involve a total of 2,027,036 s.f. of construction. As shown below, 2,027,036 s.f. of construction would result in the generation of approximately 3,041 tons of building construction waste.

Construction Waste Calculation:

$$2,027,036 \text{ sf} \quad \times \quad \frac{3\text{lbs}}{\text{sf}} \quad \times \quad \frac{.0005 \text{ tons}}{\text{lb}} = 3,041 \text{ tons of Building Construction Waste}$$

Approximately 3,041 tons of construction waste is the initial estimate used for purposes of preparing this WMP until construction documents have been prepared and a contractor has been hired who can more accurately compute the expected waste in total quantity and by type. For planning purposes, the contractors shall source separate the waste materials generated according to what is shown in Table 3, *Project Waste Generation - Construction*, below.

Table 3 Project Waste Generation - Construction

Material Type	Estimated Waste Quantity (tons)	Handling¹	Diversion Rate (%)	Estimated Diversion (tons)	Estimated Disposal (tons)
Clean Wood (forming and framing lumber)	76	Inland Pacific or Miramar Greenery	100	76	0
Metals (pipes, rebar, finishing, steel, aluminum, copper, brass, stainless steel)	760	Allan Company	100	760	0
Blocks, Bricks	487	Vulcan Carol Canyon Landfill and Recycle Site	100	487	0
Asphalt, Concrete	912	Vulcan Carol Canyon Landfill and Recycle Site	100	912	0
Trash (treated wood)	76	EDCO Station Transfer & Buy Back Center	0	0	76
Mixed Debris (insulation, vinyl, doors, floor tile, plastic pipes, film, broken glass, drywall)	608	EDCO Station Transfer & Buy Back Center	75	456	152
Cardboard	61	Allan Company	100	56	0
Carpet/Carpet Padding	61	DFS Flooring	100	56	0
TOTAL	3,041		84.3%	2,813	228

1. Handling Facilities were selected from the City of San Diego “2020 Certified Construction and Demolition (C&D) Recycling Facility Directory” (City of San Diego, 2020)

Based on the information shown in Table 3, the Project would divert approximately 84.3% of construction-related waste from the landfill, which exceeds the 75% waste reduction requirement for construction and demolition debris as required by the City’s Municipal Code. Additionally, as required by Municipal Code Chapter 6, Article 6, Division 6, the Project would be required to submit a properly

completed Waste Management Form Part I and pay a refundable solid waste deposit on construction waste.

6.0 OPERATIONAL WASTE

Demolition of existing structures and construction of new structures occurs as a one-time waste generation event. Tenant occupancy requires an on-going plan to manage waste disposal to meet the waste reduction goals established by the City and State. It should be noted that the Project proposes development of a five-building research and development and headquarters campus totaling 999,386 s.f. of non-exempt building area. The City of San Diego does not have a waste generation factor for scientific research and development and headquarters uses. The use that mostly closely matches the characteristics is the “Commercial Office” land use; thus, the “Commercial Office” generation rate is used herein. Additionally, the Project also includes an 84,008 s.f. high bay laboratory space below ground (in parking level 1), which is considered an exempt area when calculating gross floor area under the City of San Diego Municipal Code Chapter 11, Article 3, Division 1. The high bay laboratory space would have the potential to generate operational waste separate from the gross floor area of the building. Thus, for purposes of evaluating solid waste storage areas and operational waste, the high bay laboratory space has been included in the gross floor area calculation for a total of 1,083,394 s.f. It is not anticipated that the other Project’s other “exempt” uses are uses that would independently contribute to solid waste and are thus excluded from the calculations.

6.1 Solid Waste Storage Areas

Table 4, *Minimum Exterior and Recyclable Material Storage Areas for the Project*, shows the anticipated refuse and recyclable storage requirement based on the requirements of the City’s Municipal Code. As shown below in Table 4, the Project would require a minimum of 192 s.f. of refuse storage plus 48 s.f. for every 25,000 s.f. of building area above 100,000 s.f., 192 s.f. of recyclable material storage plus 48 s.f. for every 25,000 s.f. of building area above 100,000 s.f., and a total of 384 s.f. of refuse and recyclable storage areas plus 96 s.f. for every 25,000 s.f. of building area above 100,000 s.f.

Table 4 Minimum Exterior and Recyclable Material Storage Areas for the Project

Land Use	Gross Floor Area	Minimum Refuse Storage Area (square feet)	Minimum Recyclable Material Storage Area (square feet)	Total Minimum Storage Area (square feet)
Commercial Office	1,083,394 ¹ s.f.	2,065	2,065	4,130

s.f. = square feet

1. - The Project proposes 999,386 s.f. of floor area plus a 84,008 s.f. high bay laboratory space below ground, which is considered an exempt area when calculating gross floor area under the City of San Diego Municipal Code Chapter 11, Article 3, Division 1.

Note: Minimum refuse and recyclables storage rates obtained from City of San Diego Municipal Code Table 142-08C, which requires the provision of 192 s.f. of refuse storage plus 48 s.f. for every 25,000 s.f. of building area above 100,000 s.f., 192 s.f. of recyclable material storage plus 48 s.f. for every 25,000 s.f. of building area above 100,000 s.f., and a total of 384 s.f. of refuse and recyclable storage areas plus 96 s.f. for every 25,000 s.f. of building area above 100,000 s.f.

6.2 Project Compliance with SB 1383

SB 1383 requires that businesses provide a “source-separated” (i.e., separate bin) for the collection of organic waste. On-site organic waste collection services shall be provided to the Project. Tenants of the Project that receive solid waste collection service shall participate in a organics recycling program by separating organic materials from other solid waste and depositing the organic materials in the organic waste container provided for each tenant. The Project’s site plan is required to provide space for an organic waste bin within each trash enclosure and label it on the site plan. The Project’s organic waste bins are located within a storage area in level one of the podium parking.

6.3 Operational Solid Waste

The Project would include operation of a five-building campus totaling 1,083,394 s.f. of building area that would generate operational solid waste. Approximately 1,842 tons of waste would be generated per year by the Project under operational conditions, as calculated below, and summarized on Table 5, *Project Operational Solid Waste Generation*.

In accordance with AB 939 and City Municipal Code Chapter 6, Article 6, Division 7, the Project would be required to divert approximately 50% of operation-related waste from the landfill. Thus, 921 tons of waste would be disposed in the landfill and 921 tons of waste would be diverted from the landfill.

Table 5 Project Operational Solid Waste Generation

Land Use	Intensity/Size	Waste Generation Rate¹	Estimated Waste Generated (tons/year)
Commercial Office ²	1,083,394 s.f.	0.0017 tons per year per s.f.	1,842

s.f. = square feet

1. Waste Generation Rate obtained from the City of San Diego Environmental Services Department document dated 10/1/12.

2. The City of San Diego does not have a waste generation factor for scientific research and development and headquarters uses. The use that mostly closely matches the characteristics is the “Commercial Office.”

6.4 Change in Waste Generation Compared to Existing Conditions

Under existing conditions, the Project site contains two scientific research buildings with a building area of approximately 200,000 s.f. Based on the City’s waste generation rate for Commercial Office uses, the existing buildings generate approximately 340 tons of operational waste per year (200,00 s.f. x 0.0017 tons per year = 340 tons per year). Thus, the Project would result in a net increase of 1,502 tons of solid waste per year as compared to existing conditions. In accordance with AB 939 and City Municipal Code Chapter 6, Article 6, Division 7, the Project would be required to divert approximately 50% of operation-related waste from the landfill. Thus, 751 tons of waste would be disposed in the landfill and 751 tons of waste would be diverted from the landfill.

6.5 Waste Reduction, Recycling, and Diversion Measures

On-site recycling services shall be provided to the Project. Tenants of the Project that receive solid waste collection service shall participate in a recycling program by separating recyclable materials from other solid waste and depositing the recyclable materials in the recycling container provided on-site. Recycling services are required by Chapter 6, Article 6, Division 7 of the City of San Diego Municipal Code. Based on current requirements, these services shall include the following:

- Collection of recyclable materials as frequently as necessary to meet demand;
- Collection of plastic bottles and jars, paper, newspaper, metal containers, cardboard, and glass containers;
- Collection of other recyclable materials for which markets exist, such as scrap metal, wood pallets;
- Collection of food waste for recycling by composting, where available (prior to issuance of building and occupancy permits, the Project proponent will meet with representatives from ESD to ensure that their educational materials and haulers can comply with the requirements for this service);
- Use of recycling receptacles or containers that comply with the standards in the Container and Signage Guidelines established by ESD;
- Designated recycling collection and storage areas;
- Signage on all recycling receptacles, containers, chutes, and/or enclosures in compliance with the standards described in the Container and Signage Guidelines established by ESD.

As required by Section 66.0707 of the City's Municipal Code, the building management or other designated personnel shall ensure that occupants are educated about the recycling services as follows:

- Information, including the types of recyclable materials accepted, the location of recycling containers, and the occupants' responsibility to recycle shall be distributed to all occupants annually;
- All tenants shall be given information and instructions upon occupancy; and
- All tenants shall be given information and instructions upon any change in recycling service to the Project area.

6.6 Landscaping and Green Waste Recycling

Plant material selection shall be guided by the Project's Landscape Plan, submitted for City review and approval. Landscape maintenance shall include the collection of green waste and disposal of green waste at recycling centers that accept green waste. This will help further reduce the waste generated by developments within the Project during the occupancy phase.

7.0 CONCLUSION

The City of San Diego Development Services Department is requiring that this preliminary WMP be prepared and submitted to the City of San Diego's ESD because the Project exceeds the significance thresholds for solid waste disposal. Because the Project is in the Site Plan phase, this is only a preliminary plan, which specifies the intent to meet the requirements and goals of the Public Resources Code and City plans and ordinances.

To ensure impacts are mitigated to below a level of significance, the Project Applicant has prepared this WMP which explains and provides directions as to how to appropriately implement salvage and recycling activities for the Project. This WMP shall be implemented to the fullest degree of accuracy and efficiency. Additionally, the Project would be required to adhere to the CALGreen Code and City ordinances, including the Construction and Demolition Debris Diversion Deposit Program, the City's Recycling Ordinance, and the Refuse and Recyclable Materials Storage Regulations. The WMP for the Project is designed to implement and adhere to all City ordinances and regulations with regard to waste management.

8.0 WASTE REDUCTION, RECYCLING, AND DIVERSION MEASURES

The following measures are proposed to mitigate the direct and cumulative solid waste impacts to below a level of significance.

1. Prior to initiation of any grading or construction activities, the Applicant shall designate one person or agency connected with the Project to act as Solid Waste Management Coordinator. The Solid Waste Management Coordinator's responsibility is to work with all contractors and subcontractors to ensure material separation and coordination proper disposal and diversion of waste generated. The Solid Waste Management Coordinator will help ensure all diversion practices outlined in this WMP are upheld and communicate goals to all contractors involved efficiently. The responsibilities of the Solid Waste Management Coordinator, include, but are not limited to, the following:
 - Review the Solid Waste Management Plan;
 - Coordinate and oversee salvage operations;
 - Review and update procedures as needed for material separation and verify availability of containers and bins needed to avoid delays;
 - Review and update procedures for periodic solid waste collection and transportation to recycling and disposing facilities; and
 - The authority to stop work orders if proper procedures aren't being followed.
2. Prior to initiation of any grading or construction activities, the Solid Waste Coordinator shall conduct a Contractor Education Program presentation to ensure all Project personnel are

trained regarding content and requirements of this WMP. The Solid Waste Coordinator shall ensure the following waste management procedures are implemented:

- Solid Waste Management Coordinator shall be responsible for educating contractors and subcontractors regarding waste management plan requirements and ensuring that contractors and subcontractors carry out the measures described in the WMP.
 - Solid Waste Management Coordinator shall ensure ESD attendance at a pre-construction meeting and ensure compliance with segregation requirements, and verification of recycled content in base materials.
 - Recycling areas shall be clearly identified with large signs, approved by ESD, and sufficient amounts of material-specific bins shall be provided for necessary segregation.
 - Recycling bins shall be placed in areas that are readily accessible to contractors/subcontractors and in areas that will minimize misuse or contamination by employees and the public.
 - Solid Waste Management Coordinator shall be responsible for ensuring that contamination rates in bins remain below 5 percent by weight of the bin.
3. The Project contractors shall perform daily inspections of the construction site to ensure compliance with the requirements of the WMP and all other applicable laws and ordinances. Daily inspections shall include verifying the availability and number of dumpsters based on the amount of debris being generated, correct labeling of dumpsters, proper sorting and segregation materials, and salvaging of excess materials. The Project contractors shall report the results of the daily site inspections to the Solid Waste Management Coordinator
4. Prior to the issuance of any construction permits, the Solid Waste Coordinator shall ensure ESD's attendance at a pre-construction meeting. The Solid Waste Coordinator shall ensure that (1) the proposed approach to contractor education is approved, (2) the written specifications for base materials, concrete pavers, decomposed granite, and mulch are approved, (3) the C&D Ordinance deposit has been paid, (4) an appropriate diversion rate (from the Waste Management Plan) has been included on all construction permits and documents, including the C&D deposit form, and (5) that the ESD inspector approves the separate waste containers, signage, and hauling contract(s) for the following materials:
- Drywall
 - Concrete
 - Clean Wood
 - Scrap Metal
 - Polystyrene
 - Roofing
 - Cardboard
 - Trash

The Project will achieve the 75 percent goal of construction waste to be diverted and/or recycled. The Project shall implement environmentally sound waste management by salvaging

material such as steep, copper, other metals, and equipment; and reusing material such as concrete, steel, and asphalt. The Project shall recycle, salvage, and reuse materials and then divert materials to a landfill. These bins shall be clearly labeled, located in areas to avoid contamination, and regularly inspected by the Solid Waste Management Coordinator to remove contaminants. These materials will be either reused in the building construction process, or taken to designated recycling facilities which have been certified by the City of San Diego and have a diversion rate of 100%.

5. Prior to the issuance of any building permit, the Mitigation Monitoring Coordinator (MMC) shall verify that all of the requirements of the Refuse and Recyclable Materials Storage Regulations and all of the requirements of the Waste Management Plan are shown and noted on the appropriate construction documents. All requirements, notes, and graphics shall be in substantial conformance with the conditions and exhibits of the associated discretionary approval.

- The construction documents shall include a Waste Management Plan. Notification shall be sent to the following:

MMC Environmental Review Specialist Development Services Department
9601 Ridgehaven Court
Suite 220, MS 1102 B
San Diego, CA 92123
(619) 980-1236

Environmental Services Department (ESD)
9601 Ridgehaven Court
Suite 210, MS 1102 A
San Diego, CA 92123
(858) 573-1236

6. Prior to the issuance of any certificate of occupancy/tentative certificate of occupancy, the Project Applicant shall be required to submit written evidence to the MMC that the final Construction Report has been approved by the MMC and the (ESD). The Construction Report will be required to include the following information:

- The actual construction waste generated and diverted from the Project;
- The construction waste reduction percentage achieved; and
- How the construction waste reduction percentage goal was achieved.

7. Prior to the issuance of any certificate of occupancy/tentative certificate of occupancy the Project Applicant shall provide evidence to a representative of the City's ESD that the following measures as described in this report have been successfully implemented:

- Adequate storage area has been provided as consistent with the City's Storage Ordinance,

- Hauler(s) has been retained to provide recyclable materials collection, and
- Education materials for building tenants/owners have been prepared as required per the City's Recycling Ordinance.

With implementation of the above-listed mitigation measures, impacts are mitigated to a level considered less than significant. The following Table 6, *Calculated Diversion Rate*, summarizes the waste impacts and the waste reduction goals for each project phase.

Table 6 Calculated Diversion Rate

Phase/Type	Estimated Tons Generated	Handling	Diversion Rate	Estimated Tons Diverted	Estimated Tons Disposed
Demolition:					
Mixed Demolition Waste Per Table 2	16,105.5	Facilities Identified per Material in Table 2	95.8%	14,334.5	1,170
Construction:					
New Construction Per Table 3	3,042	Source Separation/Recycling as Identified per Material in Table 3	84.3%	2,813	228
Total for Demolition/Construction Phases:	19,147.5		90%	17,147.5	1,398
Occupancy:					
Net Solid Waste Generation	1,502	Compliance with Recycling Ordinance	50%	751	751
Total for Occupancy Phase:	1,502		50%	751	751

9.0 REFERENCES

<u>Cited As:</u>	<u>Citation:</u>
(CalRecycle, 2018a)	CalRecycle, 2018. <i>History of California Solid Waste Law, 1985-1989</i> (website). July 27, 2018. Accessed December 1, 2020. Available online: http://www.calrecycle.ca.gov/laws/legislation/calhist/1985to1989.htm .
(CalRecycle, 2018b)	CalRecycle, 2018. <i>History of California Solid Waste Law, 1990-1994</i> (website). July 27, 2018. Accessed December 1, 2020. Available online: http://www.calrecycle.ca.gov/Laws/Legislation/calhist/1990to1994.htm .
(City of San Diego, 2009)	City of San Diego. 2009. <i>Article 2: General Development Regulations, Division 8: Refuse and Recyclable Materials Storage Regulations</i> . December 2009. December 1, 2020. Available online: https://docs.sandiego.gov/municode/MuniCodeChapter14/Ch14Art02Division08.pdf .
(City of San Diego, 2013)	City of San Diego. 2013. <i>California Environmental Quality Act Guidelines for a Waste Management Plan</i> . June 2013. August 12, 2021. Available online: https://www.sandiego.gov/sites/default/files/legacy/environmental-services/pdf/recycling/wmpguidelines.pdf
(City of San Diego, 2016a)	City of San Diego. 2016. <i>Article 6: Collection, Transportation and Disposal of Refuse and Solid Waste, Division 6: Construction and Demolition Debris Diversion Deposit Program</i> . September 2016. Accessed: December 1, 2020. Available online: https://docs.sandiego.gov/municode/MuniCodeChapter06/Ch06Art06Division06.pdf .
(City of San Diego, 2016b)	City of San Diego. 2016. <i>City of San Diego Construction & Demolition (C&D) Debris Conversion Rate Table</i> . June 6, 2016. Available online: https://www.sandiego.gov/sites/default/files/material_conversion_table_6.8.16_0.xls .
(City of San Diego, 2018)	City of San Diego. 2018. <i>Article 6: Collection, Transportation and Disposal of Refuse and Solid Waste, Division 7: Recycling</i>

Ordinance. March 2018. Accessed: December 1, 2020. Available online:

<https://docs.sandiego.gov/municode/MuniCodeChapter06/Ch06Art06Division07.pdf>.

(City of San Diego, 2020)

City of San Diego, 2020. *2020 Certified Construction & Demolition (C&D) Recycling Facility Directory*. November 2, 2020. Accessed: December 1, 2020. Available online:

<https://www.sandiego.gov/sites/default/files/certified-cd-recycling-facility-directory.pdf>.