

WASTE MANAGEMENT PLAN

FOR

Riverwalk Project

San Diego, California

Project No. 581984

Prepared for:

City of San Diego Environmental Services Department

9601 Ridgeway Court, Suite 320

San Diego, California 92123-1636

Prepared by:

KLR Planning

P. O. Box 882676

San Diego, California 92168-2676

Telephone: 619-578-9505

~~February 2018~~ March 2020

TABLE OF CONTENTS

	PAGE
1.0 INTRODUCTION	1
2.0 BACKGROUND	5
2.1 Exterior Refuse and Recyclable Material Storage Areas Requirements	5
2.2 Exterior Refuse and Recyclable Material Storage Areas for <i>Riverwalk Project</i>	5
3.0 EXISTING CONDITIONS	6
4.0 PROPOSED CONDITIONS	7
5.0 GRADING	7
6.0 CONSTRUCTION PHASE	7
6.1 On-Site Preparation	8
6.2 Managing Construction Material	9
7.0 OCCUPANCY PHASE	10
7.1 Implementation	12
7.1.1 Recycling Requirements for Non-Residential Facilities	13
7.1.2 Recycling Requirements for Residential Facilities	14
7.2 Landscaping and Green Waste Recycling	15
8.0 CONCLUSION	15
8.1 Construction Materials Management	16
8.2 Operational Waste Materials Management	16

FIGURES

Figure 1	<i>Riverwalk Project Location Map and Aerial</i>	3
Figure 2	<i>Riverwalk Project Site Plan</i>	4

TABLES

Table 1	Minimum Exterior Refuse and Recyclable Material Storage Areas for Residential Development	6
Table 2	Minimum Exterior Refuse and Recyclable Material Storage Areas for Commercial and Industrial Development	6
Table 3	<i>Riverwalk Project</i> Waste Generation – Construction	11
Table 4	Minimum Exterior Refuse and Recyclable Material Storage Areas for Multiple Unit Residential Developments within <i>Riverwalk</i>	12
Table 5	Minimum Exterior Refuse and Recyclable Material Storage Areas for	

	Non-Residential Developments within <i>Riverwalk</i>	12
Table 6	Minimum Exterior Refuse and Recyclable Material Storage Areas for the <i>Riverwalk Valley Project</i>	13
Table 7	Estimated Solid Waste Generation from the <i>Riverwalk Project</i> – Occupancy Phase.....	13

1.0 INTRODUCTION

The purpose of this Waste Management Plan (WMP) for the *Riverwalk Project* in the City of San Diego is to provide analysis of the solid waste impacts anticipated for the *Riverwalk Project* and how those impacts will be mitigated. The goal of this WMP is to identify sufficient mitigation to reduce the potential impacts of the *Riverwalk Project* on solid waste services. Two acceptable approaches to managing waste are to reduce the tons disposed to 60 tons or less, or to provide diversion of 75 percent or more, thus meeting the goal established by Assembly Bill 341.

The 195-acre *Riverwalk Project* site is located at 1150 Fashion Valley Road, San Diego, California 92108. Friars Road forms the project site's northern boundary; Fashion Valley Road is on the east; a portion of Hotel Circle North forms the project site's southern border; and ~~privately~~-owned undeveloped property lies to the southwest. (See Figure 1, *Riverwalk Project Location Map*.) The project site is currently developed with the ~~27-hole~~ Riverwalk Golf Course, which consists of three nine-hole courses; and clubhouse building; driving range; and associated driveways, surface parking, and various maintenance and related facilities, which operates under an existing Conditional Use Permit. The project site is zoned MV-M/SP (Mission Valley—Multiple Use/Specific Plan) and is designated Multi-Use with a portion of the project site as Open Space in the Mission Valley Community Plan. The project site is in the Mission Valley Community Plan Area. The 2019 Mission Valley Community Plan designates the site as Riverwalk Specific Plan, with land uses of Residential (HD) in the northeastern and northwestern portions of the site; Office and Visitor Commercial in the northcentral, northeastern, and southeastern portions of the site; and Potential Park/Open Space in the central portion of the site. The specific plan area is designated Multiple Use; Commercial Employment, Retail, and Services; and Parks, Open Space, and Recreation in the City of San Diego General Plan. The approved Levi-Cushman Specific Plan identifies the site for a mix of residential, retail, office, hotel and recreational use. The Riverwalk Specific Plan area is zoned CC-3-9 (Commercial—Community) in the central, northeastern, and southeastern portions of the site; RM-4-10 (Residential—Multiple Unit) in the northwestern and northeastern portions of the site; and OP-1-1 (Open Space—Park) and OC-1-1 (Open Space—Conservation) in the central portion of the site.

The proposed project involves redevelopment of the Riverwalk Golf Course as a mixed-use development consisting of multi-family residential, neighborhood retail, office, and a large community park. The project would have up to 4,300 multi-family residential units; approximately 140,000 152,000 square feet of neighborhood commercial retail space; up to 1,000,000 square feet of office space and non-retail commercial; and approximately 22-95 acres of public parks, open space and trails; adaptive reuse of the existing golf clubhouse into a community amenity; and a new Green Line Trolley stop. (See Figure 2, *Riverwalk Project Development Concept Diagram*.)

Discretionary actions associated with the proposed *Riverwalk Project* include a General Plan/Mission Valley Community Plan Amendment; Riverwalk Specific Plan; Amendment to Rescinding the Levi-Cushman Specific Plan;—, Vesting Tentative Map;—, Planned Development Permit and Site Development Permit;—, Conditional Use Permit Amendment;—, Amendment to the Mission Valley Public Facilities Financing Plan; General Development Plan for the future park;—, and Street and Public Easement Vacations.

This WMP consists of three sections corresponding to the implementation of site development: the *Grading Phase*, the *Construction Phase*, and the *Occupancy Phase* (post-construction). For all of these phases, this WMP addresses the projected amount of waste that could be generated by the project based on City generation rates and estimates; waste reduction goals; and recommended techniques to achieve the waste reduction goals, such as reducing, reusing, and recycling. It should also be noted that, due to the lengthy phasing of the project, disposal methods and sites, as well as recycling opportunities, will likely change. Therefore, this WMP includes general information known at the time the WMP was prepared.

Waste disposal sites and recycling methods and opportunities may change from those available today; however, it is not expected that waste diversion and disposal sites listed in Table 4 would change by the time the project is anticipated to begin construction. This WMP includes the following general information known at the time the WMP was prepared:

- Projected waste generation calculations and identification of types of waste materials generated;
- Source separation techniques for waste generated;
- How materials will be re-used on-site;
- Name and location of current recycling, re-use, and landfill facilities where waste will be disposed of if not re-used on-site;
- A “buy recycled” program;
- Measures to be implemented directed at reducing construction debris;
- Method(s) for communicating waste reduction and recycling goals to subcontractors;
- A general time line for construction and development; and
- A list of required progress and inspections by City staff, based on current ordinances.

Figure 1
Riverwalk - Project Location Map and Aerial

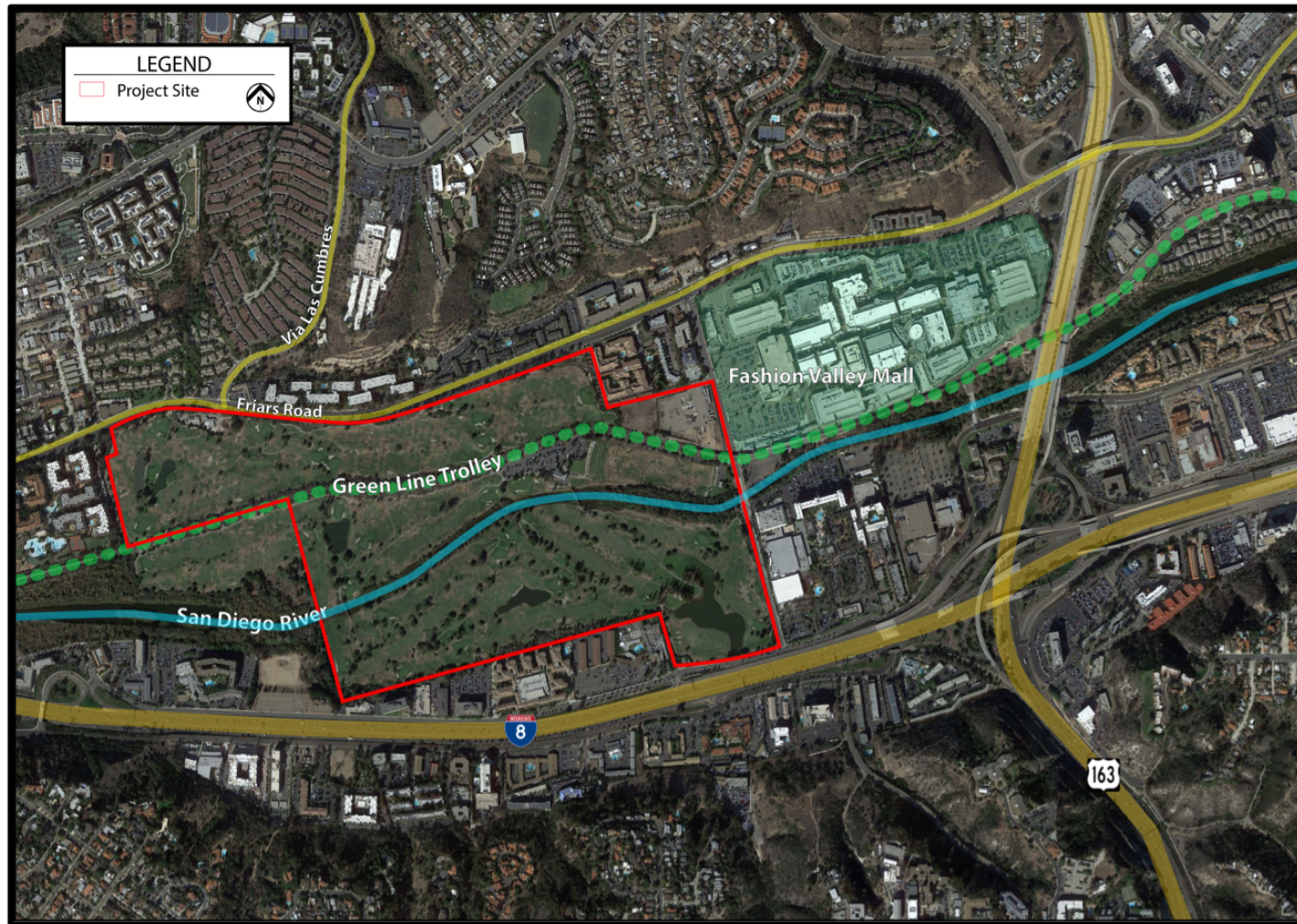


Figure 2
Riverwalk Project Development Concept Diagram



2.0 BACKGROUND

In 1989, the California Legislature passed Senate Mandate AB 939: Integrated Waste Management Act, which mandated that all cities reduce waste disposed in landfills from generators within their borders by 50 percent by the year 2000. AB 939 required all local governments to prepare a Source Reduction and Recycling Element, which incorporates waste management policies and programs to achieve the mandated waste reduction. Since 2004, the City has diverted more than 50 percent of its generated waste stream from disposal. Assembly Bill 341 was chaptered in 2011 and sets the new diversion target at 75 percent.

The City of San Diego has established a threshold of 40,000 square feet of development as generating sufficient waste (60 tons) to have a potentially cumulative significant impact on solid waste services. According to the City's thresholds, projects that are 1,000,000 square feet or more generating sufficient waste (1,500 tons) have potentially significant direct impacts on solid waste services and facilities. The *Riverwalk Project*, as proposed, exceeds these thresholds. The purpose of this WMP is to identify measures to manage waste generation and avoid potentially significant impacts.

Additional local regulation pertaining to solid waste management includes the City of San Diego's Municipal Code Ch.14 Art.2 Div.8: §142.0810, §142.0820, Ch.6 Art.6 Div.7; §66.0706, §66.0709, §66.071; and Ch.6 Art.6 Div.6; §66.0711, §66.0604, §66.0606. These statutes designate refuse and recycling space allocation requirements for on-site refuse and recyclable material storage requirements, diversion of construction and demolition debris regulations, and diversion of recyclable materials generated from residential and commercial facilities. Approval of the *Riverwalk Project* is subject to approval of this plan by the ESD.

2.1 Exterior Refuse and Recyclable Material Storage Area Requirements

The *Riverwalk Project* will develop in over a period of 20+ years. Development is anticipated to begin 2019. Because the *Riverwalk Project* includes residential and nonresidential development, exterior refuse and recyclable material storage areas will differ, as described below.

Table 1 provides the *Minimum Exterior Refuse and Recyclable Material Storage Areas for Residential Development* in accordance with the City's Land Development Code. Table 2 provides the *Minimum Exterior and Recyclable Material Storage Areas for Commercial and Industrial Development*.

2.2 Exterior Refuse and Recyclable Material Storage Areas for the *Riverwalk Project*

The *Riverwalk Project* is a master planned, mixed-use development. As such, it will provide an integrated urban development that will include residential, retail, commercial, and commercial office uses, as well as parks and open space. The project would develop a mixed-use project with a total of 4,300 multi-family residential units, ~~140,000~~ 152,000 square feet of ~~neighborhood commercial~~ retail, and 1,000,000 square feet of office space and non-retail commercial. Table 1, *Minimum Exterior and Recyclable Material Storage Areas for Residential Development*, shows the required amount of refuse and recyclable storage areas for the project's residential element. As shown in Table 1, the project would be required to provide 8,256 square feet each of exterior refuse and recyclable material storage area, for a total of 16,512 square feet of material storage area. Table 2, *Minimum Exterior and Recyclable Material Storage*

Areas for Commercial and Industrial Development, shows the required amount of refuse and recyclable storage areas for the project's office and neighborhood retail elements. As shown in Table 2, the project would be required to provide 2,189,208 square feet each of exterior refuse and recyclable material storage area, for a total of 4,378,416 square feet of material storage area.

Table 1
Minimum Exterior Refuse and Recyclable Material Storage Areas for Residential Development

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

Source: City of San Diego Municipal Code, Chapter 14, Article 2, Division 8: Refuse and Recyclable Material Storage Regulations, §142.0820, Table 142-08B, effective January 1, 2000.

Table 2
Minimum Exterior Refuse and Recyclable Material Storage Areas for Commercial and Industrial Development

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

Source: City of San Diego Municipal Code, Chapter 14, Article 2, Division 8: Refuse and Recyclable Material Storage Regulations, §142.0830, Table 142-08C, effective January 1, 2000.

3.0 EXISTING CONDITIONS

The *Riverwalk Project* site encompasses approximately 195 acres currently developed ~~as a 27-hole with three nine-hole golf courses and, clubhouse building, driving range, and associated driveways, parking, and various maintenance and related facilities.~~ The project site is bordered by Friars Road to the north, Fashion Valley Road to the east, a portion of Hotel Circle North to the south, and ~~privately~~ privately-owned undeveloped property to the southwest. The project would redevelop the project site as an integrated mixed-use development.

4.0 PROPOSED CONDITIONS

The proposed project involves redevelopment of the existing golf and on-site surface parking and construction of a mixed-use development consisting of multi-family residential, neighborhood retail, office, and large community park. The project would provide up to 4,300 multi-family residential units; ~~140,000~~152,000 square feet of ~~neighborhood commercial~~ retail space; ~~approximately 1,000,000~~ square feet of office ~~space and non-retail commercial~~; and approximately ~~22-25~~ acres of ~~public~~ parks, open space, and trails. (See Figure 2, *Riverwalk Project Development Concept Diagram*.)

Construction will be phased and will occur over ~~the next 20+~~approximately 20 years. Construction is anticipated to begin in ~~2019~~2021. Construction practices will comply with local, State, and Federal regulations regarding handling of building materials to ensure waste minimization requirements are met. Based on the Riverwalk Grading Plan Map, approximately ~~158~~173.6 acres (approximately ~~81-89~~ percent) of the project site will be graded for development.

5.0 GRADING

As discussed in Section 1.0, the project site is currently developed ~~as a 27~~with three nine-hole golf courses, and clubhouse building, driving range, and associated driveways, parking, and various maintenance and related facilities. Based on the Grading Plan prepared for the project, the project would require approximately ~~305,000~~426,400 cubic yards of cut and ~~1,230,000~~1,454,000 cubic yards of fill. Approximately ~~925,000~~1,028,000 cubic yards of material would be imported. Therefore, no waste materials (earth) would be required to be disposed of as a result on project grading operations.

6.0 CONSTRUCTION

Construction for the project will occur over an extended period of time (approximately 20 years). Construction activities would generate packaging materials and unpainted wood, including wood pallets, and other miscellaneous debris. Construction debris would be separated on-site into material-specific containers to facilitate reuse and recycling and to increase the efficiency of waste reclamation. The types of construction waste anticipated to be generated that could be marketable include:

- Inert granule products (asphalt and concrete)
- Wood waste products
- Ferrous metals

In accordance with City WMP requirements, the City's Construction and Demolition Ordinance, the City's current diversion targets, and AB 341, a minimum of 75 percent of construction materials will be diverted. Strategies for material reduction, and reuse would be identified by the contractor prior to the start of work, materials to be recycled would be redirected to appropriate recipients selected from ESD's directory of facilities that recycle construction materials, scrap metal, and yard waste.

To the extent practical, either post-consumer recycled or pre-consumer recycled materials would be used in the construction phase. Recycled content materials reuse waste products that would otherwise be deposited in landfills. Use of local materials supports the local economy and reduces transportation.

Use of rapidly renewable materials minimizes natural resource consumption, and use of certified wood improves the stewardship of forests and related ecosystems.

As previously mentioned, the *Riverwalk Project* is unique, in that its construction phases will extend over an approximately 20+20-year period. The *Riverwalk Project* includes a Specific Plan, which establishes land uses and provides design guidelines and development standards. No construction will occur with approval of the Specific Plan. Future development of land uses established by the Specific Plan will occur within *Riverwalk* through the City's Substantial Conformance Review Process Two.

The following are examples of construction waste management strategies that shall be utilized in the design of future projects. Because *Riverwalk* is planned to be built out to 2040 and beyond, and because each phase of development within *Riverwalk* will have its own unique set of parameters, it is impossible at this time to determine exactly which of the strategies apply. Actual measures implemented as a part of each future development project will be reviewed by ESD at the preconstruction meeting as required by the project's Mitigation Monitoring and Reporting Program. Accepted measures will then be included in the contractor's construction documents.

- Recycling, salvage, reuse, and disposal options would be determined before each job begins.
- Materials that can be reused would be donated to charities and nonprofit agencies, when practical.
- Advertisements would be placed in local newspapers announcing salvageable and reusable materials for sale or donation.
- Refuse haulers and recycling facilities would be selected based on their responsiveness to the recycling plan, fees, and geographic proximity to the job site.
- Solid waste management coordinator will be responsible for educating contractors and subcontractors regarding waste management plan requirements.
- Recycling areas would be clearly identified with large bilingual signs to ensure contamination rates in bins are below five percent by weight.
- Recycling bins would be placed in areas that would minimize misuse or contamination by employees and the public (location to be approved by ESD staff).
- Reuse building materials, use materials that have recycled content, or use materials that are derived from sustainable or rapidly renewable sources to the extent possible.
- Scheduling time for deconstruction and recycling activities to take place during project construction phase.

6.1 On-Site Preparation

Source separation of construction debris on the project site will facilitate reuse and recycling of materials. The locations of multiple bins or disposal areas and the source separation protocol would be identified on the contractors' construction documents for all future development projects within *Riverwalk*. Three general categories of construction waste that are potentially marketable are inert granule products (asphalt and concrete), wood waste products, and ferrous metals. Reuse of building materials would be utilized to the maximum extent practical. A more clearly defined outline of the recycled material process would be determined with each future development proposal within *Riverwalk*. The implementation of a recycled materials process determined with each development

phase will mitigate project impacts. The recycled materials process will be enforced by the general contractor with each phase of development.

6.2 Managing Construction Material

Management of construction material and recycling will adhere to industry standards such that refuse that cannot be reused or recycled is disposed of at appropriate facilities. Provided below is a list of general procedures which would be implemented such that 75 percent of construction waste, in accordance with AB 341 and current City diversion targets for project-specific waste management plans, would be diverted from disposal in landfills in accordance with City requirements.

- Determine recycling, salvage, reuse, and disposal options before the job begins.
- Donate materials that can be reused to charities and nonprofit agencies.
- Choose refuse haulers based on their responsiveness to the projects recycling plan.
- Choose a recycling facility, such as Miramar Landfill, based on its fees, geographic proximity to the project site, and diversion rate.
- Solid waste management coordinator will be responsible for educating contractors and subcontractors regarding waste management plan requirements.
- Clearly identify recycling areas with large bilingual signs.
- Place recycling bins in areas that will minimize misuse or contamination by employees and the public.

To facilitate management of construction materials, as individual developments come forward, the developer shall identify one person or agency connected with the proposed development to act as Solid Waste Management Coordinator, whose responsibility it becomes to work with all contractors and subcontractors to ensure material separation and coordinate proper disposal and diversion of waste generated. The Solid Waste Management Coordinator will help to ensure all diversion practices outlined in this Waste Management Plan 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 including responsibilities of Solid Waste Management Coordinator.
- Work with contractors to estimate quantities of each type of material that will be salvaged, recycled, or disposed of as waste, then assist contractors with documentation.
- 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.

The contractors will perform daily inspections of the construction site to ensure compliance with the requirements of the Waste Management Plan and all other applicable laws and ordinances and report directly to Solid Waste Management Coordinator. Daily inspections will include verifying the

availability and number of dumpsters based on amount of debris being generated, correct labeling of dumpsters, proper sorting and segregation materials, and salvaging of excess materials.

Table 3, *Riverwalk Project Waste Generation – Construction*, is included below to conservatively summarize the types of waste generated, the amount of each waste type diverted, and the overall amount remaining to be disposed of in landfills combined for all phases of the project.

Construction debris will be separated onsite into material-specific containers, corresponding to the materials types in Table 3, to facilitate reuse and recycling and to increase the efficiency of waste reclamation. As shown in Table 3, 89 percent of the construction materials generated are targeted for diversion.

7.0 OCCUPANCY PHASE

While the construction phase for each future development project in *Riverwalk* occurs as a one-time waste generation event with each development, tenant/owner occupancy requires an on-going plan to manage waste disposal to meet the waste reduction goals established by the City and State. Future developments within Riverwalk will comply with the City's Recycling Ordinance.

For the *Riverwalk* project, each dwelling unit will be outfitted with interior refuse and recyclable material storage area pursuant to San Diego Municipal Code §142.0820. All recyclable materials will be delivered to an appropriate recycling facility(s), such as the Miramar Recycling Center, located at 5165 Convoy Street, San Diego, California 92111.

The *Riverwalk* Specific Plan has been carefully planned to include a mix of land uses and project features on site that will help to achieve the broad goals of smart growth and sustainable development. In accord with the City's Conservation Element, *Riverwalk* seeks to reduce its "environmental footprint" through an appropriate land use plan that provides a variety of land uses in proximity with one another and connects those land uses in an efficient manner, promoting alternative modes of transportation. Developing the appropriate land use mix and a circulation system that does not solely rely on automobiles are only the beginning of *Riverwalk*'s future as a sustainable development. Future development of individual lots and buildings within *Riverwalk* should also consider opportunities to incorporate sustainable design.

Low Impact Development (LID) principles, guidelines, and best management practices (BMPs) will be utilized during the planning, design, implementation, and maintenance of the public spaces throughout the project. In particular, planting areas within parks, on slopes, and along trails will be designed to incorporate storm water management BMPs to slow, infiltrate, and cleanse storm water as it moves across the landscape. Trails, maintenance access, and other hardscape features within the public realm will be designed of permeable paving materials such as porous concrete, porous asphalt, interlocking pavers, or decomposed granite to promote storm water infiltration and reduce storm water discharges, where appropriate.

Plant material selection will be guided by the macro- and micro-climate characteristics of the project site and surrounding region to encourage long-term sustainability without the excessive use of water, pesticides, and fertilizers. Irrigation of these areas will utilize reclaimed water applied via low precipitation rate spray heads, drip emitters, or other highly efficient systems.

Table 3
Riverwalk Project Waste Generation – Construction

Material Type	Estimated Waste Quantity (tons)	Handling	Estimated Diversion (tons)	Estimated Disposal (tons)
CONSTRUCTION WASTE				
Asphalt and Concrete	507.119 <u>716.23</u>	Hanson Aggregates 9229 Harris Plant Road San Diego, CA 92126 (100% diversion)	507.119 <u>716.23</u>	--
Brick/Masonry/ Tile	144.892 <u>775.86</u>	Vulcan Carroll Canyon Landfill and Recycle Site 10051 Black Mountain Road San Diego, CA 92126 (100% diversion)	144.892 <u>775.86</u>	--
Cardboard	14.24 <u>277.73</u>	Allan Company 6733 Consolidated Way San Diego, CA 92121 (100% diversion)	9.97 <u>194.41</u>	4.27 <u>83.32</u>
Carpet, Padding/Foam	7.24 <u>138.50</u>	DFS Flooring 10178 Willow Creek Road San Diego, CA 92131 (100% diversion)	7.24 <u>138.50</u>	--
Drywall	101.421 <u>942.66</u>	EDCO Station Transfer and Buy Back Center 8184 Commercial Street La Mesa, CA 91942 (70% diversion)	70.991 <u>359.86</u>	30.43 <u>582.80</u>
Landscape Debris	14.48 <u>277.73</u>	Miramar Greenery 5180 Convoy Street San Diego, CA 92111 (100% diversion)	14.48 <u>277.73</u>	--
Mixed C&D Debris	434.678 <u>328.30</u>	Otay C&D/Inert Debris Processing Facility 1700 Maxwell Road Chula Vista, CA 91913 (76% diversion)	326.006 <u>246.23</u>	108.672 <u>082.08</u>
Roofing Materials	7.34 <u>138.50</u>	LEED Recycling 8725 Miramar Place San Diego, CA 92121 (100% diversion)	7.34 <u>138.50</u>	--
Scrap Metal	35.21 <u>693.97</u>	Allan Company 6733 Consolidated Way San Diego, CA 92121 (100% diversion)	24.35 <u>485.78</u>	10.86 <u>208.19</u>
Unpainted Wood & Pallets	173.843 <u>330.59</u>	Miramar Greenery 5180 Convoy Street San Diego, CA 92111 (100% diversion)	173.843 <u>330.59</u>	--
Garbage/Trash	7.34 <u>138.50</u>	Miramar Landfill 5180 Convoy Street San Diego, CA 92111 (0% diversion)	--	7.34 <u>138.50</u>
TOTAL	1,447.48<u>27,758.58</u>		1,286.21<u>24,663.69</u>	161.57<u>3,094.88</u>

7.1 Implementation

The following two tables express the anticipated refuse and recyclable storage requirements based on Table 142-08C of the City of San Diego Municipal Code. (The figures in these tables assume full build-out of the *Riverwalk* project. If less development occurs, then less solid waste would be generated.)

Table 4
Minimum Exterior Refuse and Recyclable Material Storage Areas for Multiple Unit Residential Developments within Riverwalk

Neighborhood	Number of Dwelling Units	Minimum Refuse Storage Area (square feet)	Minimum Recyclable Material Storage Area (square feet)	Total Minimum Storage Area (square feet)
Residential	4,300	8,256	8,256	16,512
TOTAL	4,300	8,256	8,256	16,512

Table 5
Minimum Exterior Refuse and Recyclable Material Storage Areas for Non-Residential Developments within Riverwalk

Development	Gross Floor Area	Minimum Refuse Storage Area (square feet)	Minimum Recyclable Material Storage Area (square feet)	Total Minimum Storage Area (square feet)
Commercial	140,000 152,000	269 288	269 288	538 576
Office	1,000,000	1,920	1,920	3,840
TOTAL	1,140,0001,152,000	2,1892,208	2,1892,208	4,3784,416

If the project developed at 4,300 multi-family residential units as projected at full build-out, the project would be required to provide a minimum of 8,256 square feet refuse storage area and a minimum of 8,256 square feet recyclable material storage area for a total of approximately 16,512 square feet minimum of exterior refuse and recyclable material storage area for residential developments within *Riverwalk*. Additionally, the project could develop with as much as ~~140,000~~152,000 square feet of commercial (including neighborhood retail uses). At full build-out, this will require a minimum of ~~2,189~~2,208 square feet refuse storage area and a minimum of ~~2,189~~2,208 square feet recyclable material storage area for a total of approximately ~~4,378~~4,416 square feet minimum of exterior refuse and recyclable material storage area. For the *Riverwalk* development as a whole, the project would be required to provide a minimum of ~~10,445~~10,464 square feet refuse storage area and a minimum of ~~10,445~~10,464 square feet recyclable material storage area for a total of approximately ~~20,890~~20,928 square feet minimum exterior refuse and recyclable material storage area, if it develops with the maximum development intensity identified in the *Riverwalk* Specific Plan.

Table 6, *Refuse and Recyclable Material Storage Areas Requirements for the Riverwalk Project*, specifies the minimum exterior and interior space requirements for refuse and recycling material storage.

Table 6
Refuse and Recyclable Material Storage Areas Requirements
for the Riverwalk Project

Use	Intensity	Area Required		
		Refuse Storage Area	Recycle Storage Area	Total Area Required
Residential	4,300 units	8,256 sq. ft.	8,256 sq. ft.	16,512 sq. ft.
Commercial (retail)	140,000 150,000 sq. ft.	269 288 sq. ft.	269 288 sq. ft.	538 576 sq. ft.
Commercial (office)	1,000,000 sq. ft.	1,920 sq. ft.	1,920 sq. ft.	3,840 sq. ft.

As shown in Table 7, *Estimated Solid Waste Generation from the Riverwalk Project – Occupancy Phase*, during occupancy, the expected generated waste per year from the *Riverwalk* project when fully occupied would be approximately 7,252,280 tons.

Table 7
Estimated Solid Waste Generation from the Riverwalk Project – Occupancy Phase

Use	Intensity	Waste Generation Rate	Estimated Waste Generated (tons/year)
Residential	4,300 units	1.2 tons/year/unit	5,160
Commercial – General Retail	140,000 150,000 sq. ft.	0.0028 tons/year/sq. ft.	392 420
Commercial - Office	1,000,000 sq. ft.	0.0017/tons/year/sq. ft.	1,700
TOTAL			<u>7,252,280</u>

7.1.1 Recycling Requirements for Non-Residential Facilities

On-site recycling services shall be provided to all occupants of non-residential facilities within *Riverwalk*. Occupants of non-residential facilities within *Riverwalk* 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 for the occupants. Recycling services are required by Section 66.0707 of the City of San Diego Land Development Code. Based on current requirements, these services shall include the following:

- Continuous assessment of new technologies for recycling, composting, cogeneration, and disposal to maximize efficient use of resources and environmental protection;
- 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;
- Utilization of recycling receptacles or containers which comply with the standards in the Container and Signage Guidelines established by the City of San Diego Environmental Services Department;
- Designated recycling collection and storage areas; and

- Signage on all recycling receptacles, containers, chutes, and/or enclosures which complies with the standards described in the Container and Signage Guidelines established by the City of San Diego Environmental Services Department

For non-residential facilities within *Riverwalk* (as required by Section 66.0707 of the City of San Diego Land Development 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 new occupants shall be given information and instructions upon occupancy; and
- All occupants shall be given information and instructions upon any change in recycling service to the commercial facility.

Additionally, measures for reducing waste of non-residential facilities include contract stipulations and/or tenant programs. The owner, building manager, or other designated personnel shall consider the following:

- Require vendors to use reusable and/or recyclable food containers/flatware;
- Have vendors work with suppliers to reduce packaging materials;
- Choose preferred products with a high level of post-consumer content;
- Set printers to double-sided;
- Reduce electronic waste;
- Use storm drain filter inserts to collect litter;
- Set a 50-percent food waste diversion goal; and/or
- Other implementation measures.

7.1.2 Recycling Requirements for Residential Facilities

Multi-family residential developments within *Riverwalk* shall provide on-site recycling services and education to occupants. Recycling services are required by Section 66.0706 of the City of San Diego Land Development Code. Based on current requirements, these services shall include the following:

- Continuous assessment of new technologies for recycling, composting, cogeneration, and disposal to maximize efficient use of resources and environmental protection;
- Collection of recyclable materials at least two times per month;
- Collection of plastic bottles and jars, paper, newspaper, metal containers, cardboard, and glass containers;
- Utilization of recycling receptacles which comply with the standards in the Container and Signage Guidelines established by the City of San Diego Environmental Services Department;
- Designated recycling collection and storage areas; and
- Signage on all recycling receptacles, containers, chutes, and/or enclosures which complies with the standards described in the Container and Signage Guidelines established by the City of San Diego Environmental Services Department.

For multi-family residential developments within *Riverwalk* (as required by Section 66.0706 of the City of San Diego Land Development Code), the building management or other responsible 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 new occupants shall be given information and instructions upon occupancy; and
- All occupants shall be given information and instructions upon any change in recycling service to the facility.

7.2 Landscaping and Green Waste Recycling

Plant material selection will be guided by the macro-and micro-climate characteristics of the project site and surrounding region to encourage long-term sustainability without the excessive use of water pesticides and fertilizers. Irrigation of these areas, where practical, will utilize reclaimed water applied via low precipitation rate spray heads, drip emitters, or other highly efficient systems. Landscape maintenance would include the collection of green waste and recycling of green waste at recycling centers that accept green waste. This will help further reduce the waste generated by developments within *Riverwalk* during the occupancy phases.

8.0 CONCLUSION

The City of San Diego Development Services Department is requiring that this WMP be prepared and submitted to the City of San Diego's ESD. This WMP will be implemented to the fullest degree of accuracy and efficiency. Additionally, the project will be required to adhere to City ordinances, including the *Construction and Demolition Debris Diversion Deposit Program*, the City's *Recycling Ordinance*, and the *Refuse and Recyclable Materials Storages Regulations*. The WMP plan for the *Riverwalk* project is designed to implement and adhere to all city ordinance and regulations with regards to waste management. Such adherence would ensure that impacts are mitigated to below a level of significance.

In accordance with this WMP, ESD staff shall attend pre-construction meeting for construction. Project proponent shall schedule the meeting to ensure ESD staff attendance. ESD representatives would verify proper sorting and waste bin signage and use during construction.

8.1 Construction Materials Management

Construction materials management measures are discussed in Section 5.0, *Construction Phase*. They are reprinted below to assist the Waste Management Coordinator.

- Accurately forecast waste materials.

- Properly sort waste materials into bins for disposal and recycling, which will be marked with specific signage labeling which material is to be deposited in which bin. Labeling shall be bilingual. ESD staff will approve location of bins.
- Transport waste materials to facilities with the best diversion rates, tip fees, and/or prices paid for commodities.
- General contractor and Waste Management Coordinator will determine recycling, reuse, and disposal options before the job begins.
- Donate materials that can be reused to charities and nonprofit agencies.
- Choose refuse haulers based on their responsiveness to the project's recycling plan.
- Choose recycling facilities from the City of San Diego's current *Certified Construction & Demolition Recycling Facility Directory* based on diversion rate and fees at the time of project construction, and geographic proximity to the project site.
- Solid waste management coordinator will be responsible for educating contractors and subcontractors regarding waste management plan requirements.
- Clearly identify recycling areas with large signs and provide material-specific bins for necessary segregation.
- Place recycling bins in areas that will minimize misuse or contamination by employees and the public.
- Post-consumer products shall be employed in the design and construction of the new facilities with the goal of achieving 5 percent of post-consumer content. Examples include using green waste as mulch and using products manufactured with post-consumer content. Receipts demonstrating post-consumer content will be provided to ESD staff at precons.
- Contractors shall include the anticipated source and quantity of post-consumer products proposed for reuse or purchase in their project bid.
- Minimize bin contamination to one percent by weight.

8.2 Operational Waste Materials Management

On-site recycling and waste management measures are discussed in Section 7.1, *Implementation*. They are reprinted below to assist application.

- Regular inspection to ensure there shall be no more than one percent by weight contamination in recycling bins.
- 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. (The future hotel operator(s) will meet with representatives from ESD to ensure that their educational materials and haulers can comply with the requirements for this service).
- Utilization of recycling receptacles or containers which comply with the standards in the Container and Signage Guidelines established by the City of San Diego Environmental Services Department.

- Designated recycling collection and storage areas.
- Signage on all recycling receptacles, containers, and/or enclosures which complies with the standards described in the Container and Signage Guidelines established by the City of San Diego Environmental Services Department.
- Minimize bin contamination to one percent by weight.