



COMMUNITY DEVELOPMENT DEPARTMENT
825 IMPERIAL BEACH BOULEVARD • IMPERIAL BEACH, CALIFORNIA 91932

July 23, 2009

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

RE: IMPERIAL BEACH PUBLIC WORKS YARD EXPANSION (MF 950)

NOTICE IS HEREBY GIVEN, pursuant to Section 15072 of Title 14, Chapter 3 of the California Code of Regulations (CEQA Guidelines), that the City of Imperial Beach is proposing to adopt a Mitigated Negative Declaration (MND) in accordance with the California Environmental Quality Act (CEQA) for the project described below.

PUBLIC REVIEW: The proposed MND may be reviewed from **July 23, 2009** to **August 21, 2009** at the Imperial Beach **City Clerk's** office at 825 Imperial Beach Boulevard, at the Imperial Beach **Community Development Department** at 825 Imperial Beach Boulevard, at the **Public Works Department** at 495 10th Street, and at the Imperial Beach **Public Library** at 810 Imperial Beach Boulevard. The document will also be posted on the City's website at www.cityofib.com under Notices. Written comments on the proposed MND must be received by the Imperial Beach Community Development Department at 825 Imperial Beach Boulevard no later than 5:00 pm on **August 21, 2009**. If you challenge the City's action on this environmental document in court, you may be limited to raising only those issues that you or someone else raised in written correspondence delivered to the City.

ANTICIPATED CITY COUNCIL PUBLIC HEARING DATE: **September 2, 2009** at 6:00 pm in the Council Chambers, 825 Imperial Beach Blvd., Imperial Beach, CA.

PROJECT DESCRIPTION, APPLICANT AND LOCATION: This is an application for Design Review (DRC 080009), Site Plan Review (SPR 080010), and California Coastal Development Permit (CDP 6-09-030) for the expansion of the Public Works yard on a 2.86-acre parcel (APN 626-060-01, 02, 05 and 626-050-02) at 495 10th Street in the Public Facility (PF) Zone. This expansion is proposed due to the expansion of the programs and staff at the Public Works Department. In addition, the project is proposed to clean up the visual blight of the industrial activity that is occurring on the west side of the existing parking lot. The trash ramp, trash bins and waste storage adjacent to the bikeway are proposed to be relocated to the railroad track area on the south so that those on the Bayshore Bikeway are not exposed to unpleasant views along the City perimeter.

The project is located in the Original Jurisdiction of the California Coastal Commission as indicated on the Local Coastal Program Post Certification and Appeal Jurisdiction Map and, as such, the coastal development permit (CDP 6-09-030) is being processed by the California Coastal Commission under Section 30603(a) of the California Public Resources Code.

CONTACT PERSON: **Jim Nakagawa**, Imperial Beach City Planner, at 619-628-1355 or at jnakagawa@cityofib.org and **Larry Martin**, CIP Project Manager, at 619-424-2213.

Attachments:

1. Draft Mitigated Negative Declaration



- c: file MF 950
Larry Martin, CIP Project Manager, Public Works Department
Jacque Hald, City Clerk
Diana Lilly, Coastal Planner, California Coastal Commission, 7575 Metropolitan Drive, Suite 103,
San Diego, CA 92108-1735
Terry Roberts, State Clearinghouse (15 copies), Office of Planning and Research, P.O. Box
3044, 1400 Tenth Street, Room 222, Sacramento, CA 95812-3044
Tim Allison, Metropolitan Transit System, 1255 Imperial Ave #1000, San Diego, CA 92101-7490
Bruce Coons, Executive Director, Save Our Heritage Organization, 2476 San Diego Ave, San
Diego, CA 92110
Christine Rothman, AICP, Community Planning Program Manager: City Planning & Community
Investment, City of San Diego, 202 C Street, MS 5A, San Diego, CA 92101
Victoria Touchstone, US Fish and Wildlife Service-Refuge, 6010 Hidden Valley Road, Carlsbad,
CA 92011
Imperial Beach Public Library, 810 Imperial Beach Blvd, Imperial Beach, CA 91932



COMMUNITY DEVELOPMENT DEPARTMENT
825 IMPERIAL BEACH BOULEVARD • IMPERIAL BEACH, CALIFORNIA 91932

MITIGATED NEGATIVE DECLARATION

JULY 23, 2009

A. PROJECT NAME/PROJECT DESCRIPTION/APPLICANT/PROJECT LOCATION:

Public Works Yard Expansion: This is an application for Design Review (DRC 080009), Site Plan Review (SPR 080010), and California Coastal Development Permit (CDP 6-09-030) for the expansion of the Public Works yard on a 2.86-acre parcel (APN 626-060-01, 02, 05 and 626-050-02) at 495 10th Street in the Public Facility (PF) Zone. This expansion is proposed due to the expansion of the programs and staff at the Public Works Department. In addition, the project is proposed to clean up the visual blight of the industrial activity that is occurring on the west side of the existing parking lot. The trash ramp, trash bins and waste storage adjacent to the bikeway are proposed to be relocated to the railroad track area on the south so that those on the Bayshore Bikeway are not exposed to unpleasant views along the City perimeter.

The project is located in the Original Jurisdiction of the California Coastal Commission as indicated on the Local Coastal Program Post Certification and Appeal Jurisdiction Map and, as such, the coastal development permit (CDP 6-09-030) is being processed by the California Coastal Commission under Section 30603(a) of the California Public Resources Code.

B. ENVIRONMENTAL FINDINGS:

Find: that this Mitigated Negative Declaration reflects the decision-making body's independent judgment and analysis; that the decision-making body has, pursuant to CEQA Guidelines Section 15074(b), reviewed and considered the information contained in this Mitigated Negative Declaration and the comments received during the public review period; that revisions in the project plans or proposals made by or agreed to by the project applicant, pursuant to CEQA Guidelines Section 15070(b)(1), would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and that, on the basis of the whole record before the decision-making body (including this Mitigated Negative Declaration) there is no substantial evidence that the project as proposed, as conditioned, or as revised, will have a significant effect on the environment.

This Mitigated Negative Declaration (MND) is comprised of this document along with the Environmental Initial Study, which, pursuant to CEQA Guidelines Section 15063(f) may consist of the Environmental Information Form and the Environmental Checklist Form (Appendix G). This MND considered the potential cumulative impacts of the project, and any other past, present and reasonably foreseeable future projects, and it incorporates, pursuant to CEQA Guidelines Section 15150, the San Diego Bay National Wildlife Refuge Sweetwater Marsh and South San Diego Bay Units Comprehensive Conservation Plan and Environmental Impact Statement, August 2006.

This document is considered a draft until it is adopted by the appropriate City of Imperial Beach decision-making body as lead agency.

C. MITIGATION MEASURES:

Aesthetics:

1. Final landscape plans that screen the chain link fence facing Cherry Avenue shall be submitted to the Community Development Department for approval.

Geology and Soils:

2. Liquefiable soils may be present on the site. The confirmation of their presence (or absence) shall be done through subsurface exploration (e.g., drilling) and laboratory testing.
3. The project has a potential for strong ground motions due to earthquakes. Accordingly, the potential for relatively strong seismic accelerations will need to be considered in the design of proposed improvements.

Hydrology and Water Quality:

4. Project shall adhere to the Water Quality Technical Report (WQTP) and Hydrology Study prepared by RBF Consultants as conditioned and approved by the City of Imperial Beach including Construction and Permanent Best Management Practices (BMP) and other requirements pursuant to the City's Standard Urban Storm Water Mitigation Plan (SUSMP).

D. ADOPTION:

This Mitigated Negative Declaration (SCH#2009xxxxxxx) was adopted and the aforementioned CEQA findings were made by the Imperial Beach City Council on September 2, 2009.

James Nakagawa, AICP
Imperial Beach City Planner

Attachments:

1. Environmental Information Form
2. Environmental Checklist Form (Appendix G) and Attachment A
3. Water Quality Technical Report and Hydrology Study



ENVIRONMENTAL INFORMATION FORM

(To be completed by Applicant)

If the project cannot initially be determined to be exempted from CEQA, then a \$1,000 deposit may be required to analyze the environmental information. If it is determined that a Negative Declaration needs to be prepared, an additional \$2,000 deposit will be required, and if an Environmental Impact Report (EIR) needs to be prepared, the applicant will be required to submit a draft EIR, prepared by a qualified environmental consultant, and an additional \$7,000 deposit for its review.

Project Address: 495 10 th Street Imperial Beach, CA 91932	Assessor's Parcel #: 626-060-01, 02, and 05
Applicant: City of Imperial Beach Public Works	Owner: City of Imperial Beach
Related Permit/Case: N/A	Zoning/General Plan Designation: PF (Public Facility)
<p>Project Description: This is an application for Design Review (DRC 080009) Site Plan Review (SPR 080010), and California Coastal Development Permit (CDP 6-09-030) for the expansion of the Public Works yard on a 2.86-acre parcel at 495 10th Street in the Public Facility (PF) Zone. This expansion is proposed due to the expansion of the programs and staff at the Public Works Department. In addition, the project is proposed to clean up the visual blight of the industrial activity that is occurring on the west side of the existing parking lot. The trash ramp, trash bins and waste storage adjacent to the bikeway are proposed to be relocated to the railroad track area so that those on the Bayshore Bikeway are not exposed to unpleasant views along the City perimeter.</p> <p>Plans attached: <input checked="" type="checkbox"/></p>	
Proposed use: <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Institutional (school, church, etc.)	
# off-street parking spaces <input checked="" type="checkbox"/> # enclosed <u> 5 </u> <input checked="" type="checkbox"/> # open <u> 1 </u>	
# dwelling units: NA	Parcel size: 2.86-acre
Building Height: 12 feet	# Stories: 1 story
Total Floor Area: 800 sq. feet increase	Floor Area Ratio (FAR): NA
Lot Coverage: NA	Average Daily Auto Trips: no increase from existing except during construction
# Employees: no new employees due to project	Per Shift: N/A
Weekday hrs of operation: 7:30am to 5:30pm	Weekend hrs of operation: N/A
Clients/Customers per day: no increase	Market/service area: city-wide

<p>Environmental Setting/on-site: Describe the project site as it exists before the project, including existing uses and structures, building heights, topography, vegetation, cultural, historical or scenic aspects. Attach photographs.</p> <p>The site is the existing Public Works yard, comprised of 13,900 square feet of one and two-story buildings on a 2.86-acre site that fronts on South San Diego Bay.</p>	<p>Environmental Setting/off-site: Describe the surrounding properties, including land uses and structures, building heights, vegetation, cultural, historical or scenic aspects. Attach photographs of the vicinity.</p> <p>To the south are the 1-story California American Water Company office and storage yard and the 1-story residence owned by Judith Rivera; to the west is Bayside Elementary School; to the east is a 2-story warehouse/industrial building; to the north is San Diego Bay.</p>
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Looking east across the parking lot adjacent to the (turf) area where the building addition is planned.



Looking to the southeast across the onsite parking area.



Looking northwest from the parking area adjacent to where the building addition is planned. The Bayshore Bikeway runs adjacent to the fence



Looking east along the existing Bayshore Bikeway which runs adjacent to the northerly boundary of the Public Works Yard.



Aerial view of public works yard and vicinity

CHECKLIST:

Are the following items applicable to the project or its effects? Discuss below all items checked yes (attach additional sheets as necessary).	Yes	No
Change in existing features of any bays, tidelands, beaches, or hills, or substantial alterations of ground contours.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Change in scenic views or vistas from existing residential areas or public lands or roads.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Change in pattern, scale or character of general area of project.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Significant amounts of solid waste or litter.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Change in dust, ash, smoke, fumes or odors in vicinity.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Change in ocean, bay, lake, stream or ground water quality or quantity, or alteration of existing drainage patterns.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Substantial change in existing noise or vibration levels in the vicinity.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Site on filled land or on slope of 10 percent or more.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Use of disposal of potentially hazardous materials, such as toxic substances, flammables or explosives.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Substantial change in demand for municipal services (police, fire, water, sewage, etc).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Substantially increase fossil fuel consumption (electricity, oil, natural gas, etc).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relationship to a larger project or series of projects.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Significant amounts of impervious surfaces.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Significant amounts of pollutant discharges.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Change in any on-site or off-site environmentally sensitive area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION OF POTENTIAL IMPACTS:

See attached environmental initial study for detailed discussion.

ENVIRONMENTAL INITIAL STUDY

**Imperial Beach Public Works Yard
Coastal Development Permit**

CDP 6-09-030

Responsible Agency:

**California Coastal Commission
San Diego Coast District
7575 Metropolitan Drive, Suite 103
San Diego, California 92108-4402**

Lead/Applicant:

**City of Imperial Beach
Department of Public Works
495 10th Street
Imperial Beach, California 91932
Contact: Larry Martin
(619) 424-2213**

Preparer:

**RBF Consulting
9755 Clairemont Mesa Boulevard, Suite B
San Diego, California 92124**

July 23, 2009

JN: 25-102214.001



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ATTACHMENTS

Attachment A: Description of Improvements



1.0 Project Description

1.1 Project Location

The City of Imperial Beach is located in the southwestern portion of San Diego County. The City of Imperial Beach is generally surrounded by the Pacific Ocean to the west, the City of San Diego to the east, the San Diego Bay to the north, and the Tijuana River Estuary Research Reserve and the Republic of Mexico to the south; refer to Figure 1.

The project is located within the existing City of Imperial Beach Public Works Yard site. The site is located in the City of Imperial Beach at 495 10th Street, within the City of Imperial Beach Coastal Zone; refer to Figure 2. The site is bounded by Bayside Elementary School to the west, residential uses and the California American Water Company to the south, Bayshore Bikeway and the southern portion of San Diego Bay to the north, and a commercial industrial building to the east.

1.2 Purpose and Need

The Public Works Yard is in need of repair and improvement. Currently, the capacity of the existing administrative offices and parking lot serving the Public Works Yard has been exceeded. The proposed improvements would provide additional work space for the current employees of the Public Works yard. Additional parking to serve both the public and the employees of the Public Works Yard is also needed. In addition, the current facility's trash bins and dumpsters are located adjacent to an elementary school to the west and the Bayshore Bikeway to the north. As such, the appearance of the yard as viewed from the Bikeway is visually degraded. The proposed relocation of the trash bins and dumpsters out of sight from the Bayshore Bikeway is needed to enhance the views from the Bikeway. Furthermore, the proposed project includes improved public access to the Bayshore bike path.

The proposed project renovations and construction, as described below, will repair the declining condition of the existing site, thereby improving the functionality and appearance of the facilities.

1.3 Description of Activities

The location of the proposed improvement items for the project, as listed below, are shown in Figure 3 and are described in further detail in Attachment A.

1. Office expansion (approximately 800 square feet)
2. Construction of a new loading ramp (over the existing railroad tracks)
3. Removal of existing loading ramps
4. New entry drive
5. New parking area
6. New asphalt bike path and bike parking
7. New perimeter fencing
8. New landscaping
9. Oil containment enclosure



10. Existing rails to be exposed at-grade
11. Expansion of material bins

1.4 Environmental Regulation

The City of Imperial Beach has established the Coastal Development Permit (CDP) procedure to implement the City's Local Coastal Program (LCP) as approved by the California Coastal Commission (CCC). Unless exempt pursuant to Section 19.87.040 of the Imperial Beach Municipal Code, a project in an area designated within the City's coastal boundary involving development or repair and maintenance activities, such as those associated with the proposed project, is required to obtain a CDP. For this project, the Coastal Commission is exercising original jurisdiction for the CDP.

2.0 Site Conditions

2.1 Land Use and Environmental Setting

2.1.1 Project Site

The project site is located at 495 10th Street in the north-central portion of the City of Imperial Beach, just south of the San Diego Bay. The site is used for activities associated with the Public Works Yard and the City's Public Works Department. The proposed layout of the site is shown in Figure 3. Existing uses onsite include administrative office space, vehicle maintenance facilities, storage, parking, dumpsters, a fuel station, material bins, and a wash pit. The entire site has been previously developed or disturbed as a result of the ongoing use of the site. A portion of the former San Diego Arizona Railroad traverses the project site's southern boundary. Currently, a 45-foot wide railroad right-of-way (ROW) extends from the southeast to the southwest region of the subject property.

2.1.2 Surrounding Area

The majority of land uses in the immediate vicinity of the project site are urbanized residential uses. The project site is adjacent to Bayside Elementary School to the west and the Bayshore Bikeway to the north, which separates the project site from the southern reaches of San Diego Bay.

3.0 Environmental Analysis

3.1 Introduction

This section provides an analysis of the potential impacts that would be associated with the proposed project. Each impact analysis consists of an evaluation of potential or expected changes in the environment that would result from the proposed project; an assessment of the magnitude of impact; and appropriate mitigation where required, to reduce the impact to less than significant levels.

3.2 Evaluation Criteria

The impact analysis for the proposed project was conducted using relevant Federal, State, and local environmental standards (i.e., water quality, air quality, etc.), and other criteria by which a change in the environment can be adequately assessed.



3.3 Initial Study

The following Initial Study Checklist and discussion of potential environmental impacts were completed in accordance with Section 15063(d)3 of the California Environmental Quality Act (CEQA) Statutes and Guidelines, to determine if the project may have any significant impact on the environment. A brief explanation is provided for all determinations. A ‘No Impact’ or ‘Less Than Significant Impact’ determination is made when the project would not have any impact or would not have a significant effect on the environment for that issue area, based on a project-specific analysis.

Initial Study Check List

1. **Project Title:** Public Works Yard
Improvements Coastal
Development Permit
2. **Lead Agency Name/Address:** City of Imperial Beach
825 Imperial Beach Blvd.
Imperial Beach, CA 91932
3. **Contact Person/Phone Number:** Larry Martin
Department of Public Works
495 10th Street
Imperial Beach, CA
(619) 424-2213
4. **Project Location:** Public Works Yard
495 10th Street
Imperial Beach, CA
5. **Project Sponsor’s Name/Address:** City of Imperial Beach
(same as above)
6. **General Plan Designation:** Public Facilities Zone (PF)
7. **Zoning:** Public Facilities Zone (PF)
8. **Description of Project:** The Public Works Yard improvement project would include a mixture of remodeling, renovation, and expansion activities. The locations of the individual improvements are shown in Figures 3 and 4. The main activities include office expansion, dumpster relocation; construction of a new loading ramp; a new entry drive; expansion of the existing parking area; and, construction of a new public access path connecting to the existing Bayshore Bikeway. The improvements are proposed to address existing deficiencies or deferred maintenance issues at the Public Works Yard. Minor activities include perimeter fencing and oil containment enclosure. Because the proposed project is located within the City’s Coastal Zone, approval of a Coastal Development Permit is required.
9. **Surrounding Land Uses/Setting:** The majority of land uses in the immediate vicinity of the proposed project site are highly urbanized. The existing project site is adjacent to an



elementary school to the west and the Bayshore Bikeway, which separates the proposed project from the San Diego Bay, to the north.

10. Other Public Agencies Whose Approval is Required:

California Coastal Commission

Environmental Factors Potentially Affected: The environmental factors checked below would be potentially affected by this project as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

Determination: On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

July 23, 2009

Signature

James Nakagawa

Date

City of Imperial Beach

Printed Name

For



3.4 Evaluation of Environmental Impacts

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
1. LAND USE & PLANNING. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. AGRICULTURE. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. POPULATION & HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

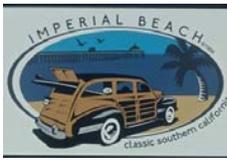


**PUBLIC WORKS YARD IMPROVEMENT PROJECT
INITIAL STUDY**

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soils, as defined in Table 18-1-B of the California Building Code (2001), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
5. HYDROLOGY & WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Have a significant adverse impact on groundwater quality or otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



**PUBLIC WORKS YARD IMPROVEMENT PROJECT
INITIAL STUDY**

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. TRANSPORTATION/CIRCULATION. Would the project:				
a) Result in an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plan or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. AIR QUALITY. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



**PUBLIC WORKS YARD IMPROVEMENT PROJECT
INITIAL STUDY**

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a private or public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



**PUBLIC WORKS YARD IMPROVEMENT PROJECT
INITIAL STUDY**

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



**PUBLIC WORKS YARD IMPROVEMENT PROJECT
INITIAL STUDY**

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
10. AESTHETICS. Would the project:				
a) Have a substantial adverse effect a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. CULTURAL/SCIENTIFIC RESOURCES, Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse changed in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. RECREATION. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



**PUBLIC WORKS YARD IMPROVEMENT PROJECT
INITIAL STUDY**

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
13. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14. HAZARDS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



**PUBLIC WORKS YARD IMPROVEMENT PROJECT
INITIAL STUDY**

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk or loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g. water quality treatment basin, constructed treatment wetlands), the operation of which could result in significant environmental effects (e.g. increased vectors and odors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15. PUBLIC SERVICES. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16. UTILITIES & SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



**PUBLIC WORKS YARD IMPROVEMENT PROJECT
INITIAL STUDY**

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MANDATORY FINDINGS				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have possible environmental effects, which are individually limited but cumulatively considerable? ("cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



**PUBLIC WORKS YARD IMPROVEMENT PROJECT
INITIAL STUDY**

ISSUES & SUPPORTING DATA SOURCES:	Potential Significant Impact	Less than Significant w/ Mitigation	Less than Significant Impact	No Impact
c) Does project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DETERMINATION:

Based upon the evidence in light of the whole record documented in the attached environmental checklist explanation, cited incorporations and attachments, I find that the proposed project:

COULD NOT have a significant effect on the environment, and a negative declaration (ND) will be prepared pursuant to CEQA Guidelines Article 6, 15070 through 15075.

COULD have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures have been added to the project. A mitigated negative declaration (MND) will be prepared pursuant to CEQA Guidelines Article 6, 15070 through 15075.

MAY have a significant effect on the environment, which has not been analyzed previously. Therefore, an environmental impact report (EIR) is required.

Signature: _____

Planner: James Nakagawa

Telephone: 619-628-1355

NOTE: All referenced and/or incorporated documents may be reviewed at the California Coastal Commission, 7575 Metropolitan Drive, Suite 103, San Diego, California, 92108 or at the City of Imperial Beach, 825 Imperial Beach Boulevard, Imperial Beach, California, 91932 unless otherwise specified.



3.5 Discussion of Environmental Impacts and Mitigation Measures

1. LAND USE AND PLANNING

The City of Imperial Beach has historically emphasized the importance of preserving and enhancing lateral and vertical access along its public beaches. The 1972 Coastal Initiative (Proposition 20) and the 1976 Coastal Act require that local governments along the California Coastal Zone provide for public access to beach and coastal areas in their Local Coastal Programs (LCP). In response to this state mandate, the City of Imperial Beach created a goal (Goal 14 Shoreline Access), which is reflected in its 1994 General Plan/LCP, to provide physical and visual access within the City's coastal resource areas.

This section addresses the land use impacts of the proposed project based primarily on the project's consistency with the California Coastal Act and the City's General Plan/LCP.

The project site is designated as a (PF) Public Facilities Zone in the City's Municipal Code and is located within the California Coastal Zone Boundary, requiring direct review from the California Coastal Commission and approval of a Coastal Development Permit. Land uses immediately adjacent to the proposed Public Works Yard improvement project include an elementary school, the Bayshore Bikeway, and other residential and commercial development. The proposed project is analyzed below with respect to CEQA thresholds for land use.

Would the project:

- a.) Physically divide an established community?

No Impact. The project site is the existing City of Imperial Beach Public Works Yard within the County of San Diego. The proposed project is the renovation of the existing Public Works Yard facilities and would not change or modify the current use of the site. Therefore, because the project would not change the character or use of the project site, it would not divide an established community or intrude into any existing or planned land use established by the City's General Plan. No significant impacts related to this issue would occur, and no mitigation is required.

- b.) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed project is the renovation of the existing Public Works Yard facilities and does not change or intensify the use of the site. As such, the proposed project would not conflict with existing General Plan land use designations, zoning districts, or the City's Local Coastal Program. Therefore, no conflict with applicable land use plans, policies, or regulations will occur with implementation of the proposed project, and no mitigation is required.

- c.) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact: The proposed project is not located within any Habitat Conservation Plan (HCP) area or in a Natural Community Conservation Plan (NCCP). The project site is



located across the Bayshore Bikeway from South San Diego Bay which is considered sensitive habitat, due to the marine life that inhabit the area. The proposed project does not propose any development that would decrease the distance between the existing Public Works Yard and the Bay and would not encroach onto the Bayshore Bikeway or adjacent sensitive areas. The proposed improvements would affect previously developed areas within the Public Works Yard. Therefore, no conflicts with such conservation plans would occur. No significant impacts related to this issue would occur, and no mitigation is required.

2. AGRICULTURAL RESOURCES

Would the project:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

The following response applies to Questions a, b, and c above.

No Impact. The project site is located within the existing Public Works Yard, in the City of Imperial Beach, which is an urbanized area. Based on the California Digital Conservation Atlas, published by the Resources Agency under the Office of the Secretary of the State of California, no farmland, agricultural zoning, or Williamson Act contracts exist within or adjacent to the project site. No significant impact to farmland or agriculture will occur, and no mitigation is required.

3. POPULATION AND HOUSING

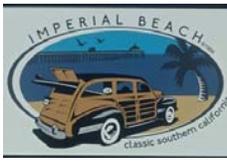
Would the project:

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of road or other infrastructure)?

No Impact. The proposed project is intended to renovate and expand the existing Public Works Yard facilities on the project site and does not propose the construction of new homes, businesses, or infrastructure. The project will not directly or indirectly induce substantial population growth, as no homes or businesses are proposed as part of the project. The project does not propose to extend existing roads or public utilities into an area where such facilities did not previously exist. Therefore, the proposed project will not induce substantial population growth. No significant impact will occur, and no mitigation is required.

- b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. There are no residences located on the project site. Therefore, the proposed project will not displace any existing homes or people, necessitating the



construction of replacement housing elsewhere. No significant impacts are anticipated, and no mitigation is required.

- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. There are no residences located on the project site. Therefore, the proposed project will not displace any existing homes or people, necessitating the construction of replacement housing elsewhere. No significant impacts are anticipated, and no mitigation is required.

4. GEOLOGY AND SOILS

Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
- (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidences of known fault? Refer to Division of Mines and Geological Special Publication 42.

No Impact. The City of Imperial Beach, like the rest of Southern California, is located in a seismically active area. The nearest significant active fault to the project site is the Point Loma Zone, located approximately 20 miles to the northwest and the Rose Canyon Fault Zone approximately 5 miles to the east, which is considered to be the extension of the Newport-Inglewood Fault, the source of the 1993 Long Beach earthquake. No known active faults cross the City; therefore, there is a low potential for surface rupture. The State has not established any Alquist-Priolo Earthquake Fault Zones in the City and the project is not affected by, or in close proximity to, any Alquist-Priolo Zone. The proposed project will not expose people or structures to rupture of a known earthquake fault, and no mitigation is required.

- (ii) Strong seismic ground shaking?

Less Than Significant Impact. Although the project site is not located within a designated Alquist-Priolo Zone, the region has experienced earthquake activity in the past. A major earthquake associated with any of the faults in the region could result in moderate to severe ground shaking. All structures must comply with the seismic requirements of the Uniform Building Code and the recommended engineering design measures. Compliance with these standards will limit hazards from seismic ground shaking to less than significant levels. Therefore, no mitigation is required.

- (iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Damage from earthquakes may result from liquefaction. Liquefaction occurs when loose, unconsolidated, water-laden soils are subject to shaking, causing the soils to lose cohesion. Liquefaction occurs primarily in areas of recently deposited sands and silts and in areas of high groundwater levels.



The project site is not located in a State-defined liquefaction hazard zone (Seismic Hazards Zonation Program (SHZP), October 30, 2006) and no mitigation is required.

All structures must comply with the seismic requirements of the Uniform Building Code and the recommended engineering design measures. Compliance with these standards will limit hazards from seismic ground failure, including liquefaction, to less than significant levels, and no mitigation is required.

(iv) Landslides?

No Impact. The project site is not adjacent to or in the immediate vicinity of any significant ground slopes. Therefore, significant impacts from slope instability and/or landslides are not expected. No mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The proposed project is the renovation of the existing Public Works Yard facilities and does not change or modify the use of the site. Construction of the project will occur on soils that have previously been disturbed by the construction of the existing Public Works Yard. As such, the project will not disturb or expose significant amounts of topsoil to erosion.

Proposed construction will result in the disturbance of soils on the project site, which could result in increased erosion and the potential release of contaminants into the stormwater system. If untreated, this would be considered a significant impact. These potential impacts will be avoided and minimized because compliance with the Regional Water Quality Control Board Storm Water Pollution Prevention Plan (SWPPP) program is required prior to obtaining a grading permit or approval of improvement plans to initiate work on the site. Implementation of the required Storm Water Pollution Prevention Plan (SWPPP) will reduce potential short-term construction impacts to less than significant because the SWPPP is required to address construction activities such as clearing, grading, stockpiling, and excavation. These activities have the potential to result in adverse surface water quality impacts if preventive measures are not taken. The SWPPP requires the applicant to address the following:

- Identify all pollutant sources, including sources of sediment, that may affect the quality of stormwater discharges associated with construction activity (stormwater discharges) from the project site;
- Identify non-stormwater discharges; and,
- Identify, construct, implement in accordance with a time schedule, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges from the project site during construction.

The applicant is required to identify potential erosion and pollutant sources prior to construction. Measures to avoid and minimize water quality impacts must be prepared in a SWPPP approved by the City of Imperial Beach. Compliance with these measures is required to receive a grading permit. The approved SWPPP is required to be located on the project site during grading activities.



The use of standard erosion control measures during construction will reduce any potential impacts to a less than significant level. Therefore, no mitigation is required.

- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse?

No Impact. The project site is the existing Public Works Yard for the City of Imperial Beach, within the County of San Diego. The proposed project is the renovation of the existing Public Works Yard facilities and does not change or intensify the use of the site. All structures must comply with the seismic requirements of the Uniform Building Code and recommended engineering design measures. Compliance with these standards will ensure no significant impacts related to hazards from on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse would occur. No mitigation is required.

- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. All structures must comply with the seismic requirements of the Uniform Building Code and engineering design recommendations. Compliance with these standards is determined to limit any hazards from potentially expansive soils to less than significant levels, and no mitigation is required.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project does not propose to use septic tanks or alternate wastewater disposal systems. Therefore, no impacts related to this issue will occur, and no mitigation is necessary.

5. HYDROLOGY AND WATER QUALITY

Would the project:

- a) Violate any water quality standards or waste discharge requirements?

No Impact. The proposed project involves the renovation of the existing Public Works Yard facilities and does not change or modify the current use of the site. The proposed renovations include the removal of the existing loading ramp, the construction of a new loading ramp, renovation of the existing entry to the site off of 10th Street, 800 square feet of office addition, and the expansion of the onsite parking area. The proposed renovations to the Public Works Yard will be located within the existing project site. Anticipated pollutants that would impact water quality would be similar to the existing conditions and may include, but not be limited to, heavy metals, trash and debris, and oil and grease associated with the parking area.

The total impervious area of the Public Works Yard will increase from the existing 1.66 acres, or approximately 58% of the entire site, to 1.84 acres, which is 64% of the entire site. This increase in impervious area results in an approximately 6 percent



increase in total impervious area. It should be noted that the expansion of the parking area will be constructed with decomposed granite, a semi-pervious surface, and therefore is not included in square foot calculation for increase in impervious surface.

Runoff from the majority of the western portion of the site generally flows in a west-northwesterly direction. Runoff flows into a depression onsite that conveys the flows northwest and ultimately is collected in an existing channel that conveys the flow northeast to the Otay River. The middle northern part of the site, currently drains to an existing filtered grate inlet that discharges northerly to the Otay River. The area draining to the inlet will include a building expansion, but the overall area will not change.

Site Design Best Management Practices (BMPs), pursuant to Imperial Beach Municipal Code Chapter 8.32 Standard Urban Stormwater Management Plan (SUSMP), have been integrated into the proposed project design to protect stormwater runoff and have been designed to account for the 0.18-acre, or 6 percent increase in impervious area. The addition of new landscaping will improve the quality of stormwater released from the proposed project site by reducing the amount of soil erosion occurring during storm events. A vegetated swale is proposed, running along the southern boundary, west of the proposed parking lot. The swale will intercept runoff for treatment before directing the discharge offsite. The vegetated swale will filter stormwater and pollutants generated from the proposed development as well as surface flows from offsite, and will treat the water through the absorption of potential pollutants prior to the release of the water into the existing channel where the surface water currently flows. The vegetated swale will reduce potential impacts resulting from polluted stormwater being discharged or released from the site to less than significant. The project's BMP plan, including the vegetated swale, is shown in Figure 5.

Site Design BMPs have been included for the proposed building expansion as well. The roof of the proposed building expansion will be drained to an adjacent grass area before entering the existing grate inlet. The existing grate inlet filter insert will be equipped with oil-absorbent pouches. The grass area will capture potential stormwater and potential pollutants from the roof and will aid in slowing the flow as well as treating the water through absorption of potential pollutants prior to the release of the water into the storm drain system.

Site Design BMPs for the new parking area to be covered with a six-inch decomposed granite surface, compacted to 95% over the prepared soil. Furthermore, the use of decomposed granite, which is a semi-pervious material, will act as a site design BMP by absorbing stormwater onsite, thereby reducing the amount of stormwater runoff from this area.

Implementation of the Site Design BMPs will ensure the proposed project will not violate any water quality standards or waste discharge requirements. As such, no significant impacts related to this issue are anticipated.

Small amounts of sediment within the construction area may be disturbed during the Public Works Yard renovation and construction. The use of construction BMPs and



stringent source control measures (including material storage areas and trash storage areas) will ensure that potential impacts during construction are less than significant. Typical construction BMPs, as detailed in the SWPPP, relevant to the project include but are not limited to: storm drain inlet protection for the construction staging area and adherence to construction housekeeping practices to control and manage construction wastes and materials. Implementing the BMPs will ensure the proposed project will not violate any water quality standards or waste discharge requirements. As such, no significant impacts related to this issue are anticipated.

- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

No Impact. The area affected by the proposed project is located within the existing Public Works Yard. The proposed project is intended to renovate and improve the existing Public Works Yard facility on the project site and does not propose the construction of new homes, businesses, or infrastructure. The City of Imperial Beach is not dependent on groundwater for potable uses. The project will add slight increase to the amount of impervious area on the project site. This would result in slightly less infiltration of surface water into the groundwater table. The proposed vegetated swale will increase residence time and would likely add infiltration. Therefore, no significant change in groundwater infiltration is expected. As such, the project will not interfere with groundwater recharge or reduce the volume in the groundwater basin, because the project does not create a new demand for groundwater resources. Therefore, there will be no significant impacts to groundwater, and no mitigation is required.

- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site?

No Impact. Although implementation of the proposed project would involve minimal disturbance and changes to land and soils, resulting in a 0.18-acre or 6% increase in the amount of impervious area of the site, the proposed project will not substantially alter existing drainage patterns on the site. The impervious area is not connected to receiving waters and the drainage pattern will not be significantly altered as a result of implementation of the proposed project. The proposed drainage swale contains two rip-rap structures (see Figure 5) which will dissipate discharge velocities and subsequently avoid downstream erosion. In addition, given the small size of the project site relative to the watershed, proposed development of the project site will have little effect on the existing drainage pattern of the site or surrounding area. Substantial erosion or siltation on- or off-site will not occur as a result of the project. Therefore, no significant impacts are anticipated, and no mitigation is required.



- d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?

Less Than Significant Impact. An increase of 0.18 acres of impervious area resulting from the proposed project would have the potential to increase the rate and the amount of surface runoff in a manner that may result in flooding on- or off-site. Construction activities, increasing the impervious surface include the following:

Office Expansion. A pre-engineered metal building will be added on to the existing office space to provide an additional 800 square feet of office space; refer to Figure 3. The office addition will sit on a 4" concrete slab on grade with expansion joints where it meets the existing slab. The addition will match the existing offices with a suspended ceiling, light fixtures, electrical outlets, and new doors to meet existing structures. The windows located in the west wall of the locker room and the north wall of the bathrooms will be removed and the openings drywalled. The existing air conditioning unit will be relocated from its current location to the north-facing exterior wall of the office addition. The existing ADA parking space and ramp will be relocated to the opposite side of the main entry door.

Construction of a new loading ramp. A new dumping dock will be constructed between the yard and the street, over the existing railroad tracks. The majority of this area has been previously disturbed and impervious areas are generally limited to minimal amounts of vegetation around the existing dumpsters and railroad tracks. The dock will be accessible from the ramps on 10th and 11th Streets. A covered 40-yard dumpster for furniture and five 6-yard dumpsters will be located on either side of the dock along the ramps. The dumpsters will sit on a six-foot concrete slab. The vegetation in the construction area will be removed. The two ramps leading to the dock will be 16.5 feet wide and 80 feet long with a 12% grade. The dock will be 50 feet long, 30 feet wide, and 8 feet high, and will have a 2-foot wide and six-inch high curb stop along the dumping edge. Although the impervious surface will be increased as a result of the construction of a new loading ramp, the existing ramp which is approximately 70 feet long by 21 feet wide will be demolished and thereby re-exposing the pervious surface underneath. In addition, fill dirt from the existing ramp will be used in the construction of the new ramp; refer to Figure 3.

New entry drive. The existing concrete entrance to the parking lot from 10th Street will be removed and a new curb opening, driveway and parking lot entry area will be built in accordance with the City's Design Standards. The entrance will consist of 2,600 square feet of six-inch concrete over eight-inch Class 2 base. Asphalt will be used to create an at-grade crossing across the railroad tracks. The drainage swale on either side of the tracks will be replaced to match the existing swales; refer to Figure 4.

New parking area. The proposed project design includes the expansion of the parking area by 10,271 square feet consisting of a semi-pervious surface. The new parking area will provide an additional 16 parking spaces, including an ADA compliant



parking space. The new parking area will be covered with a six-inch decomposed granite compacted to 95% over the prepared soil. Although the parking area will be increased, the design will utilize decomposed granite, which is a semi-pervious material, in order to minimize potential impacts on existing onsite drainage patterns as a result of the increase in impervious surface (approximately 0.18 acre).

New asphalt bike path and bike parking. A new 8-foot wide bike path will be constructed in accordance with the City's Design Standards. The new bike path will begin at 10th Street and run along the west edge of the proposed parking lot expansion. It will connect to the existing Bayshore Bikeway that runs east and west along the Bay. An asphalt bike parking area will be constructed where the two bike paths meet; refer to Figure 3.

To offset the 0.18-acre increase in impervious area, and in addition to the site design BMP vegetation swale, landscaping will be planted (typically hearty salt resistant plants, such as Pygmy date Palm, False Tobria, fountain Grass, Star jasmine, and Lantana), and bark mulch will be used for ground cover. Although the proposed project involves disturbance and changes to land and soils, resulting in a slight increase in impervious surface, the drainage pattern onsite will not be altered and the project will not substantially increase storm water flows over land, or have a significant, adverse impact on the potential for flooding to occur. Therefore, potential drainage impacts as they relate to on- or off-site flooding are considered less than significant, and no mitigation is required.

- e) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. The proposed renovations and construction of the existing the Public Works Yard will slightly increase the total area of impervious surface, as discussed above. Similar to the existing Public Works Yard, the impervious area of the renovated yard will be subject to and exposed to similar contaminants such as petro-chemicals and hazardous materials that settle on the existing impervious surfaces such as roadways, ramps, and parking lots. Although a minimal increase in stormwater runoff is anticipated from the slight expansion of the Public Works Yard, as described above in 'd)', the drainage patterns will not significantly change. Stormwater currently flows, and will continue to flow with implementation of the proposed project, to the proposed swale located on the southwest perimeter of the proposed project site; refer to Figure 5.

Conveyance of stormwater offsite currently includes an existing grate inlet filter insert located in the north-central area of the project site. The existing stormwater drainage facilities are adequate and no additional stormwater drainage facilities will be necessary to manage stormwater runoff. Therefore, impacts related to the construction of the new storm water drainage facilities are considered less than significant, and no mitigation is required. Construction of the proposed project will comply with construction and operational BMPs. Therefore, water quality impacts related to the capacity of storm water systems and polluted runoff are considered less than significant, and no mitigation is required.



- f) Have a significant adverse impact on groundwater quality or otherwise substantially degrade water quality?

Less Than Significant Impact. The project site is an existing Public Works Yard for the City of Imperial, within the County of San Diego. The proposed project would result in the renovation of the existing Public Works Yard facilities and does not change or modify the current use of the site. As such, the proposed use is not anticipated to adversely degrade water quality. Construction BMPs and post-construction BMPs, which include low impact development site designs (minimize impervious footprint, conserve natural areas) and source control (material storage areas, trash storage areas), will be incorporated throughout the construction phase to ensure impacts to water quality are less than significant.

Groundwater will not be used for drinking water or any other use. Due to the nature of the proposed improvements, the project is not anticipated to have any impact on or interaction with groundwater quality as a result of the improvements to the existing Public Works Yard. Although some semi-pervious surfaces are proposed, the project has been designed to direct flows to the proposed vegetated swale. The vegetated swale will absorb and collect pollutants of concern, reducing impacts to the groundwater table. Therefore, impacts related to groundwater or degradation of water quality is considered less than significant, and no mitigation is required.

- g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The project site is not located within a 100-year floodplain hazard area as mapped on a federal flood hazard boundary or Flood Insurance Rate Map, or other flood hazard delineation map. Furthermore, no housing is proposed as part of the project. As such, no significant impacts will occur, and no mitigation is required.

- h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

No Impact. As stated above, the project site is not within the 100-year floodplain. The project does not include any structures that will impede or redirect flood flows. Therefore, no significant impact related to impediment or redirection of flood flows will occur, and no mitigation is required.

- i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The proposed project renovations do not include housing or structures that would be affected by flooding or the failure of a levee or dam. Therefore, there are no significant impacts related to this issue, and no mitigation is required.

- j) Inundation by seiche, tsunami, or mudflow?

No Impact. The project site is located in the vicinity of the San Diego Bay which could inundate the site during a storm or seismic event; however, inundation by seiche is not likely due to the project site not being located within the 100-year floodplain. Furthermore, because the site is not located in a hilly area, it is not



considered to be at a high risk for inundation by mudflow. The San Diego Bay is not considered to be at risk of a storm surge associated with a tsunami, due to its configuration. Due to the existing use and purpose of the project, the proposed improvements are constructed to withstand inundation. Therefore, no significant impacts related to potential inundation by seiche, tsunami, or mudflow are anticipated, and no mitigation is required.

6. TRANSPORTATION/CIRCULATION

Would the project:

- a) Result in an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?
- b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact. This response applies to Questions a) and b), above. The proposed project will not change the existing programs offered or operations provided by the Public Works Yard. Other than the temporary increase in traffic from construction activities, the proposed project is not expected to cause a permanent increase in traffic. Therefore, impacts related to traffic are considered less than significant, and no mitigation is required.

- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The proposed Public Works Yard renovations are limited to the existing site and would not affect air traffic patterns or create substantial safety risks. Therefore, there are no significant impacts related to this issue, and no mitigation is required.

- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. There are no design features or incompatible uses that will increase hazards, and the project will not affect emergency access to the site or adjacent areas. The proposed renovations are intended to update the existing facilities, improve the aesthetic value of the site, and ensure compliance with the American Disabilities Act (ADA). Therefore, there are no significant impacts related to design feature hazards or emergency access, and no mitigation is required.

- e) Result in inadequate emergency access?

No Impact. The proposed project will renovate the existing parking lot configuration, circulation, and access on the project site. The renovation design features will not be considered incompatible uses that will increase hazards, and the project will not adversely affect emergency access to the site or adjacent area. The proposed renovation of the existing parking lot will make the facilities ADA compliant by adding ADA parking and an ADA compliant ramp. The new driveway and parking



lot entry area will be built in accordance with the City Design Standards and will not impact emergency access. Therefore, there are no adverse impacts related to design feature hazards or emergency access, and no mitigation is required.

f) Result in inadequate parking capacity?

Less Than Significant Impact. The proposed project includes the expansion of the existing parking lot by approximately 8,420 square feet. The expansion of the parking area has been designed to relieve existing parking problems and accommodate an expected increase in use, which includes the addition of 16 parking spaces, one of which will be compliant with the American Disabilities Act. As such, the proposed project will not result in an inadequate parking supply. Therefore, impacts related to this issue are considered less than significant, and no mitigation is required.

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

No Impact. The proposed project will not alter the existing conditions of the project site or surrounding facilities relative to alternative transportation. As such, the proposed renovations will not affect the policies, plans, or programs supporting alternative transportation; therefore, there are no significant impacts related to this issue, and no mitigation is required.

7. AIR QUALITY

Would the project?

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The project site is located in the San Diego Air Basin and is subject to the Regional Air Quality Strategy (RAQS), which describes air pollution control strategies to be taken by cities/counties within the air basin. The main purpose of the RAQS is to bring the region (air basin) into compliance with the requirements of Federal and State air quality standards. For a project to be consistent with the RAQS, the pollutants emitted from the project may not exceed the San Diego Air Pollution Control District (SDAPCD) daily threshold or cause a significant impact on air quality. The RAQS uses the assumptions and projections of local planning agencies to determine control strategies for regional compliance status.

The proposed project does not involve an increase in population or a change in land use and is therefore consistent with the City's General Plan population projections and adopted Air Quality Management Plan (AQMP). Therefore, the project will not conflict with or obstruct implementation of any local or regional air quality plan, since the growth indicated is within the parameters identified for the City and is part of the growth anticipated for the region. No significant impacts related to air quality plans are anticipated, and no mitigation is required.



- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact.

Long-Term (Operational) Emissions. Long-term air emission impacts are those associated with stationary sources and mobile sources related to any change caused by the proposed project. Although renovation of the Public Works Yard will not produce a significant increase in long-term stationary source emissions, mobile source emissions will result from traffic trips associated with project construction. However, because the project involves improvements to the existing facilities and does not create additional capacity or an increase in intensity or change of use, it will not increase or change the existing number of vehicle trips associated with the facilities. The proposed improvements are to better facilitate existing operations at the Public Works Yard. Therefore, the proposed renovations will not result in or contribute to a long-term increase of mobile source emissions as compared to existing conditions, and impacts are considered less than significant. No mitigation is required.

Short-Term (Construction) Emissions. Short-term construction activities will generate combustion emissions from utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew. Exhaust emissions during the construction activities will vary daily, as construction activity levels change and will result in localized exhaust emissions. However, construction would be short-term and impacts to adjacent sensitive receptors (residents, school children, the elderly, etc.) will be minimal and temporary. Construction emissions are considered short-term and less than significant. No mitigation is required.

Fugitive dust emissions are generally associated with demolition, land clearing, exposure, and cut and fill operations. The Public Works Yard renovations are expected to create minimal fugitive dust as a result of the land disturbance associated with removal of the existing loading ramp, the renovation of the existing entry driveway, and the construction of the bike path. Construction would be short-term and impacts to sensitive receptors (i.e., children attending the school located adjacent to the proposed project site) would be minimal and temporary. Therefore, impacts associated with fugitive dust are considered less than significant, and no mitigation is required.

- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

No Impact. The proposed project is the renovation of the existing Public Works Yard facilities and does not change or modify the use of the site. Cumulative emissions are part of the emission inventory included in the RAQS for the project area. Because the project is consistent the adopted RAQS, there will be no cumulatively considerable



net increase of the criteria pollutants that are in nonattainment status in the Basin. Impacts would be less than significant, and no mitigation is required.

- d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors (residents, school children, the elderly, etc.) are located adjacent to project area. Since the construction contractor will implement measures to reduce or eliminate emissions by following standard construction practices and complying with adopted construction practices of the San Diego Air Quality Pollution Control District, the project will not result in substantial air pollutant emissions and will not expose any sensitive receptors to substantial pollutant concentrations. Therefore anticipated impacts are considered to be less than significant, and no mitigation is necessary.

- e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. Some objectionable odors may emanate from the operation of diesel-powered construction equipment during the proposed improvements. These odors, however, will be limited to the short-term construction period of the project. Due to the limited scope of the project and type of activity expected during renovations of the Public Works Yard, there will be a minimal amount of diesel emissions. Potential impacts, therefore, will be considered less than significant. No mitigation is required.

8. NOISE

Would the project result in:

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact. Short-term noise impacts will be associated with the proposed demolition and renovation activities at the Public Works Yard facilities. Construction-related short-term noise levels will be higher than existing ambient noise levels in the project area today, but will no longer occur once construction of the project is completed. Since sensitive receptors (e.g., residents, school children) are located adjacent to surrounding project area, construction activities will be required to comply with the construction regulations, as specified in the City of Imperial Beach Municipal Code Section 9.32.020 Prohibited Noises. Section 9.32.020.H prohibits the use of any tools, power machinery or equipment so as to cause noises disturbing to the comfort and repose of any person residing or working in the vicinity, or in excess of 75 dBA, between the hours of 10 p.m. and 7 a.m., except when the same is necessary for emergency repairs required for the health and safety of any member of the community (Ord. 802 § 2 (part), 1990). Compliance with the City's noise ordinance will ensure impacts from the proposed project related to noise will be reduced to less than significant levels.

Long-term noise levels are not anticipated to be adversely affected as the result of the renovations associated with the proposed project. The project will not result in a change in the general use of the existing site or facilities. Therefore, it is not



anticipated that significant long-term noise-producing traffic or Public Works Yard operations will occur, and no mitigation is required.

- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Groundborne noise is vibration transmitted through rock or other ground media, similar to noise transmitted via the atmosphere. Existing and post-construction project operations will not generate substantial groundborne vibrations or noise levels. Although the renovations may cause a temporary increase in groundborne vibration, the noise level is not expected to be excessive, and therefore, impacts related to this issue will be less than significant. No mitigation is required.

- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. The proposed project involves the renovation of existing facilities and does not introduce a new land use or an increase in operational capacity. Post-construction noise levels and traffic will be unchanged from the existing noise levels currently associated with the Public Works Yard. No substantial permanent increase in ambient noise levels is anticipated. Therefore, impacts related to this issue are considered less than significant, and no mitigation is required.

- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. As discussed in item 8a above, construction-related noise levels from the proposed project construction may result in levels higher than existing ambient noise levels in the project area, but will no longer occur once construction of the project is completed. However, compliance with City construction noise limitations will ensure that temporary ambient noise during construction is avoided or minimized to a less than significant level. Implementation of such measures will reduce potential impacts from an increase in ambient noise levels during construction of the project to less than significant levels, and no mitigation is required.

- e) For a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The proposed project is not located within an airport land use plan or within two miles of a public airport. Therefore, there are no significant impacts related to this issue, and no mitigation is required.

- f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact. The proposed project is located within two miles of the Imperial Beach Naval Auxiliary Landing Field. The proposed project is the renovation of existing facilities and does not introduce a new land use. An increase in



excessive noise levels resulting from use of the Naval airstrip is not anticipated. Therefore, impacts related to this issue are less than significant, and no mitigation is required.

9. BIOLOGICAL RESOURCES

Would the project:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. The proposed project will improve and renovate the existing Public Works Yard facilities on the subject site. The site has previously been disturbed, and no species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service are known to exist onsite. Therefore, no significant impacts from habitat modifications are anticipated, and no mitigation is required.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. No riparian habitat exists on the project site. Therefore, no significant impacts to riparian habitat are anticipated, and no mitigation is required.

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. There are no federally protected wetlands located on the project site. Therefore, there are no significant impacts related to this issue, and no mitigation is required.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. There are no wildlife corridors or nursery sites on or within the vicinity of the project site, and the proposed renovations will not interfere with the movement of any native resident or migratory fish or wildlife species. Therefore, there are no significant impacts related to this issue, and no mitigation is required.

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The proposed project will be constructed within the existing Public Works Yard that contains ornamental landscaping and nonnative vegetation. There are no local policies or ordinances protecting biological resources that would affect



sensitive biological resources on the project site. Therefore, there are no significant impacts related to this issue, and no mitigation is required.

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

No Impact. There are no HCPs, NCCPs, or other habitat conservation plans that apply to the project site. Therefore, there are no significant impacts related to this issue, and no mitigation is required.

10. AESTHETICS

Would the project:

- a) Have a substantial adverse effect on a scenic vista?

No Impact. There are no designated scenic vistas located within the vicinity of project area. However, the project proposes to relocate the existing dumpsters located between the Bayshore Bike Path and elementary school. The unused area at the west end of the project area will be landscaped as part of the project. The net result is a visual improvement over the existing condition. Therefore, there are no significant impacts related to this issue, and no mitigation is required.

- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

No Impact. There are no scenic resources such as trees, rock outcroppings, or historic buildings in the immediate project area. There are no State scenic highways in the project vicinity. Therefore, there are no significant impacts related to this issue, and no mitigation is required.

- c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact With Mitigation. The project site is located in the vicinity of San Diego Bay, and adjacent to a community bike path. Vantage points for scenic views from the bike path are currently disturbed by the existing loading ramp on the Public Works Yard site. The proposed renovations will relocate the loading ramp and improve the existing visual character and quality of the site from the viewpoints along the bike path. The project includes new landscaping in the area west of the proposed parking lot. The new landscaping is included in the project to enhance views from the bike path as users travel past the Public Works Yard. The new dumpster area is located on the south side of the public works yard, out of sight from the bike path. To screen the dumpster area from view, the project will provide chain link fence around the new dumpster area. The fence will be constructed with a bottom and center rail but, without a top rail to discourage climbers. The proposed chain link fence will be installed with full coverage wood or plastic privacy slats. A narrow planter area will be included to allow a vine to grow up along the fence to shield the inner yard from view. The proposed chain link fence will be designed to be consistent with the existing visual character and quality of the existing chain link fence around the perimeter of the site.



The proposed renovations to the Public Works Yard, including the chain link fence, will be designed to match and compliment the existing facility. Since the project will be constructed in the same location as the existing facility, these improvements will not substantially alter the existing views from the vantage points along the bike path, but will enhance the proposed project site. Therefore, no impacts are anticipated, and no mitigation measures are required.

- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. The proposed project does not include a new source of lighting. Therefore, there are no impacts related to this issue, and no mitigation is required.

11. CULTURAL RESOURCES

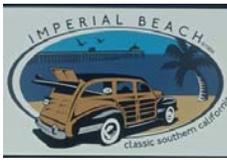
Would the project:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

Less Than Significant Impact. A portion of the former San Diego Arizona Railroad traverses the project site's southern boundary. Currently a 45-foot wide railroad right-of-way (ROW) exists extending from the southeast to the southwest regions of the proposed project site. Towards the southwest section of the project site the railroad tracks begin to disappear underground; refer to Figure 3. The dumpster relocation will cover a section of the railroad track, located at the southeast corner of the project site; refer to Figure 3. The City has not designated the tracks as a historical resource, but recognizes the tracks are a part of a larger regional landmark in south San Diego Bay. The proposed project has been designed to ensure for every one-foot of railroad track covered from the dumpster relocation, a minimum of one-foot of railroad track will be either uncovered in another area, or left exposed in areas adjacent asphalt, such as the parking lot. The improvements to the Public Works Yard will result in the covering of 345 feet of existing railroad tracks; however, 420 feet of track, which is more than the one to one ratio included in the project design, will be exposed on the project site. The proposed project has designed the dumpster relocation area to include a geosynthetic material or similar material as the base for covering the tracks. Using a geosynthetic material as a cover for the existing tracks will protect the tracks from damage by the dumpster and associated construction activities. The placement of an interpretive sign describing the history of the tracks has also been included in the proposed project design. The sign will be placed adjacent to the bike path so it will be visible to bike path users. The placement of the interpretive sign in this location will inform bike path users of the former railroad's connection to the community. Including these measures in the design of the proposed project will ensure impacts to a local resource would be less than significant.

- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less Than Significant Impact. The presence of prehistoric cultural material is not anticipated, due to disturbance to the land that previously occurred with the



development of the existing Public Works Yard facility. Therefore, no further archaeological resource investigations are recommended. Impacts to archaeological resources are therefore considered less than significant, and no mitigation is required.

- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. The project site does not contain any unique geologic features. The project does not involve excavation, and the presence of paleontological material is unlikely due to the disturbance to the land that occurred with former development of the existing Public Works Yard facility. Impacts to paleontological resources are therefore considered less than significant, and no mitigation is required.

- d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. Human remains are unlikely to be located in the project area, due to the same reasons stated in 11b), above. Further, the project does not involve excavation activities that are anticipated to uncover or expose human remains. Therefore, impacts related to disturbance of human remains are considered less than significant, and no mitigation is required.

12. RECREATION

Would the project:

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

This response applies to Questions a and b above.

No Impact. The proposed project would not generally alter the operation of the existing Public Works Yard facilities. However, the proposed renovations, which include the construction of a new asphalt bike path and bike parking area, will increase public access to the Bayshore Bikeway. The new bike parking has been designed to support and improve access for users in the surrounding area. Providing the upgraded access and new bike racks will improve access to this area south of South San Diego Bay. Improvements to the bike path and bike racks onsite will occur in areas that are already disturbed. Therefore, no new adverse physical effects to the environment will be created. As such, the proposed project will not have an adverse impact on the environment. No mitigation is required.

13. MINERAL RESOURCES

Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?



This response applies to Questions ‘a’ and ‘b’ above.

No Impact. The proposed project is intended to renovate and improve the existing Public Works Yard facilities on the project site and does not propose the construction of new homes, businesses, or infrastructure. The existing site is disturbed, and the proposed project does not involve the extraction of minerals and will not impact any known mineral resource recovery sites. Therefore, no significant impacts are anticipated, and no mitigation measures are required.

14. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

- a) Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The proposed project is intended to renovate and improve the existing Public Works Yard facilities and will not alter or change the current use of the project site. The existing cover of the oil containment area will continue to reduce the opportunity for the release of hazardous materials such as oil and chemicals from the oil containment area. Although the use of some hazardous materials, such as solvents and paints, may be associated with construction activities, the amount of chemical agents typically used during construction will be limited and temporary. Therefore, impacts related to the routine transport, use, or disposal of hazardous materials are considered less than significant, and no mitigation is necessary.

- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. Operation of the Public Works Yard facilities is not anticipated to involve the routine use of substantial quantities of chemical agents, solvents, paints, and other hazardous materials, in excess of current uses. Accidental release of hazardous materials is expected to be similar to the existing risks and conditions associated with the existing Public Works Yard. Hazards to the public or the environment through upset or accident conditions involving the release of hazardous materials from the site or the proposed project may occur from the transportation or disposal of the creosote treated logs included in the activities associated with the removal of the existing ramp. However, the probability of accidental releases is not anticipated to increase from existing conditions. Therefore, impacts are considered less than significant, and no mitigation is required.

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. The existing Public Works Yard is adjacent to an existing elementary school. The proposed project involves the renovation of the existing Public Works Yard facilities. The existing use of the project site includes the handling of minor amounts of hazardous materials, substances or wastes. No change in current operations is proposed that would increase the risk of exposure to



schoolchildren. In addition, the proposed renovations include the removal of a dumpster located adjacent to the school near the property boundary. The removal of the existing dumpster will decrease the potential exposure of waste material to schoolchildren. The existing use of the proposed project will not be altered or changed as part of the proposed improvements. As such, less than significant impacts related to this issue are anticipated, and no mitigation is required.

- d) Be located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as a result, will create a significant hazard to the public or the environment?

Less Than Significant Impact. The proposed project is intended to renovate and improve the existing Public Works Yard facilities and does not propose the construction of new homes, businesses, or infrastructure. Currently, a filling station, containing potentially hazardous materials (fuel) exists onsite. However, no significant hazards to the public or environment are anticipated due to the existing use of the Public Works Yard facilities. Therefore, potential impacts related to this issue are considered less than significant, and no mitigation is required.

- e) For a project located within an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The proposed project is not located within two miles of an airport, or within an airport land use plan. Therefore, no significant impacts are anticipated, and no mitigation is required.

- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The proposed project located within two miles of the Imperial Beach Naval Auxiliary Landing Field. The proposed project is intended to renovate and improve the existing Public Works Yard facilities, and does not propose to alter or change the current use. Therefore, no significant impacts are anticipated, and no mitigation is required.

- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed project would result in improvements to the existing Public Works Yard facilities and would not interfere with the implementation of any adopted emergency response or evacuation plan. Therefore, no significant impacts are anticipated, and no mitigation is required.

- h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires including where wildlands are adjacent to urbanized areas or where residents are intermixed with wildlands?

No Impact. The project site is located within a developed area, largely surrounded by an urbanized environment, and is not adjacent to any wildlands. Therefore, no



significant impacts related to wildland fires are anticipated, and no mitigation is required.

- i) Include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g. water quality treatment basin, constructed treatment wetlands), the operation of which could result in significant environmental effects (e.g. increased vectors and odors)?

No Impact. A Water Quality Technical Report and Hydrology Study was prepared for the proposed project to address issues relative to onsite storm water and drainage. The report identifies appropriate BMPs to reduce the potential for impacts to water quality and/or hydrology to occur. With implementation of such design measures, the project would not adversely affect existing conditions onsite or on adjacent properties. As such, although the project includes storm water treatment control BMPs, the operation of such BMPs would not result in significant adverse effects, in particular with regard to vectors and/or odors. Therefore, no significant impacts are anticipated, and no mitigation is required.

15. PUBLIC SERVICES

Would the Project:

- a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?

No Impact. The proposed project is intended to renovate and improve the existing Public Works Yard facilities and does not propose to alter or change the current use. Implementation of the improvements will not change response times and will not require new or physically altered governmental facilities because the proposed renovations do not change the existing conditions related to fire protection services. Therefore, no significant impacts are anticipated, and no mitigation is required.

Police protection?

No Impact. The proposed project is intended to renovate and improve the existing Public Works Yard facilities and does not propose to alter or change the current use. Renovation of the existing Public Works Yard facilities will not create a need for the expansion of existing police facilities or the addition of staff because the proposed renovations do not change the existing conditions related to police services. In addition, implementation of the project will not change response times. Therefore, no significant impacts to police services are anticipated, and no mitigation is required.

Schools?

No Impact. The proposed renovation project is intended to renovate and improve the existing Public Works Yard facilities and does not propose the construction of new homes, businesses, or infrastructure. The City of Imperial Beach will be renovating



the existing facilities for the direct benefit of the Public Works Yard and the community. Therefore, there will be no significant impact on schools, and no mitigation is required.

Parks?

Less Than Significant Impact. The proposed project includes the construction of a portion of a new bike path and bike parking area. Although there may be a minor increase in demand for use of the existing bike path, the expansion of the bike path and bike parking area will accommodate the anticipated increase in use, thereby ensuring potential impacts related to park facilities are less than significant, and no mitigation is required.

Other Public Facilities?

No Impact. The proposed project is designed to update and improve the existing Public Works Yard facilities and is not anticipated to impact any other public facilities. No mitigation is required.

16. UTILITIES AND SERVICE SYSTEMS

Would the project:

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. The proposed project is intended to renovate and improve the existing Public Works Yard facilities and does not propose to alter or change the current use. As such, an increase in residential, commercial, industrial, or other sewage-generating uses are not anticipated as a result of the proposed project. The implementation of the proposed project will not interrupt existing sewer service. Therefore, no additional demand for wastewater disposal or treatment will be created by the proposed project. Impacts would be less than significant, and no mitigation is required.

- b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The proposed project is intended to renovate and improve the existing Public Works Yard facilities and does not propose to alter or change the current use. As such, an increase in demand for water or sewage disposal services by the proposed project is not expected to require or result in the construction of new water or wastewater treatment facilities. Therefore, no significant impacts are anticipated, and no mitigation is required.

- c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The proposed improvements to the existing Public Works Yard will slightly increase the total area of impervious surface. Similar to the existing Public Works Yard, the impervious area of the renovated yard will not be subject to a significant increase of contaminants such as petro-chemicals or hazardous materials



that would accumulate on impervious surfaces, such as roadways and parking lots. The stormwater drainage facilities proposed will be necessary to manage stormwater runoff to ensure that existing conditions remain (i.e. no increase in surface runoff to offsite properties). Therefore, significant impacts related to the construction of new storm water drainage facilities are not anticipated, and no mitigation is required.

- d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. The proposed project is intended to renovate and improve the existing Public Works Yard facilities and does not propose to alter or change the current use. The proposed project will not generate a new use requiring potable water. The project will not cause an increase in population. No significant impacts are anticipated, and no mitigation is required.

- e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact: The proposed project is intended to renovate and improve the existing Public Works Yard facilities and does not propose to alter or change the current use, or create additional demand on the wastewater treatment provider. Therefore, the project will not interfere with any wastewater treatment provider's service capacity. Therefore, no significant impacts are anticipated, and no mitigation is required.

- f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact: Implementation of the proposed project will generate debris during construction and improvement of the existing Public Works Yard facilities that will need to be disposed of. Improvement of the facilities and the capacity for solid waste disposal at the site will therefore increase for the short-term during such activities. However, solid waste generated by project construction will be disposed of in a nearby landfill with sufficient capacity to accommodate the project's increase in solid waste disposal needs. Therefore, associated impacts are anticipated to be less than significant, and no mitigation is required.

- g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. The proposed renovations will comply with current federal, State, and local statutes and regulations related to solid waste. No significant impacts are anticipated, and no mitigation is necessary.



MANDATORY FINDINGS OF SIGNIFICANCE

- a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number, or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

No Impact. As documented in this Initial Study, the proposed project is intended to renovate and improve the existing Public Works Yard facilities and does not propose to alter or change the current use. The existing site is disturbed and habitats of fish, wildlife, plant and animal communities are not present onsite. As such, significant impacts resulting from the proposed project are not anticipated, and no mitigation is required.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

No Impact. The proposed project, in combination with past, present, and reasonably foreseeable projects, is not anticipated to contribute to cumulative environmental effects because it involves the renovation of existing facilities and does not introduce a new land use or a significant increase in capacity. As such, the renovation project will not result in significant unavoidable environmental impacts. Therefore, significant cumulative impacts are not anticipated, and no mitigation is required.

- c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. The proposed project will comply with all applicable local and state regulations and design features protecting environmental health which have been incorporated into the project. As such, the proposed project will not cause substantial adverse effects on human beings, either directly or indirectly. No mitigation is required.



4.0 References

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California Digital Conservation Atlas.

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Conceptual Design For Improvements to the Public Works Yard, prepared by Hirsch and Company, March 2006.

FEMA Flood Insurance Rate Maps.

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Imperial Beach, City of. *General Plan and Coastal Plan*, October 19, 1994.

Imperial Beach, City of. *Municipal Code*, 1991.

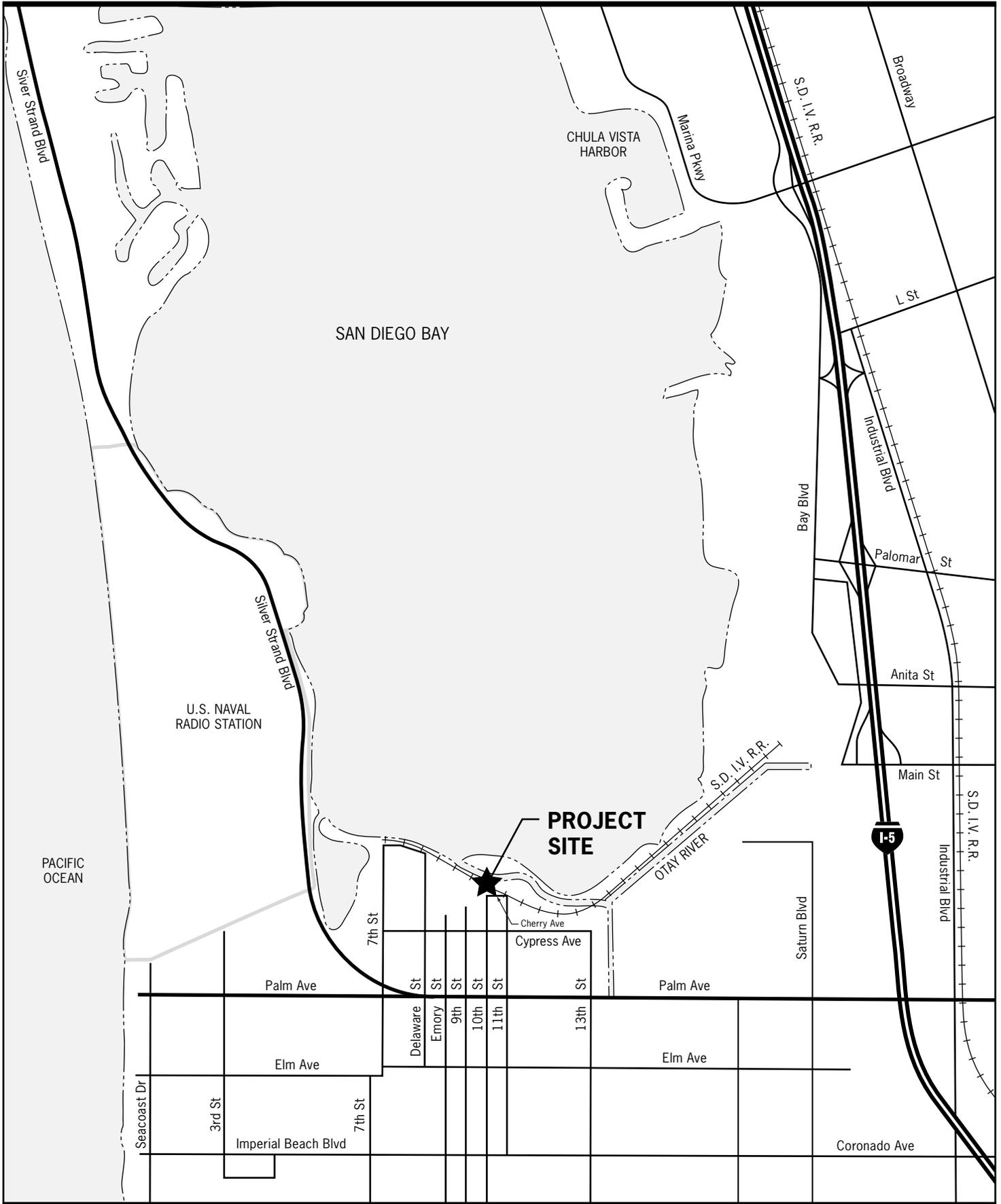
Seismic Hazards Zonation Program (SHZP).

November 20, 2006

<http://www.conservation.ca.gov/cgs/shzp/>

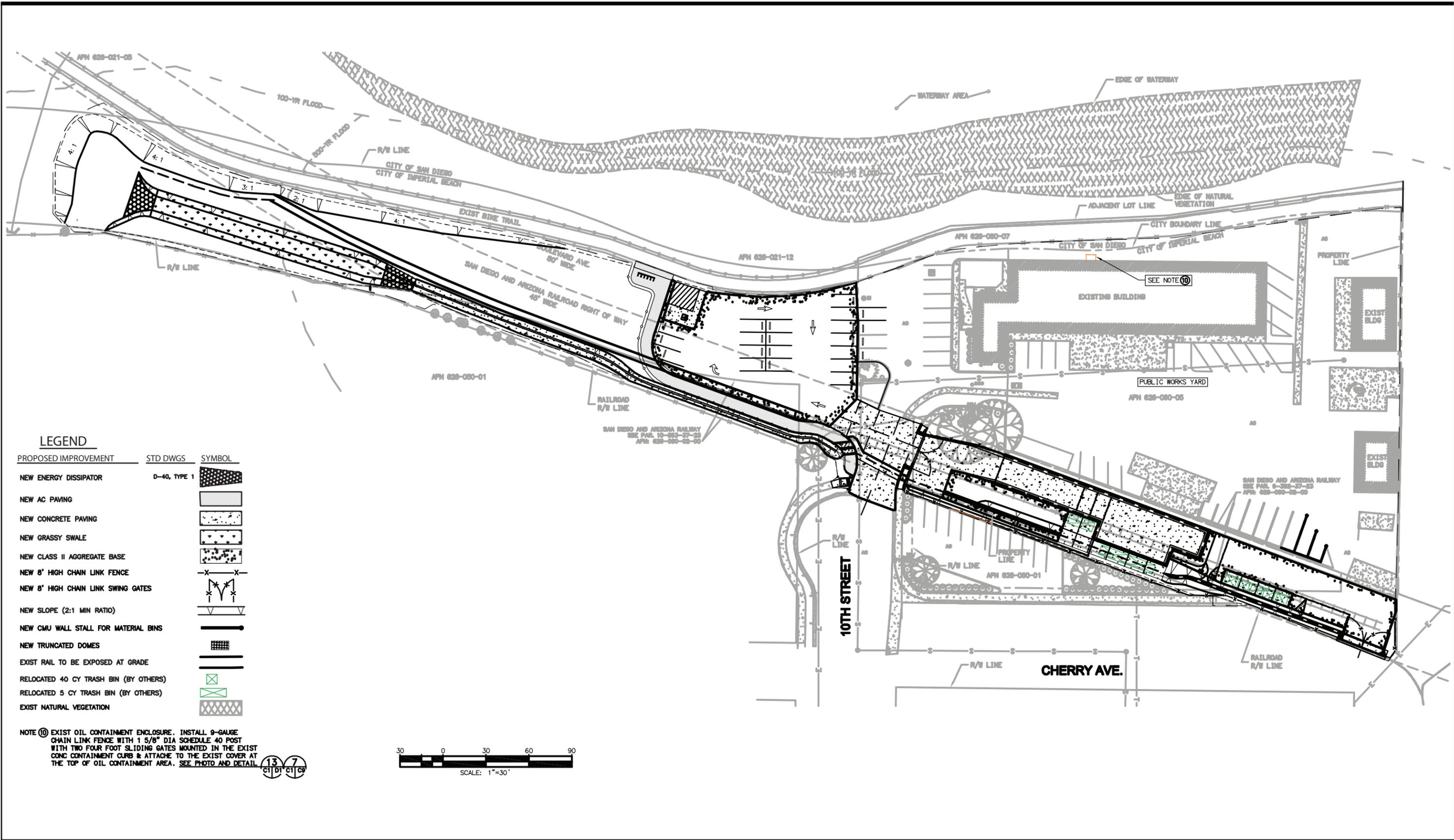


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MAP OF CITY OF IMPERIAL BEACH WITH COASTAL BOUNDARY



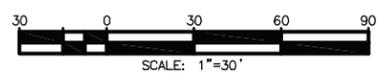


LEGEND

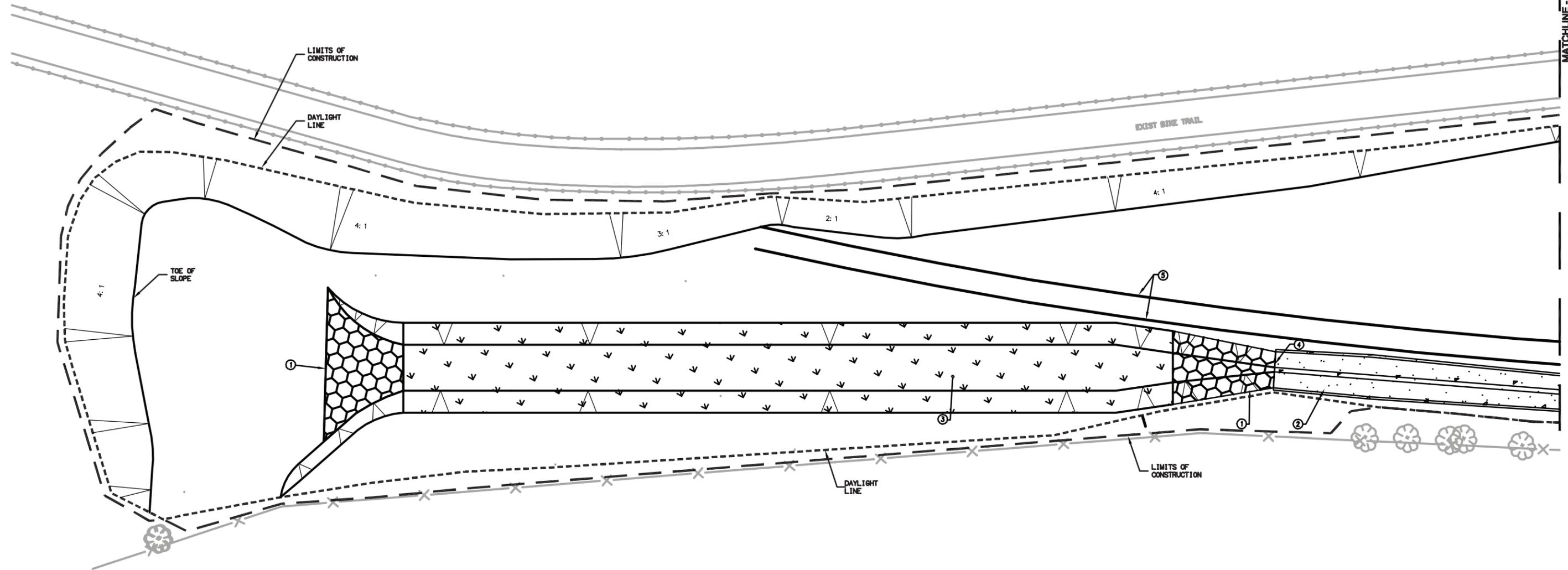
PROPOSED IMPROVEMENT	STD DWGS	SYMBOL
NEW ENERGY DISSIPATOR	D-40, TYPE 1	[Symbol: Dotted pattern]
NEW AC PAVING		[Symbol: Horizontal lines]
NEW CONCRETE PAVING		[Symbol: Dotted pattern]
NEW GRASSY SWALE		[Symbol: Dotted pattern with grass]
NEW CLASS II AGGREGATE BASE		[Symbol: Dotted pattern]
NEW 8' HIGH CHAIN LINK FENCE		[Symbol: X-X-X-X]
NEW 8' HIGH CHAIN LINK SWING GATES		[Symbol: X-X-X-X with gates]
NEW SLOPE (2:1 MIN RATIO)		[Symbol: Slope triangle]
NEW CMU WALL STALL FOR MATERIAL BINS		[Symbol: Solid black bar]
NEW TRUNCATED DOMES		[Symbol: Grid pattern]
EXIST RAIL TO BE EXPOSED AT GRADE		[Symbol: Two parallel lines]
RELOCATED 40 CY TRASH BIN (BY OTHERS)		[Symbol: Square with X]
RELOCATED 5 CY TRASH BIN (BY OTHERS)		[Symbol: Square with X]
EXIST NATURAL VEGETATION		[Symbol: Cross-hatch pattern]

NOTE 10 EXIST OIL CONTAINMENT ENCLOSURE. INSTALL 9-GAUGE CHAIN LINK FENCE WITH 1 5/8" DIA SCHEDULE 40 POST WITH TWO FOUR FOOT SLIDING GATES MOUNTED IN THE EXIST CONC CONTAINMENT CURB & ATTACHE TO THE EXIST COVER AT THE TOP OF OIL CONTAINMENT AREA. SEE PHOTO AND DETAIL.

13 7
C1 D1 C1 C9

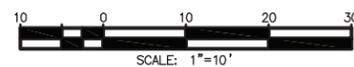


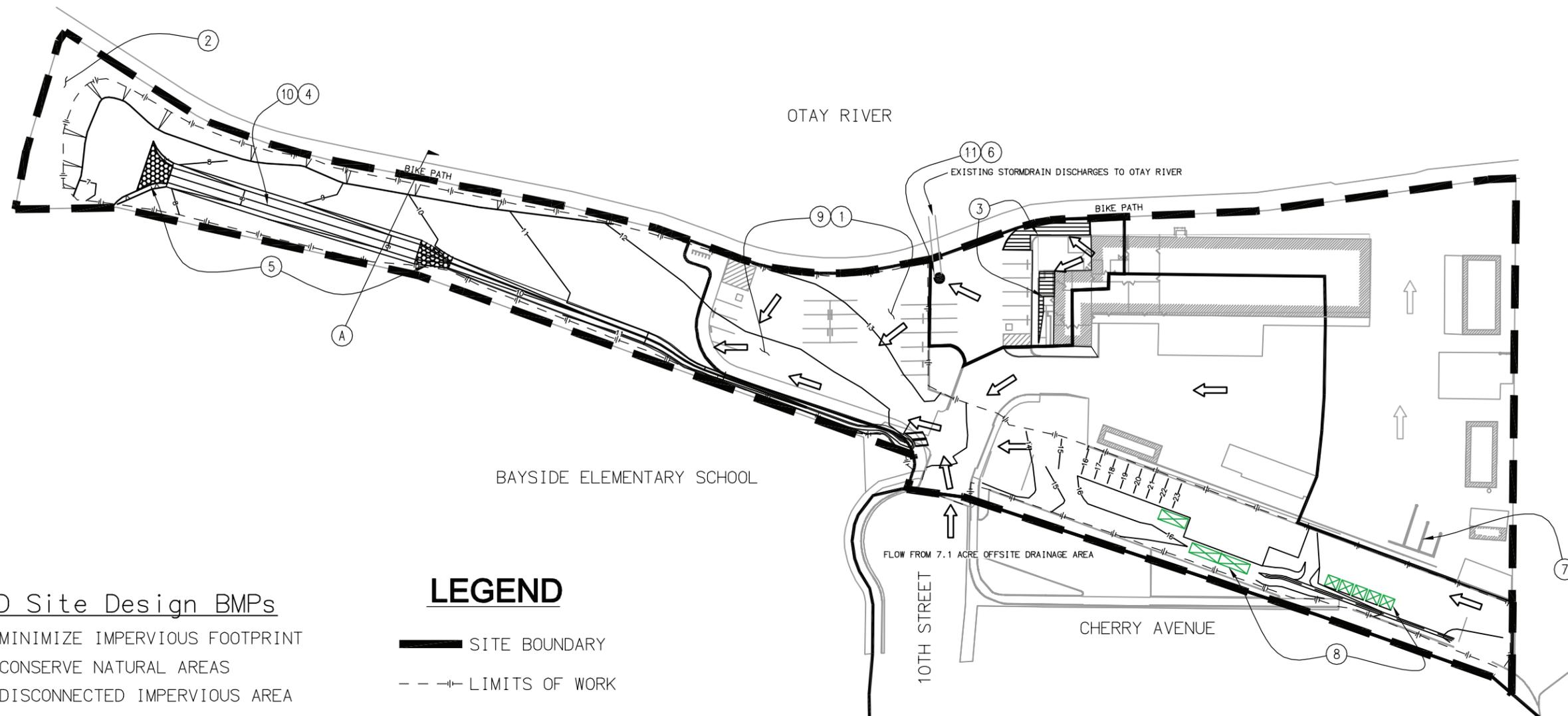
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WORK TO BE DONE

- ① INSTALL NO.2 BACKING, RIP-RAP ENERGY DISSIPATOR PER SDRSD D-40, TYPE 1, T=1', D50=0.7', WITH FILTER BLANKET, 1/4" UPPER LAYER. (650 SF)
- ② NEW 1'-BOT, 2:1 SIDE SLOPE RATIO OR FLATTER, TRAP CONC CHANNEL W/ 6"x6"-10 GAUGE WELDED WIRE FABRIC. (318 LF) SEE SECTIONS E F
- ③ NEW 10'-BOT, 4:1 SIDE SLOPE RATIO OR FLATTER, TRAP GRASS CHANNEL. (168 LF) SEE SECTION G
- ④ INSTALL CUTOFF WALL PER SDRSD D-72 (1 EA)
- ⑤ TOP OF EXISTING RAILS TO BE EXPOSED TO GRADE. SEE SHEET C5 FOR GRADING.





SCALE: 1"=75'

LID Site Design BMPs

- ① MINIMIZE IMPERVIOUS FOOTPRINT
- ② CONSERVE NATURAL AREAS
- ③ DISCONNECTED IMPERVIOUS AREA
- ④ NATIVE OR DROUGHT TOLERANT VEG.
- ⑤ ENERGY DISSIPATER

Source Control BMPs

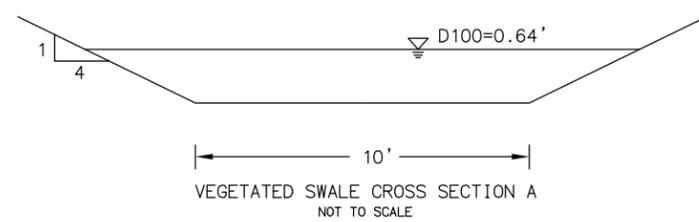
- ⑥ STORM DRAIN STENCIL
- ⑦ MATERIAL STORAGE AREA
- ⑧ TRASH STORAGE AREA
- ⑨ PERVIOUS PARKING

Treatment Control BMPs

- ⑩ VEGETATED SWALE
- ⑪ INLET INSERT

LEGEND

- SITE BOUNDARY
- LIMITS OF WORK
- SITE LAYOUT
- PROPOSED GRADING CONTOURS
- FLOW DIRECTION
- UNDISTURBED AREA FLOW (SEE NOTE)
- DRAINAGE AREA
- DISCONNECTION OF IMPERVIOUS AREA
- RIPRAP



NOTE: ONSITE FLOWS FROM UNDISTURBED AREAS (LIGHT ARROWS) ARE NOT IMPACTED BY THE PROPOSED WORK.

Attachment A

Description of Improvements

1. Office Expansion (approximately 800 square feet)

A pre-engineered metal building will be added on to the existing office space to provide an additional 800 square feet of office space. The office addition will sit on a 4" concrete slab on grade with expansion joints where it meets the existing slab. The addition will match the existing offices with a suspended ceiling, light fixtures, electrical outlets, and new doors to meet existing structures. The windows located in the west wall of the locker room and the north wall of the bathrooms will be removed and the openings drywalled. The building will include 7 computer network boxes, 7 telephone drops, and 7 electrical outlet boxes. The existing air conditioning unit will be relocated from its current location to the north-facing exterior wall of the office addition. The existing ADA parking spot and ramp will be relocated to the opposite side of the main entry door.

2. Construction of new loading ramp (over existing rail lines)

A new loading ramp and dock will be constructed between the yard and the street over the existing railroad tracks. The proposed project has designed the dumpster relocation area to include a geosynthetic material or similar material as the base for covering the tracks. Using a geosynthetic material as a cover for the existing tracks will protect the tracks from damage by the dumpster and associated construction activities. The dock will be accessible from ramps on the 10th Street and 11th Street sides. This will allow for dumping yard waste and metal waste into two 40-yard roll-off dumpsters. A covered 40-yard dumpster for furniture and five 6-yard dumpsters will be located on either side of the dock along the ramps. The vegetation in the construction area will be removed. Fill dirt will be imported and used in the construction of the new ramp. The two ramps leading to the dock will be 16.5' wide and 80' long with a 12% grade. A double guardrail with support posts every 8 feet will protect the edge of the ramp. The dock will be 50' long, 30' wide and 8' high, and have a 6" high curb stop along the dumping edge. The front retaining wall rear retaining wall will be a concrete masonry retaining wall that will be constructed next to the existing yard wall. The dumpsters will sit on a 6" concrete slab. 3" asphalt over compacted base will be used for the truck access.

3. Existing Rails to be Covered

The proposed project has designed the covering of the existing rails to include a geosynthetic material prior to construction as the base for covering the tracks. Using a geosynthetic material as a cover for the existing tracks will protect the tracks from damage by the dumpster and associated construction activities.

4. Removal of existing ramp

The existing ramp will be removed and the creosote treated logs will be disposed of in accordance with local landfill procedures for treated wood waste. The ramp is approximately 270 yards of material. The construction waste will be recycled and the remaining soil will be spread across the western yard.

Attachment A

5. New entry drive

The existing concrete entrance to the parking lot from 10th Street will be removed and a new curb opening, driveway and parking lot entry area will be built in accordance with the San Diego Regional Standard Drawings. The proposed project has been designed to ensure for every one-foot of railroad track covered from the dumpster relocation, one-foot of railroad track will be either uncovered in another area, or left exposed in areas adjacent asphalt, such as the parking lot. The entrance will consist of 2,600 sf. of 6” concrete over 8” class 2 base. Asphalt paving will be used to create an at-grade crossing over the railroad tracks. The drainage swale on either side will be replaced to match the existing swales.

6. New parking area

The current parking lot will be expanded. The fence on the west side of the existing parking area will be removed. The new parking area will be covered with 6” of class 2 aggregate base compacted to 95%. The new parking area will add an additional 8,421 sf. and provide sixteen new parking spots, including one ADA parking stall. The ADA parking stall will consist of a 530 square foot concrete pad at the entrance to the proposed avian observation area. The new parking area will be bordered with recycled plastic bollards connected by steel cable to protect the bike path. The recycled plastic bollards will match the existing plastic bollards. Parking stops will be used to indicate parking spaces.

7. New asphalt bike path and bike parking

A new 8’ wide bike path will be constructed in accordance with the CALTRANS Highway Design Manual. The new bike path will start at 10th street via an access ramp and run along the west edge of the proposed parking lot expansion. It will connect to the existing bike path that runs east and west along the bay. The new bike path will be offset from the parking lot with recycled plastic bollards connected with a steel cable to match the existing bike path. The bikeway will be center striped per the CALTRANS standards. An asphalt bike parking area will be constructed where the two bike paths meet. A 6203 Saris Commercial Duty Park-a-Bike 9 or equivalent bike parking rack will be installed in the bike parking area.

8. New perimeter fencing to enclose the proposed dumpster area

A chain link fence will enclose the new dumpster area. A new 8’ high chain link fence with two 15’ wide swing gates will be constructed. The fence will consist of 530 linear feet of 9-gauge chain link fabric with schedule 40 posts. The posts will be set in concrete and placed at a distance of 8 feet on center. The fence will be constructed with a bottom and center rail but, without a top rail to discourage climbers. The fence will be installed with full coverage plastic privacy slats.

9. Plants, shrubs and new irrigation system installed

Three areas will be landscaped using hearty salt air resistant plants such as Pygmy Date Palm, Flax Grass, Fountain Grass, Clump Blue Fescue, and Lantana. Bark mulch will be used for ground cover. A new slow drip irrigation system manufactured by Netafim will be installed and will be controlled by a new 24-volt irrigation controller and

Attachment A

associated wiring and hardware. A new backflow system will be installed to separate the irrigation from the building water supply.

10. Oil containment enclosure

A 9-gauge chain link fence with 1 5/8" diameter schedule 40 posts with two four-foot sliding gates will be mounted in the existing concrete containment curb and attached to the existing cover at the top of the oil containment area.

11. Two new roll-up doors for the maintenance shed

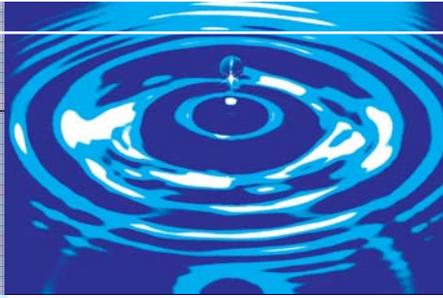
The existing garage doors will be replaced with heavy-duty roll-up steel doors. The doors will be 20-gauge large slat with a 24-gauge hood, chain hoist operation, steel bottom angle, and 3-piece guides. The doors will be activated with ¾ HP 3 phase electric motor.

12. Existing Rails to be Exposed At-Grade

The proposed project has been designed to ensure for every one-foot of railroad track covered from the dumpster relocation, one-foot of railroad track will be either uncovered in another area, or left exposed in areas adjacent to asphalt, such as the parking lot. The placement of an interpretive sign describing the history of the tracks has also been included in the proposed project design. The sign will be placed adjacent to the bike-path, in the area of the tracks to be uncovered as part of the proposed project. The placement of the interpretive sign in this location will provide an additional recreational amenity to bike path users.

ATTACHMENT 3

Water Quality Technical Report and Hydrology Study RBF Consulting, Inc



Water Quality Technical Report (WQTR) & Hydrology Study

Project Identification:

City Of Imperial Beach Public Works Yard

Applicant:

City of Imperial Beach
495 10th Street
Imperial Beach, CA 91932
619-423-8311

Contact Person: Mr. Hank Levien, Director of Public Works

WQTR Prepared by:



RBF CONSULTING
9755 Clairemont Mesa Blvd. Suite 100
San Diego, California 92124-1324
858.614.5000 telephone / 858.614.5001 fax

Contact Person: Alex Jewell, AICP
Rich Lucera, RCE 58089, CFM, CPESC

RBF JN 25-102214.001

Initial Preparation Date:

January 28, 2008

Revision Date(s):

March 11, 2008

September 29, 2008

January 9, 2009

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NOTE: Engineer's stamp and signature found in Attachment H.

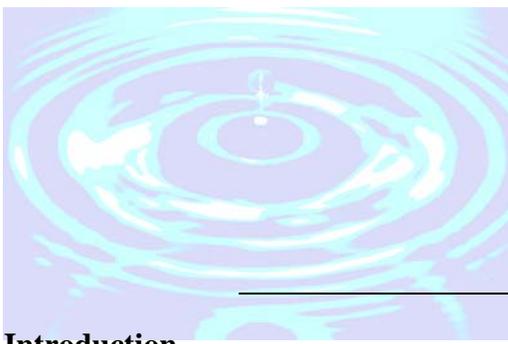


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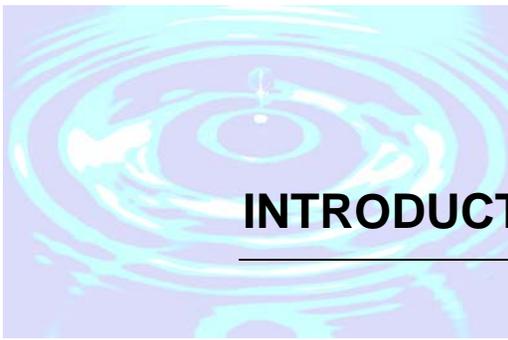
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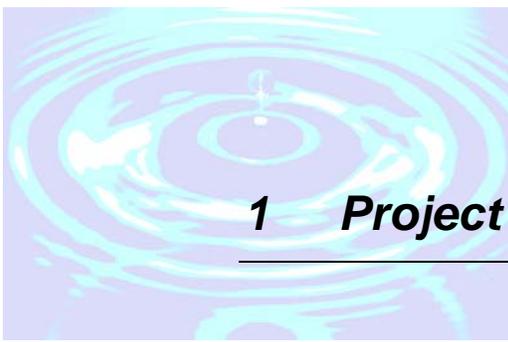
- Attachment A Location Map (Reference Thomas Bros. 1169-J3)
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INTRODUCTION

The City of Imperial Beach requires all applications for a permit or approval associated with a Land Disturbance Activity must be accompanied by a Storm Water Management Plan (SWMP) or Water Quality Technical Report (WQTR). The purpose of a SWMP or WQTR is to describe how the project will minimize the short and long-term impacts on receiving water quality. Projects that meet the criteria for a priority project are required to prepare a Major SWMP or WQTR.

The plans and specifications found in this WQTR are not for construction purposes; the contractor shall refer to the final approved construction documents of plans and specifications.



1 Project Description

This section describes the project with respect to its location, the planned improvements, and places it within the context of the larger watershed.

1.1 PROJECT LOCATION

The proposed project, improvements to the City of Imperial Beach Public Works Yard, is located within the existing City of Imperial Beach Public Works Yard site. The site is located in the City of Imperial Beach at 495 10th Street. The proposed project is located within the City of Imperial Beach coastal boundary. The site is bounded by Bayside Elementary School and residential uses to the south, Bayshore Bikeway and the southern portion of San Diego Bay to the north, undeveloped public land to the east, and residential to the west. Attachment A provides a location map for the project.

1.2 PROJECT DESCRIPTION AND PURPOSE

1.2.1 Project Description

The proposed project involves improvements to the approximately ~~3.42~~2.86 acre City of Imperial Beach Public Works Yard that include the construction of a loading ramp (over the existing railroad tracks), an entry drive, a parking area, an expansion of an existing building, an asphalt bike path and bike parking, perimeter fencing, landscaping and irrigation system, an oil containment enclosure and roll-up doors at maintenance sheds (total of two). In addition to the new construction the project also includes the removal of existing loading ramps, the expansion of material bins and the exposure of existing railroad tracks (currently buried).

1.2.2 Project Activities

The project will involve demolition, grading, material placement and construction. The project is not anticipated to generate significant food or animal waste products.

1.2.3 Permit Requirements

Table 1-14-1 Permits / Approvals Required for the Project

AGENCY	Permit Required (Yes / No)
<i>State Department of Fish and Game, 1601 Streambed Alteration Agreement</i>	No
<i>State Water Resources Control Board, Clean Water Act (CWA) section 401 Water Quality Certification</i>	No
<i>US Army Corps of Engineers, CWA section 404 permit</i>	No
<i>US Fish and Wildlife, Endangered Species Act section 7 biological opinion</i>	No
<i>Other (please list in the space below as required)</i> <i>Grading</i> <i>Building</i> <i>Stormwater</i>	Yes

1.3 EXISTING IMPROVEMENTS AND DRAINAGE PATTERNS

1.3.1 Existing Drainage Improvements

There are two separate short lengths of storm drain currently in-place that drain on-site areas and discharge to the Otay River. Only the flow to the western drain will be ~~affected~~ affected by the activities proposed by the project.

1.3.2 Floodplain Mapping

The Federal Emergency Management Agency (FEMA) categorizes the majority of the site as unshaded Zone X, ~~where Zone X~~ which is outside the 500-year floodplain (FIRM Panel 06073C-2153F). A small portion of the northwest end of the site lies within shaded Zone X, where shaded Zone X is areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood. FEMA floodplain mapping in the vicinity of the project site is shown on the FIRM panel contained in Attachment B.

1.3.3 Downstream Conditions

Runoff from the majority of the western portion of the site generally flows in a west-northwesterly direction. These flows currently discharge to the Otay River from the projects northern boundary. Runoff from the remainder of the ~~sites~~ western and southern portions of the site flow into a depression on site that conveys the flows to the northwest. The flow continues in this direction on site until (toward the western edge of the site) the depression conveying the runoff gradually veers off site. The flow continues on within the depression until just past the site where it is collected in a channel that conveys the flow northeast to the Otay River. In the proposed condition these flows will be conveyed on site to the projects western boundary where they will be discharged back into the existing channel.

A separate portion of the middle northern part of the site currently drains to an existing filtered grate ~~inlet, that inlet that~~ discharges to the Otay River. The area draining to the inlet will include a building expansion, but the overall area will not change.

The design team for the project conducted a site investigation on November 16, 2007 to observe and report on the downstream conditions of the site. The results of this investigation are outlined on the following pages.

The following picture shows the depression, which directs flows to the northwest and offsite.



Looking west along the depression, just west of 10th St. and north of the school.

Flows discharging from the site at the location shown (just downstream of the trees flows enter the school site) travel west and are collected by an offsite channel just west of the site (shown in following picture) that directs the flow north to the Otay River.



Looking north, just west of the site.

The existing filtered grate inlet in the middle northern portion of the site is shown in the following picture.



Looking southeast from the northwest corner of the existing parking lot.

This existing storm drain then discharges to the Otay River (just off-site) at the location shown in the following picture.



Looking northwest near the northwest corner of the existing parking lot.

An increase in the threat of erosive conditions is not expected due to the low velocities of the flows crossing the site.

1.4 PROPOSED IMPROVEMENTS AND DRAINAGE PATTERNS

As part of the site design a vegetated swale is proposed that will intercept runoff for treatment before directing the discharge offsite. The roof of the proposed building expansion (impervious area) will be drained to grass areas (disconnected) before entering the existing grate inlet. The existing grate inlet filter insert will be equipped with oil absorbent pouches.

1.5 HYDROLOGIC EFFECT OF PROJECT

The proposed project will not substantially alter flow patterns on the site. Given the small size of the project site relative to the watershed, development of the project site will have little effect on the downstream conditions. The on-site channel and swale have been sized to convey the entire 100-year storm event which will greatly reduce the flooding potential on the school site for the entire length of the channel. Table 1-2 summarizes the impervious cover under existing and proposed condition.

Table 1-24-2 Summary of Impervious Cover Analysis

Coverage	Existing Condition		Proposed Condition		Change	
	(acre)	(%)	(acre)	(%)	(acre)	(%)
Impervious Area						
Buildings	0.32	11%	0.34	12%	0.02	+<1%
Paved Area (Streets and Parking)	1.34	47%	1.50	52%	0.16	+6%
<i>Subtotal Impervious Area</i>	<i>1.66</i>	<i>58%</i>	<i>1.84</i>	<i>64%</i>	<i>0.18</i>	<i>+6%</i>
Pervious Area						
Natural/Landscaped Area	1.20	42%	0.50	18%	-0.70	-24%
Semi-Pervious area (D.G.or Class 2 Base)	0.00	0%	0.52	18%	0.52	18%
<i>Subtotal Pervious Area</i>	<i>1.20</i>	<i>42%</i>	<i>1.02</i>	<i>36%</i>	<i>-0.18</i>	<i>-6%</i>
Total	2.86	100%	2.86	100%	0.00	0

1.6 HYDROLOGIC CONTEXT (WATERSHED CONTRIBUTION)

City of Imperial Beach Public Works Yard Improvements project is located on the lower portion of the 29,569-acre Otay Valley Hydrologic-Area (910.20). **Table 1-3** compares the project site to the local watershed area. **Attachment B** illustrates the project site in the context of the watershed.

Table 1-34-3 Comparison of Watershed Areas

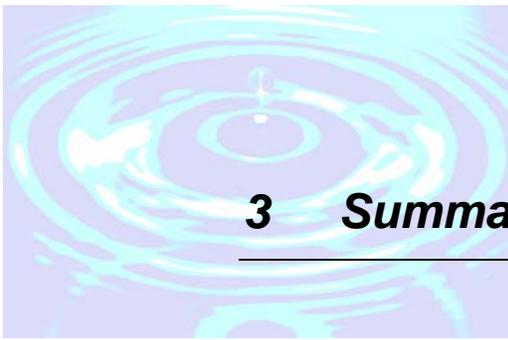
	Area (acres)	29,569	2.86	1.84
Otay Valley HA 905-22910.20	29,569	100%	-	-
Property	2.86	< 0.01%	100%	-
Impervious Area (Estimate)	1.84	< 0.01%	64%	100%



2 Priority Project Determination

The following table determines whether the project is priority according to guidelines laid out in the Municipal Permit. There is a limited exclusion for trenching and re-surfacing work associated with utility projects, which are NOT considered priority projects. Parking lots, buildings, and other structures associated with utility projects are subject to SUSMP requirements if one or more of the criteria described in the table are met.

PRIORITY PROJECT	YES	NO
Detached residential development of 10 or more units		✓
Residential development of 10 or more units.		✓
Commercial development greater than 100,000 square feet		✓
Automotive repair shop		✓
Restaurant		✓
Steep hillside development greater than 5,000 square feet		✓
Project discharging to receiving waters within Water Quality Sensitive Areas	✓	
Parking Lots greater than or equal to 5,000 square feet or with at least 15 parking spaces, and potentially exposed to urban runoff.	✓	
Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater.		✓
Significant redevelopment over 5,000 square feet	✓	



3 Summary of Water Quality Issues

This section provides a summary of relevant storm water quality issues pertaining to the project site.

3.1 TOPOGRAPHY

The majority of the western portion of the site slopes to the northwest at between 1 and 3%. Existing runoff from this area sheet flows toward the northwest. The remainder of the site tends to drain to the depression that crosses the site from the southeast to the northwest at an approximate slope of 0.7 %. Proposed improvements will not have a significant impact on existing drainage patterns.

3.2 LAND USE AND VEGETATION

Currently, the majority of the on site area where the work will occur is vacant. Soils on the site are classified as NRCS Hydrologic Soil Type D. These soil types are moderately well drained and are considered slightly to moderately erodible. The site is bounded by Bayside Elementary School and residential uses to the south, Bayshore Bikeway and the southern portion of San Diego Bay to the north, undeveloped public land to the east, and residential to the west.~~The areas adjacent to the project are characterized as commercial on the east and west, residential on the south and undeveloped on the north.~~

3.3 DRY WEATHER FLOW

No dry weather flow has been observed. Nearby drainages (not connected with the project site) do not seem to be experiencing erosive conditions.

3.4 RECEIVING WATERS

The most immediate receiving water for the project site is the San Diego Bay. The project site is located on the lower portion of the 29,569-acre Otay Valley Hydrologic Area (910.20).

According to the California 2006 303(d) list published by the San Diego Regional Water Quality Control Board (RWQCB Region 9), the San Diego Bay, the immediate receiving water for the site, is impaired. Table 3-1 summarizes the receiving waters and their classification by the RWQCB Region 9.

Table 3-13-4 Summary of Receiving Surface Waters

Receiving Water	Hydrologic Unit Code	Approximate Distance From Site (feet)	303(d) Impairment(s)
San Dieguito Hydrologic Unit (905.00)			
<i>Otay Valley Hydrologic Area (908.20)</i>			
Otay River	910.20	50	None
<i>San Diego Bay (910.10)</i>			
San Diego Bay	910.10	4,000	PCBs

3.5 303(D) IMPAIRMENTS

The Environmental Protection Agency (EPA) is the primary federal agency responsible for management of water quality in the United States. The Clean Water Act (CWA) is the federal law that governs water quality control activities initiated by the EPA and others. Section 303 of the CWA requires the adoption of water quality standards for all surface water in the United States. Under Section 303(d), individual states are required to develop lists of water bodies that do not meet water quality objectives after required levels of treatment by point source dischargers. Total maximum daily loads (TMDLs) for all pollutants for which these water bodies are listed must be developed in order to bring them into compliance with water quality objectives.

3.6 RISK ASSESSMENT

There are no high-risk drinking water supply or other sensitive resources within the project limits. Because of the small size of the project in the context of the watershed, the low-intensity nature of the development, the project is unlikely to have a significant effect on drinking water supply. Therefore, the project presents negligible risk to drinking water supply or other sensitive resources.

3.7 TOTAL MAXIMUM DAILY LOAD (TMDL)

There are currently no Total Maximum Daily Load (TMDL) restrictions for the project receiving waters.

3.8 GENERAL CLIMATE

San Diego climate is classified as Mediterranean, with warm, dry summers and mild, wet winters. Annual precipitation averages range from 10 inches along the coast to 18 inches the eastern mountains, with low to high intensity storms occurring mostly in the winter and spring.

The average annual precipitation for the watershed area is approximately 11.4 inches. The 6-hour, 100-year design precipitation is 2.5 inches.

3.9 SOIL CHARACTERISTICS

According to the San Diego Soil Survey of 1973, the site lies on Soil Map Unit HuC (Huerhuero-Urban land complex, 2 to 9 percent slopes). This soil type is moderately well drained and is considered slightly to moderately erodible. **Table 3-2** summarizes the soils on the project site.

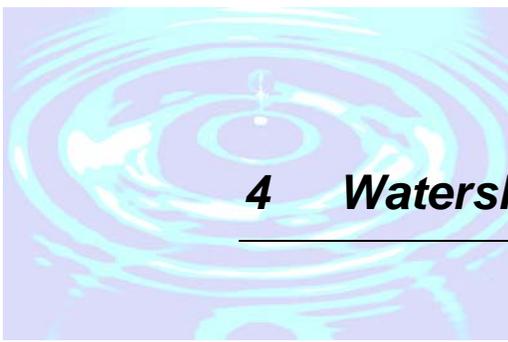
Table 3-23-2 Summary of Site Soil Types

Soil Name	Symbol	Hydrologic Soil Type	Erodibility	Fraction
Huerhuero-Urban land complex, 2 to 9 percent slopes	HuC	D	Slight to Moderate	1.00
TOTAL				1.00

* San Diego Soil Survey 1973

3.10 CONTAMINATED SOIL AND HAZARDOUS WASTE ASSESSMENT

There are no known contaminated soils, fills, or hazardous wastes at the project site.

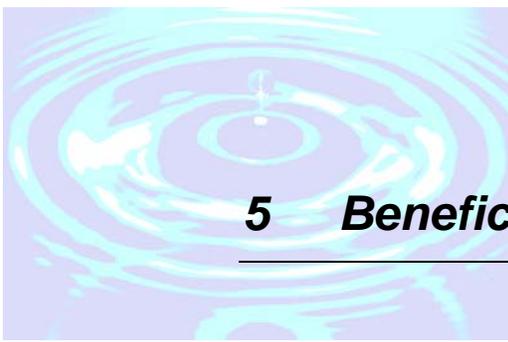


4 Watershed Identification

- | | | |
|---|--|---|
| <input type="checkbox"/> San Juan (901) | <input type="checkbox"/> Santa Margarita (902) | <input type="checkbox"/> Carlsbad (904) |
| <input type="checkbox"/> San Dieguito (905) | <input type="checkbox"/> Penasquitos (906) | <input type="checkbox"/> Pueblo San Diego (908) |
| <input type="checkbox"/> Sweetwater (909) | <input checked="" type="checkbox"/> Otay (910) | <input type="checkbox"/> Tijuana (911) |

Receiving Water	Otay River	303(d) Impairments
Hydrologic Unit	Otay (HU 910.00)	None*
Hydrologic Area	Otay Valley (HA 910.20)	None*
Hydrologic Sub-Area	Undefined	None*

*At or downstream of the site



5 Beneficial Uses

This section summarizes the beneficial uses of surface water and ground water resources downstream of the project.

5.1 DEFINITIONS

The Porter-Cologne Act establishes a comprehensive program for the protection of beneficial uses of the waters of the state. California Water Code Section 13050(f) describes the beneficial uses of surface and ground waters that may be designated by the State or Regional Board for protection as follows:

“Beneficial uses of the waters of the state that may be protected against quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.”

Beneficial uses for surface waters are designated under the Clean Water Act Section 303 in accordance with regulations contained in 40 CFR 131. The State is required to specify appropriate water uses to be achieved and protected. The beneficial use designation of surface waters of the state must take into consideration the use and value of water for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation.

In 1972, the State Board adopted a uniform list and description of beneficial uses to be applied throughout all basins of the State. During the 1994 Basin Plan update, beneficial use definitions were revised and some new beneficial uses were added. The following beneficial uses are defined statewide and are designated within the San Diego Region:

Municipal and Domestic Supply. Includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

Agricultural Supply. Includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Industrial Process Supply. Includes uses of water for industrial activities that depend primarily on water quality.

Industrial Service Supply. Includes uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.

Ground Water Recharge. Includes uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.

Freshwater Replenishment. Includes uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).

Navigation. Includes uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.

Hydropower Generation. Includes uses of water for hydropower generation.

Contact Water Recreation. Includes uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation. Includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Commercial and Sport Fishing. Includes the uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

Aquaculture. Includes the uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.

Warm Freshwater Habitat. Includes uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.

Cold Freshwater Habitat. Includes uses of water that support cold-water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.

Inland Saline Water Habitat. Includes uses of water that support inland saline water ecosystems including, but not limited to, preservation or enhancement of aquatic saline habitats, vegetation, fish, or wildlife, including invertebrates.

Estuarine Habitat. Includes uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).

Marine Habitat. Includes uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).

Wildlife Habitat. Includes uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife

(e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Preservation of Biological Habitats of Special Significance. Includes uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.

5.1.1 Beneficial Uses: Inland Surface Waters

The RWQCB San Diego Basin Plan identifies beneficial uses of receiving inland surface waters. Table 5-1 summarizes the beneficial uses identified for downstream inland surface waters.

5.1.2 Beneficial Uses: Coastal Waters

The San Diego Bay (912.00) is approximately 4,000 feet downstream of the project site. The San Diego Bay is 303(d)-listed for PCBs. Table 5-2 summarizes the beneficial uses identified for downstream coastal waters.

5.1.3 Beneficial Uses: Lake and Reservoirs

There are no lakes or reservoirs downstream of the site. Table 5-1 summarizes the beneficial uses identified for downstream lakes and reservoirs.

5.1.4 Beneficial Uses: Groundwater Resources

The RWQCB Basin Plan identifies the beneficial uses of groundwater resources area. summarizes the beneficial uses of downstream groundwater resources.

Table 5-15-4 Beneficial Uses of Downstream Inland Surface Waters (RWQCB, 1998).

Receiving Water (Hydrologic Unit Code)	Beneficial Use														
	Municipal/Domestic Supply	Agricultural Supply	Industrial Service Supply	Industrial Process Supply	Groundwater Recharge	Freshwater Replenishment	Hydropower Generation	Contact Water Recreation	Non-Contact Water Recreation	Significant Biological Habitats	Warm Freshwater Habitat	Cold Freshwater Habitat	Wildlife Habitat	Rare Species	Fish Spawning and Development
Otay River (HA 910.20)	+	●	⊗	●				⊗	●		●		●	●	

Table 5-25-2 Beneficial Uses of Downstream Coastal Waters (RWQCB, 1998).

Receiving Water (Hydrologic Unit Code)	Beneficial Use														
	Industrial	Navigation	Contact Water Recreation	Non-Contact Water Recreation	Commercial/Sport Fishing	Significant Biological Habitats	Estuarine Habitat	Wildlife Habitat	Rare Species	Marine Habitat	Aquaculture	Aquatic Organism Migration	Spawning	Warm Freshwater Habitat	Shellfish
San Diego Bay (HSA 905.11)	●	●	●	●	●	●	●	●	●	●		●			●

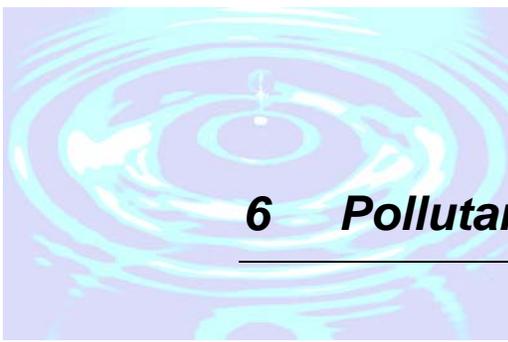
Table 5-3 — Beneficial Uses of Downstream Lakes and Reservoirs (RWQCB, 1998).

● Existing Beneficial Use ⊕ Potential Beneficial Use	Beneficial Use												
	Municipal/Domestic Supply	Agricultural Supply	Industrial Process Supply	Industrial Service Supply	Groundwater Recharge	Freshwater Replenishment	Contact Water Recreation ⁽¹⁾	Non-Contact Water Recreation	Warm Freshwater Habitat	Cold Freshwater Habitat	Wildlife Habitat	Rare Species	Hydropower Generation
Receiving Water (Hydrologic Unit Code)													
NONE													

(1) Fishing from shore or boat is permitted, but other water contact recreation uses are prohibited.

Table 5-4 — Beneficial Use of Downstream Ground Waters (RWQCB, 1998).

● Existing Beneficial Use ⊕ Potential Beneficial Use + Exempt from Municipal Use	Beneficial Use					
	Municipal/Domestic Supply	Agricultural Supply	Industrial Service Supply	Industrial Process Supply	Freshwater Replenishment	Groundwater Recharge
Receiving Water (Hydrologic Unit Code)						
NONE						



6 Pollutants of Concern

6.1 POTENTIAL POLLUTANTS

The proposed project is not expected to generate significant amounts of pollutants, but many constituents are generally anticipated for projects in this category. Table 6-1 identifies anticipated pollutants that might be generated from priority project categories.

Table 6-16-4 Anticipated and Potential Pollutants by Project Type

Priority Project Categories	General Pollutant Categories								
	Sediments	Nutrients	Heavy Metals	Organic Substances	Trash and Debris	Oxygen-Demanding Substances	Oils and Grease	Bacteria and Viruses	Pesticides
Detached Residential	✓	✓			✓	✓	✓	✓	✓
Attached Residential	✓	✓			✓	P ⁽¹⁾	P ⁽²⁾	P	✓
Commercial (>100,000 sf)	P ⁽¹⁾	P ⁽¹⁾		P ⁽²⁾	✓	P ⁽⁵⁾	✓	P ⁽³⁾	P ⁽⁵⁾
Auto Repair Shops			✓	✓ ⁽⁴⁾⁽⁵⁾	✓		✓		
Restaurants					✓	✓	✓	✓	
Hillside Development (>5,000 sf)	✓	✓			✓	✓	✓		✓
Parking Lots	P ⁽¹⁾	P ⁽¹⁾	✓		✓	P ⁽¹⁾	✓		P ⁽¹⁾
Streets, Highways, and Freeways	✓	P ⁽¹⁾	✓	✓ ⁽⁴⁾	✓	P ⁽⁵⁾	✓		
Adjacent to Environmentally Sensitive Area (within 200 feet)	P	P	P	P	✓	P	P	P	P

(1) A potential pollutant if landscaping exists on-site; (2) A potential pollutant if the project includes uncovered parking areas; (3) A potential pollutant if land use involved food or animal waste products; (4) Including petroleum hydrocarbons; (5) Including solvents.

6.2 POLLUTANTS

The following discussion briefly describes the pollutants listed in Table 6-1.

6.2.1 Sediment

Sediments are soils or other surface materials eroded and then transported or deposited by the action of wind, water, ice, or gravity. Sediments can increase turbidity, clog fish gills,

reduce spawning habitat, lower young aquatic organisms survival rates, smother bottom dwelling organisms, and suppress aquatic vegetation growth.

6.2.2 Nutrients

Nutrients are inorganic substances, such as nitrogen and phosphorus. They commonly exist in the form of mineral salts that are either dissolved or suspended in water. Primary sources of nutrients in urban runoff are fertilizers and eroded soils. Excessive discharge of nutrients to water bodies and streams can cause excessive aquatic algae and plant growth. Such excessive production, referred to as cultural eutrophication, may lead to excessive decay of organic matter in the water body, loss of oxygen in the water, release of toxins in sediment, and the eventual death of aquatic organisms.

6.2.3 Heavy Metals

Metals are raw material components in non-metal products such as fuels, adhesives, paints, and other coatings. The primary sources of metal pollution in storm water are typically commercially available metals and metal products. Metals of concern include cadmium, chromium, copper, lead, mercury, and zinc. Lead and chromium have been used as corrosion inhibitors in primer coatings and cooling tower systems. At low concentrations naturally occurring in soil, metals are not toxic. However, at higher concentrations, certain metals can be toxic to aquatic life. Humans can be impacted from contaminated groundwater resources, and bioaccumulation of metals in fish and shellfish. Environmental concerns, regarding the potential for release of metals to the environment, have already led to restricted metal usage in certain applications.

6.2.4 Organic Compounds

Organic compounds are carbon-based (commercially available or naturally occurring) substances found in pesticides, solvents, and hydrocarbons. Organic compounds can, at certain concentrations, indirectly or directly constitute a hazard to life or health. When rinsing off objects, toxic levels of solvents and cleaning compounds can be discharged to storm drains. Dirt, grease, and grime retained in the cleaning fluid or rinse water may also adsorb levels of organic compounds that are harmful or hazardous to aquatic life.

6.2.5 Trash and Debris

Trash (such as paper, plastic, polystyrene packing foam, and aluminum materials) and biodegradable organic matter (such as leaves, grass cuttings, and food waste) are general waste products on the landscape. The presence of trash and debris may have a significant impact on the recreational value of a water body and aquatic habitat. Excess organic matter can create a high biochemical oxygen demand in a stream and thereby lower its water quality. Also, in areas where stagnant water exists, the presence of excess organic matter can promote septic conditions resulting in the growth of undesirable organisms and the release of odorous and hazardous compounds such as hydrogen sulfide.

6.2.6 Oxygen-Demanding Substances

This category includes biodegradable organic material as well as chemicals that react with dissolved oxygen in water to form other compounds. Proteins, carbohydrates, and fats are examples of biodegradable organic compounds. Compounds such as ammonia and hydrogen sulfide are examples of oxygen-demanding compounds. The oxygen

demand of a substance can lead to depletion of dissolved oxygen in a water body and possibly the development of septic conditions.

6.2.7 Oil and Grease

Oil and grease are characterized as high-molecular weight organic compounds. The primary sources of oil and grease are petroleum hydrocarbon products, motor products from leaking vehicles, esters, oils, fats, waxes, and high molecular-weight fatty acids. Introduction of these pollutants to the water bodies are very possible due to the wide uses and applications of some of these products in municipal, residential, commercial, industrial, and construction areas. Elevated oil and grease content can decrease the aesthetic value of the water body, as well as the water quality.

6.2.8 Bacteria and Viruses

Bacteria and viruses are ubiquitous microorganisms that thrive under certain environmental conditions. Their proliferation is typically caused by the transport of animal or human fecal wastes from the watershed. Water containing excessive bacteria and viruses can alter the aquatic habitat and create a harmful environment for humans and aquatic life. Also, the decomposition of excess organic waste causes increased growth of undesirable organisms in the water.

6.2.9 Pesticides

Pesticides (including herbicides) are chemical compounds commonly used to control nuisance growth of organisms. Excessive application of a pesticide may result in runoff containing toxic levels of its active component.

6.3 PRIMARY POLLUTANTS OF CONCERN

Primary pollutants of concern are pollutants that correspond to Clean Water Act section 303(d) impairment of the receiving waters of the project and may aggravate the identified impairment(s). Table 6-2 summarizes these primary pollutants of concern and the treatment control BMPs applied to the project site that target them (see Section 10 for more information).

Table 6-26-2 Primary Pollutants of Concern versus BMP Matrix

Condition of Concern (Impairments)	Primary Pollutants of Concern (Potential Aggravating Pollutant Sources)	Permanent Best Management Practice(s)
NONE		

According to the California 2006 303(d) list published by the San Diego Regional Water Quality Control Board (RWQCB Region 9), the receiving waters for the site, The Otay River, has no currently recorded impairments. Otay River discharges into San Diego Bay, which is ~~impaired~~ impaired for PCBs. ~~Bacteria and~~ PCBs (polychlorinated biphenyls) were used in manufacturing processes for capacitors, transformers, and some sealants prior to 1979, but are no longer produced in the United States. Current sources are limited to redistribution of PCBs already in soil and water, or small amounts released to the air from waste disposal sites containing transformers, capacitors and other PCB-containing products produced prior to 1979. PCBs are not anticipated pollutants for this

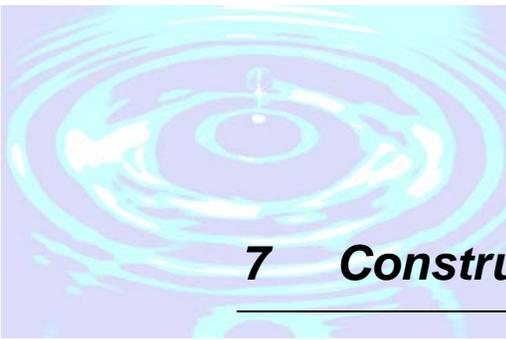
project and therefore not primary pollutants of concern. Table 3-1 summarizes the receiving waters and their classification by the RWQCB Region 9.

6.4 SECONDARY POLLUTANTS OF CONCERN

Pollutants that are anticipated from the project, but are not correlated to receiving water impairments are considered secondary pollutants of concern. Table 7-3 summarizes the secondary pollutants of concern and the treatment control BMPs applied to the project site that target them (see Section 10 for more information).

Table 6-36-3 Secondary Pollutants of Concern versus BMP Matrix

Anticipated Pollutants	Potential Aggravating Pollutant Source(s)	Permanent Best Management Practice(s)
Heavy Metals	Parking	Vegetated Swale
Trash and Debris	Parking	Vegetated Swale
Oils and Grease	Parking	Vegetated Swale
Sediments	Landscaping	Vegetated Swale
Nutrients	Landscaping	Vegetated Swale
Oxygen Demanding Substances	Landscaping	Vegetated Swale
Pesticides	Landscaping	Vegetated Swale



7 Construction BMPs

Best management practices to prevent, reduce, or treat storm water pollution will be implemented during the construction phase of the project. Table 7-1 and Table 7-2 (next pages) summarize the Construction BMPs that will be used for the project. The applicant is responsible for the placement and maintenance of the BMPs selected.

Because the project site is larger than one acre in size, a full Storm Water Pollution Prevention Plan for Construction Activities (SWPPP) will be developed for the project under separate cover from this WQTR. Please reference the SWPPP and erosion control plans for additional construction-phase BMP information.

Table 7-17-4 Minimum Required Construction BMPs

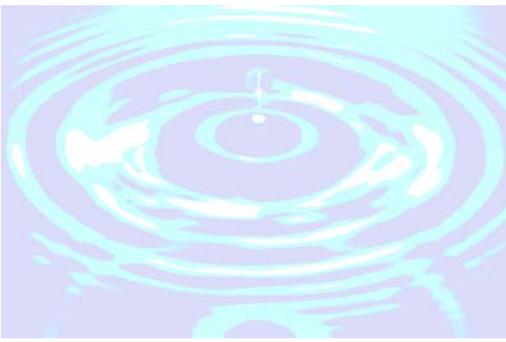
Minimum Required Best Management Practices (BMPs)	Caltrans Stormwater Handbook Reference Detail	BMP Selected	Explanation (If No BMP Selected)
<i>Step 1 Select Erosion Control method for graded Slopes (choose at least one)</i>			
Vegetation Stabilization Planting (see note 1)	SS-2 SS-4	<input checked="" type="checkbox"/>	
Hydraulic Stabilization Hydroseeding (see note 1)	SS-3 SS-4	<input type="checkbox"/>	
Bonded Fiber Matrix (see note 2)	SS-4	<input type="checkbox"/>	
Physical Stabilization / Erosion Control Blanket (see note 2)	SS-7	<input type="checkbox"/>	
<i>Step 2 Select Erosion Control Method for Graded Flat Areas (Slope < 5%) (Choose at Least One)</i>			
Will use above Slope Control measures on flat areas also	SS-2,3,4,7	<input checked="" type="checkbox"/>	
Mulch, straw, wood chips, soil application	SS-6 SS-8	<input checked="" type="checkbox"/>	
De-silting Basin (must treat all site runoff)	SC-2	<input type="checkbox"/>	
<i>Step 3 If runoff is concentrated, velocity must be controlled using energy dissipater</i>			
Energy Dissipater Outlet Protection (see note 3)	SS-10	<input checked="" type="checkbox"/>	
<i>Step 4 Select Sediment Control method for all disturbed areas (choose at least one)</i>			
Silt Fence	SC-1	<input checked="" type="checkbox"/>	
Straw Wattles	SC-5	<input type="checkbox"/>	
Gravel Bags	SC-6 & 8	<input checked="" type="checkbox"/>	
Storm Drain Inlet Protection	SC-10	<input checked="" type="checkbox"/>	
De-silting Basin (sized for 10-year flow)	SC-2	<input type="checkbox"/>	
<i>Step 5 Select method for preventing offsite tracking of sediment (choose at least one)</i>			
Stabilized Construction Entrance	TC-1	<input checked="" type="checkbox"/>	
Construction Road Stabilization	TC-2	<input type="checkbox"/>	
Entrance/Exit Tire Wash	TC-3	<input type="checkbox"/>	
Entrance/Exit Inspection & Cleaning Facility	-	<input type="checkbox"/>	
<i>Step 6 Select the General Site Management BMPs for each waste that will be on site</i>			
Materials Management / Material Delivery & Storage	WM-1	<input checked="" type="checkbox"/>	
Waste Management / Concrete Waste Management	WM-8	<input checked="" type="checkbox"/>	
Solid Waste Management	WM-5	<input checked="" type="checkbox"/>	
Sanitary Waste Management	WM-9	<input checked="" type="checkbox"/>	
Hazardous Waste Management	WM-6	<input checked="" type="checkbox"/>	

Notes:

1. When Planting or Hydroseeding are selected for erosion control, the vegetative cover must be planted by August 15th and established by October 1st. If in the opinion of the City Official the vegetative cover is not established by October 1st, additional hydraulic or physical erosion control BMPs will be required.
2. These BMPs are temporary measures only when used without planting or hydroseeding. All slopes must have established vegetative cover prior to final grading approval.
3. Regional Standard Drawing D-40 - Rip Rap Energy Dissipater is also acceptable for velocity reduction.
4. Not all grading projects will have every waste identified. The applicant is responsible for identifying wastes that will be on-site and applying the appropriate BMP. For example, if concrete will be used, BMP WM-8 should be selected.

Table 7-27-2 Additional Construction BMPs

Best Management Practices (BMPs)	Caltrans Stormwater Handbook Detail	BMP Selected
EROSION CONTROL		
Site Development Considerations		
Scheduling	SS-1	<input checked="" type="checkbox"/>
Preservation of Existing Vegetation	SS-2	<input checked="" type="checkbox"/>
Other (submit description for approval)		<input type="checkbox"/>
Vegetation Stabilization		
Vegetation Buffer Strips	SS-2	<input type="checkbox"/>
Physical Stabilization		
Dust Control	WE-1	<input checked="" type="checkbox"/>
Soil Stabilizers	SS-5	<input type="checkbox"/>
DIVERSION OF RUNOFF		
Earthen Dikes	SS-9	<input type="checkbox"/>
Ditches and Berms	SS-9	<input type="checkbox"/>
Slope Drains	SS-11	<input type="checkbox"/>
Temporary Drains & Swales	SS-9	<input checked="" type="checkbox"/>
VELOCITY REDUCTION		
Check Dams	SC-4	<input type="checkbox"/>
Slope Terracing	-	<input type="checkbox"/>
SEDIMENT CONTROL		
Brush or Rock Filter	-	<input type="checkbox"/>
Sediment Trap	SC-3	<input type="checkbox"/>
Sediment Basin	SC-2	<input type="checkbox"/>
GENERAL SITE MANAGEMENT		
Employee & Subcontractor Training	-	<input checked="" type="checkbox"/>
<i>Materials Management</i>		
Spill Prevention & Control	WM-4	<input checked="" type="checkbox"/>
<i>Waste Management</i>		
Contaminated Soil Management	WM-7	<input type="checkbox"/>
<i>Vehicle and Equipment Management</i>		
Vehicle & Equipment Cleaning	NS-8	<input checked="" type="checkbox"/>
Vehicle & Equipment Fueling	NS-9	<input checked="" type="checkbox"/>
Vehicle & Equipment Maintenance	NS-10	<input checked="" type="checkbox"/>
<i>Construction Practices</i>		
Water Conservation	NS-1	<input checked="" type="checkbox"/>
Structure Construction & Painting	-	<input checked="" type="checkbox"/>
Paving Operations	NS-3	<input checked="" type="checkbox"/>
Dewatering Operations	NS-2	<input type="checkbox"/>





8 LID Site Design BMPs

LID Site design BMPs aim to conserve natural areas and minimize impervious cover, especially impervious areas ‘directly connected’ to receiving waters, in order to maintain or reduce increases in peak flow velocities from the project site. The project has incorporated LID site design BMPs to the maximum extent possible. This section summarizes the selection and application of LID site design BMPs on the project site, as found in the City of San Diego Storm Water Standards, Section III-2B-AI, Low Impact Development (LID) BMPs.

8.1 LID SITE DESIGN BMP SELECTION MATRIX

SITE DESIGN BMP OPTION		YES	NO	N/A	EXPLANATION
1.	Minimize impervious footprint. (1) Increase building density (number of stories above or below ground); (2) construct walkways, trails, patios, overflow parking lots and alleys and other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials; (3) construct streets, sidewalks and parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised; and (4) minimize the use of impervious surfaces, such as decorative concrete, in the landscaped design.	✓			<u>Improvements for parking are aggregate base rather than pavement, and new pavement has been limited to the bike path.</u>

¹ Explanation is only required if “NO” or “N/A” is indicated; if YES is checked, it is assumed that the measure was used for this project.

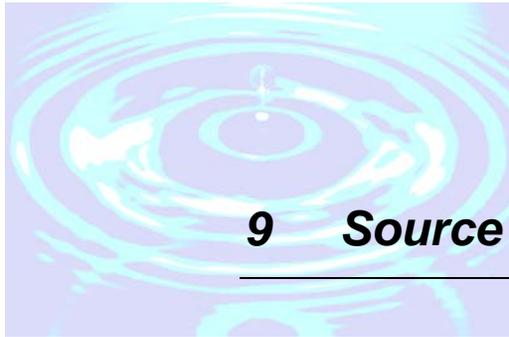
SITE DESIGN BMP OPTION		YES	NO	N/A	EXPLANATION
2.	Conserve natural areas and provide buffer zones between natural water bodies and the project footprint. (1) Concentrate or cluster development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition; and (2) Use natural drainage systems to the maximum extent practicable (natural drainage and vegetated swales are preferred over using lined channels or underground storm drains.	✓			<u>The existing buffer zones between the Otay River and the Imperial Beach maintenance yard are unchanged. The site drainage pattern is largely unchanged, with the majority of the site draining into the swale.</u>
3.	Minimize Directly Connected Impervious Areas. (1) Where landscaping is proposed, drain rooftops into adjacent landscaping prior to discharging to the storm water conveyance system; and (2) where landscaping is proposed, drain impervious parking lots, sidewalks, walkways, trails, and patios into adjacent landscaping.	✓			<u>Roof drains will discharge to grass areas, and a portion of the site will drain to a vegetated swale prior to leaving the site.</u>
4.	Maximize canopy interception and water conservation. (1) Preserve existing native trees and shrubs; and (2) plan additional native or drought tolerant trees and large shrubs in place of non-drought tolerant exotics.	✓			<u>The vegetated swale and aggregate are both permeable, permitting infiltration and ground water recharge. To the maximum extent practicable natural vegetated areas have been preserved.</u>

8.2 LID BMPS FOR PROJECTS WITHIN CHANNELS

The following decision matrix must be completed for projects that include work within channels.

ITEM	CRITERIA	YES	NO	N/A	EXPLANATION
5.	Convey runoff safely from tops of slopes.	✓			<u>The majority of natural slopes on the project site are 4H:1V and very short.</u>
6.	Vegetate slopes with native or drought tolerant vegetation.	✓			<u>Slopes will be vegetated with grasses and native plants that do not require irrigation.</u>
7.	Stabilize permanent channel crossings.			✓	There are no channel crossings
8.	Install energy dissipaters, such as riprap, at outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to the receiving waters.	✓			<u>Riprap has been incorporated at the upstream and downstream limits of the vegetated swale to prevent erosion and minimize impacts to receiving waters.</u>

|



9 Source Control BMPs

Source-control BMPs are activities, practices, and procedures (primarily non-structural) that are designed to prevent urban runoff pollution. These measures either reduce the amount of runoff from the site or prevent contact between potential pollutants and storm water. Also, source-control BMPs are often the best method to address non-storm (dry-weather) flows. The following table lists source-control BMP alternatives and indicates the practices that will be applied at the project site.

9.1.1 Source Control BMP Selection Matrix

SOURCE CONTROL BMP OPTION		YES	NO	N/A	EXPLANATION
1.	Storm Drain System Stenciling and Signage				
	1.a. All storm drain inlets and catch basins within the project area shall have a stencil or tile placed with prohibitive language and/or graphical icons to discourage illegal dumping.	✓	✗		<u>There is no concrete apron around the grate inlet to provide adequate room for a tile or stenciling. The site plan recommends stenciling the existing storm drain inlet in the existing parking lot (if not already stenciled).</u>
	1.b. Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.	✓			<u>Appropriate signs prohibiting illegal dumping will be posted at all appropriate public access points along creeks or channels within the project area.</u>
2.	Outdoor Material Storage Areas				

¹ Explanation is only required if "NO" or "N/A" is indicated; if YES is checked, it is assumed that the measure was used for this project.

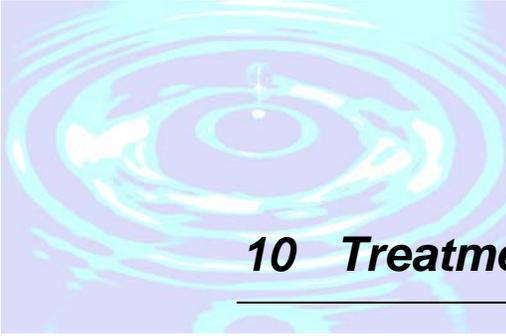
SOURCE CONTROL BMP OPTION		YES	NO	N/A	EXPLANATION
2.a.	Hazardous materials with the potential to contaminate urban runoff shall either be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.	✓			<u>Storage areas are three-sided structures; the entrance to each storage area will be protected with fiber rolls or similar that prevent materials from erosion or spillage to a stormwater conveyance system.</u>
2.b.	The storage area shall be paved and sufficiently impervious to contain leaks and spills.	✓			<u>Storage areas will be paved.</u>
2.c.	The storage area shall have a roof or awning to minimize direct precipitation within the secondary containment area.	✗	✓		<u>Storage areas do not have roofs. Runoff may drain from the storage area, but fiber rolls or similar prevent erosion or displacement of stored materials.</u>
3.	Trash Storage Areas				
3.a	Paved with an impervious surface, designed not to allow run-on from adjoining areas, screened or walled to prevent off-site transport of trash; or,	✓			<u>Trash storage areas will be paved.</u>
3.b.	Provide attached lids on all trash containers that exclude rain, or roof or awning to minimize direct precipitation.	✓			<u>Containers for trash will have plastic lids that prevent direct precipitation. Larger containers for large debris are not similarly protected.</u>
4.	Efficient Irrigation Systems and Landscape Design The following methods to reduce excessive irrigation runoff shall be considered, and incorporated and implemented where determined applicable and feasible.			✓	<u>There is no irrigation proposed for this site.</u>
4.a	Employing rain shutoff devices to prevent irrigation after precipitation.	✗			
4.b.	Designing irrigation systems to each landscape area's specific water requirements.	✗			
4.c.	Using flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.	✗			
4.d.	Employing other comparable, equally effective, methods to reduce irrigation water runoff.	✗			It is unclear at this time what type of irrigation system the landscape architect plans to use, however, it can be safely assumed measures will be taken to address over watering and ensure efficiency.

SOURCE CONTROL BMP OPTION		YES	NO	N/A	EXPLANATION
5.	Private Roads The design of private roadway drainage shall use at least one of the following:			✓	There are no proposed private roads.
	5.a. Rural swale system: street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings.				
	5.b. Urban curb/swale system: street slopes to curb, periodic swale inlets drain to vegetated swale/biofilter.				
	5.c. Dual drainage system: First flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder, high flows connect directly to storm water conveyance system.				
	5.d. Other methods that are comparable and equally effective within the project.				
6.	Residential Driveways & Guest Parking The design of driveways and private residential parking areas shall use one at least of the following features.			✓	There are no residential driveways or parking proposed.
	6.a. Design driveways with shared access, flared (single lane at street) or wheelstrips (paving only under tires); or, drain into landscaping prior to discharging to the storm water conveyance system.				
	6.b. Uncovered temporary or guest parking on private residential lots may be: paved with a permeable surface; or, designed to drain into landscaping prior to discharging to the storm water conveyance system.				
	6.c. Other features which are comparable and equally effective.				
7.	Dock Areas Loading/unloading dock areas shall include the following.			✓	No loading/unloading dock area is proposed.
	7.a. Cover loading dock areas, or design drainage to preclude urban run-on and runoff.	✓			
	7.b. Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.			✓	No storm drain proposed.

SOURCE CONTROL BMP OPTION		YES	NO	N/A	EXPLANATION
	7.c. Other features which are comparable and equally effective.			✗	See above
8.	Maintenance Bays			✓	The project does not include any new maintenance bays.
	8.a. Repair/maintenance bays shall be indoors; or, designed to preclude urban run-on and runoff.				
	8.b. Design a repair/maintenance bay drainage system to capture all wash water, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.				
	8.c. Other features which are comparable and equally effective.				
9.	Vehicle Wash Areas Priority projects that include areas for washing/steam cleaning of vehicles shall use the following.			✓	The project does not include any new vehicle wash areas.
	9.a. Self-contained; or covered with a roof or overhang.				
	9.b. Equipped with a clarifier or other pretreatment facility.				
	9.c. Properly connected to a sanitary sewer.				
	9.d. Other features which are comparable and equally effective.				
10.	Outdoor Processing Areas Outdoor process equipment operations, such as rock grinding or crushing, painting or coating, grinding or sanding, degreasing or parts cleaning, waste piles, and wastewater and solid waste treatment and disposal, and other operations determined to be a potential threat to water quality by the City shall adhere to the following requirements.			✓	The project does not include any new outdoor processing areas.

SOURCE CONTROL BMP OPTION		YES	NO	N/A	EXPLANATION
	10.a. Cover or enclose areas that would be the most significant source of pollutants; or, slope the area toward a dead-end sump; or, discharge to the sanitary sewer system following appropriate treatment in accordance with conditions established by the applicable sewer agency.				
	10.b. Grade or berm area to prevent run-on from surrounding areas.				
	10.c. Installation of storm drains in areas of equipment repair is prohibited.				
	10.d. Other features which are comparable or equally effective.				
11.	Equipment Wash Areas Outdoor equipment/accessory washing and steam cleaning activities shall be:			✓	The project does not include any new equipment wash areas.
	11.a. Be self-contained; or covered with a roof or overhang.				
	11.b. Be equipped with a clarifier, grease trap or other pretreatment facility, as Appropriate				
	11.c. Be properly connected to a sanitary sewer.				
	11.d. Other features which are comparable or equally effective.				
12.	Parking Areas The following design concepts shall be considered, and incorporated and implemented where determined applicable and feasible by the City.				
	12.a. Where landscaping is proposed in parking areas, incorporate landscape areas into the drainage design.	✓		✓	<u>No landscaping is proposed in association with the new parking area.</u>
	12.b. Overflow parking (parking stalls provided in excess of the City's minimum parking requirements) may be constructed with permeable paving.	✓			<u>The proposed parking area is proposed as aggregate base, which is permeable.</u>
13.	Fueling Areas Non-retail fuel dispensing areas shall contain the following.			✓	The project does not include any new fueling areas.

SOURCE CONTROL BMP OPTION		YES	NO	N/A	EXPLANATION
13.a.	Overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area. The fueling area shall drain to the project's treatment control BMP(s) prior to discharging to the storm water conveyance system.				
13.b.	Paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete shall be prohibited.				
13.c.	Have an appropriate slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of urban runoff.				
13.d.	At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.				
OTHER SOURCE CONTROL BMPs					
	Avoid disturbing steep or unstable slopes	✓			<u>Most slopes within the project will be graded to 4H:1V. The most prominent existing sloped feature on the site is the westerly loading ramp, which will be removed in its entirety; hence, there is no danger of slope failure associated with the ramp removal. No other steep or unstable slopes exist.</u>



10 Treatment Control BMPs

Post-construction “treatment control” storm water management BMPs provide treatment for storm water emanating from the project site. Implementation of NPDES General Permit requirements entails the use of post-construction BMPs that will remain in service to protect water quality throughout the life of the project. Structural BMPs are an integral element of post-construction storm water management and include storage, filtration, and infiltration practices. BMPs have varying degrees of effectiveness versus different pollutants of concern as identified in Table 10-1.

10.1 SELECTION OF TREATMENT CONTROL BMPS

The selection, design and siting of structural BMPs within a project depend largely on the project-wide drainage plan. BMP alternatives were evaluated for their relative effectiveness for treating potential pollutants from the project site (Table 6_1); technical feasibility; relative costs and benefits; and applicable legal, institutional, and other constraints. Table 10-6 lists treatment-control BMP alternatives and identifies the BMPs selected for the project site.

The Treatment Control BMPs have been chosen based on this Selection Matrix, comparing the list of pollutants for which the downstream receiving waters are impaired (if any) (Table 3_1), with the pollutants anticipated to be generated by the project (as identified in Table 6_1).

Any pollutants identified by Table 6_1 that correspond to a Clean Water Act section 303(d) impairment of the receiving waters of the project, are considered primary pollutants of concern. Table 6_2 summarizes these primary pollutants of concern.

10.1.1 When There are Primary Pollutants of Concern

Priority projects that are anticipated to generate primary pollutants of concern shall select a single or combination of stormwater BMPs from **Table 10-1**, which **maximizes pollutant removal** for the particular primary pollutant(s) of concern. Maximizing pollutant removal generally implies the selection of a BMP with a high removal efficiency for the pollutant(s) of concern, or a “treatment train” of BMPs with low or medium removal efficiencies for the pollutant(s) of concern that will maximize the removal of primary pollutant(s) of concern.

10.1.2 When There are No Primary Pollutants of Concern

Priority projects that are **not** anticipated to generate a pollutant for which the receiving water is Clean Water Act Section 303(d) impaired (i.e., with no primary pollutants of concern, see Section 6.4) shall select a single or combination of stormwater BMPs from

Table 10-1, which are effective for pollutant removal of the identified secondary pollutants of concern, consistent with the “maximum extent practicable” standard.

Table 10-1-1 Summary of Treatment Control BMP Categories

Pollutants of Concern	Bioretention Facilities (LID)	Settling Basins (Dry Ponds)	Wet Ponds and Wetlands	Infiltration Facilities or Practices (LID)	Media Filters	High-rate biofilters	High-rate media filters	Trash Racks & Hydro-dynamic Devices
Coarse Sediment and Trash	High	High	High	High	High	High	High	High
Pollutants that tend to associate with fine particles during treatment	High	High	High	High	High	Medium	Medium	Low
Pollutants that tend to be dissolved following treatment	Medium	Low	Medium	High	Low	Low	Low	Low

Pollutant	Coarse Sediment and Trash	Pollutants that tend to associate with fine particles during treatment	Pollutants that tend to be dissolved following treatment
Sediment	X	X	
Nutrients		X	X
Heavy Metals		X	
Organic Compounds		X	
Trash & Debris	X		
Oxygen Demanding		X	
Bacteria		X	
Oil & Grease		X	
Pesticides		X	

10.2 TREATMENT CONTROL BMP PROGRAM

Treatment control BMPs address runoff from all developed areas on the project site. Table 10-2 describes the treatment control BMPs for the project, where they are located, and the water quality flow rates (Q_{WQ}) treated. The treatment BMP program consists of a vegetated swale and an existing grate inlet filter insert. Attachment D illustrates the location of the BMPs.

Table 10-2-1 Summary of Treatment Control BMP Location and Sizing
Locations shown on Treatment BMP Location Map (Attachment D)

Location	BMP Type	Tributary Area (acre)	Q_{WQ} (cfs)
South side of western end of project	Vegetated Swale	9.65	1.24
Middle northern portion of the site	Existing Grate Inlet Filter Insert W/ Proposed Oil Absorbent Pouches	0.19	0.03

10.3 TREATMENT CONTROL BMP SELECTION

Table 10-3 describes the treatment control BMPs for the project and explains why they were (or were not) selected.

Table 10-310-3 Treatment Control BMP Selection Summary

TREATMENT CONTROL BMP OPTION		YES	NO	N/A	EXPLANATION
1.	Biofilters				
	1.a. Grass Swale(s)	✓			The existing channel lends itself to a grass swale.
	1.b. Grass Strip(s)		✓		Site configuration lends itself to grass swales rather than strips.
	1.c. Wetland Vegetation Swale(s)		✓		Not feasible to implement wetland vegetation swale given site constraints absence of perennial low flow, and general arid climate.
	1.d. Bio-retention Area(s)		✓		Not feasible to implement bio-retention areas given site constraints
2.	Detention Basins				
	2.a. Extended Dry Detention w/ Grass Lining		✓		Site configuration lends itself to grass swales rather than basins.
	2.b. Extended Dry Detention Basin(s) w/ Impervious Lining		✓		See above.
3.	Infiltration Measures				
	3.a. Infiltration Basin(s)		✓		Site constraints such as moderate permeable soil conditions prevent effective implementation of infiltration basins.
	3.b. Infiltration Trench(es)		✓		See above.
	3.c. Porous Asphalt		✓		Traffic volumes, maintenance issues, fire department restrictions may preclude use of porous asphalt on roadways.
	3.d. Porous Concrete		✓		See above.

TREATMENT CONTROL BMP OPTION		YES	NO	N/A	EXPLANATION
3.e	Porous Modular Concrete Block		✓		See above.
4.	Wet Ponds or Wetlands				
4.a	Wet Detention Pond or Basin w/ Permanent Pool		✓		Not feasible to implement wetland with permanent pool due to site constraints such as steep slopes, absence of perennial low flow, and general arid climate conditions. Wetlands would likely require public maintenance funding and might generate attractive nuisance and safety issues.
4.b.	Constructed Wetland		✓		See above.
5.	Drainage Inserts*				
5.a.	Oil/Water Separator(s)		✓		No storm drain proposed for the site.
5.b	Catch Basin Insert(s)	✓			An existing catch basin insert will filter flows generated from the building expansion will be equipped with oil absorbent pouches.
5.c.	Storm Drain Inserts		✓		No storm drain proposed for the site.
5.d.	Catch Basin Screens		✓		See above.
6.	Filtration Practices				
6.a.	Media Filtration		✓		For most locations site constraints preclude effective implementation of media filtration devices or sand filters on the site. Vegetated swales are more cost-effective.
6.b.	Sand Filtration		✓		See above
7.	Hydrodynamic Separator(s)				
7.a.	Swirl Concentrator(s)		✓		No storm drain proposed for the site.
7.b.	Cyclone Separator(s)		✓		See above.
7.c.	Baffle Separators		✓		See above.

TREATMENT CONTROL BMP OPTION		YES	NO	N/A	EXPLANATION
7.d.	Gross Solids Removal Devices (GSRDs)		✓		See above.
7.e.	Linear Radial Device		✓		See above.

10.4 TREATMENT CONTROL BMP DESIGN

Treatment control BMPs have been designed following criteria and methodology from the County of San Diego Hydrology Manual (2003), Drainage Design Manual (2005), and Storm Water Standards (2002) as appropriate for the project site. Attachment E provides detailed descriptions and design calculations of the water quality treatment control BMPs applied to the project site.

The Vegetated Swale was designed using 0.2 inches per hour as shown in Attachment E (the existing grate inlet insert filter was analyzed using the same data).

The Vegetated Swale was analyzed using the tributary area to calculate the 85th percentile flowrate, which was then input into FlowMaster along with the proposed geometry to calculate velocity. The velocity was then used to calculate the length required (L Required) to achieve the necessary 10 minute residence time. The length required was then compared to the length provided (L Provided). The swale:

- Conveys the 85th percentile flow at a depth not greater than 1/3 of a foot.
- Has longitudinal slope less than 2.5%.
- Has a trapezoidal cross section.
- Has a length greater than 100 feet.
- Has a Hydraulic residence time greater than 10 minutes.

The existing grate inlet filter insert was analyzed using the tributary area to calculate the 85th percentile flowrate, which was then compared to the manufacturer's maximum treatment flowrate.

All design data, analyses and results are contained in Attachment E.



11 Maintenance

11.1 FISCAL RESOURCES

The existing grate inlet filter insert is currently being maintained by the city, and will continue to be in the future. The new vegetated swale and concrete channel will also be maintained by the city.

11.2 MAINTENANCE PROGRAM

The effectiveness of this WQTR relies on the maintenance of the storm water Best Management Practices (BMPs) proposed for the project. **Attachment F** summarizes the maintenance plan for the care and upkeep of BMPs on the project site, including frequency or maintenance indicators, and the type of maintenance required.

11.3 CONSTRUCTION, OPERATION, AND MAINTENANCE COST

This section provides a cost estimate for the construction and maintenance of the post-construction BMPs proposed for the project site. Table 11-2 summarizes the estimated annual BMP operation and maintenance costs for the project.

The CASQA BMP Handbook states that for Vegetated Swales (TC-30), construction costs are approximately \$0.50 per square foot and O & M costs are approximately \$0.75 per linear foot (see TC-30 in Attachment E).

The manufacturer of the Filter Insert Oil Absorbent Pouches (boom of absorbent media) recommends that the boom be changed 4 times a year at a cost of \$25 each.

Table 11-144-4 Summary of Estimated Annual BMP Operation and Maintenance Costs – Private Maintenance

BMP Type	Location	Estimated Construction Cost*	Estimated Annual O&M Cost*
Vegetated Swale	WESTERN PORTION OF SITE	\$3,420	\$215
Filter Insert Oil Absorbent Pouches	NORTHERN PORTION OF SITE	\$25	\$100
TOTAL		\$3,445	\$315

Location shown on Treatment BMP Location Map (Attachment D)

**Based upon CASQA methodology*

NOTE: Existing insert is already in-place and maintenance will continue unchanged.

11.4 OTHER MAINTENANCE CONSIDERATIONS

Aside from the maintenance program resources required to fulfill maintenance requirements, there are several other maintenance aspects and activities to consider.

11.4.1 Waste Disposal

Sediment and other pollutants shall be properly disposed of in a landfill or by another appropriate disposal method in accordance with local, state, and federal regulations. All construction waste shall be disposed of off-site in accordance with local, state, and Federal regulations. Interim storage and disposal of these wastes shall also be in accordance with the best management practices outlined in the Storm Water Pollution Prevention Plan for Construction Activities developed for the site.

11.4.2 Best Management Practices for Maintenance Activities

Maintenance of the BMPs often requires activities like grading and the use of equipment that in themselves present a potential pollutant source. The BMPs required to address these potential pollutant sources are similar to those found in Stormwater Pollution Prevention Plans for Construction Activities (SWPPPs). Table 11-2 summarizes the BMPs that may be implemented during typical BMP maintenance activities, which usually include minor grading and other construction activities over a short duration of time outside of the rainy season.

Table 11-211-2 Typical BMPs for BMP Maintenance Activities

Soil Stabilization BMPs	Waste Management BMPs
Scheduling (SS-1)	Material Delivery and Storage (WM-1)
Preservation of Existing Vegetation (SS-2)	Material Use (WM-2)
Tracking Control BMPs	Stockpile Management (WM-3)
Stabilized Construction Access (TC-1)	Spill Prevention and Control (WM-4)
Non-Storm Water Management BMPs	Solid Waste Management (WM-5)
Illicit Connection/Discharge Detection/Reporting (NS-6)	Hazardous Waste Management (WM-6)
Vehicle and Equipment Cleaning (NS-8)	Contaminated Soil Management (WM-7)
Vehicle and Equipment Fueling (NS-9)	Sanitary Waste Management (WM-9)
Vehicle and Equipment Maintenance (NS-10)	Liquid Waste Management (WM-10)



12 Design Criteria

This section summarizes the design criteria and methodology applied during drainage analysis of the project site.

12.1 VOLUME-BASED WATER QUALITY NUMERIC SIZING CRITERIA

Volume-based BMPs are designed to capture and treat the most frequent storm events. Volume-based BMPs include extended detention basins, wet detention basins, and water quality treatment wetlands.

The San Diego Regional Water Quality Control Board (RWQCB Region 9) has defined the sizing criteria for volume-based Best Management Practices as:

The volume of runoff produced from each and every storm event up to and including a historical record-based reference 24-hour rainfall criterion for treatment (0.6 inch approximate average for the San Diego County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour event.

A 24-hour, 0.6-inch rainfall has a return frequency of less than one year. The 85th percentile 24-hour event criterion was used for sizing the volume-based water quality treatment controls within the project site.

12.2 FLOW-BASED WATER QUALITY NUMERIC SIZING CRITERIA

Flow-based BMPs are sized to filter or otherwise treat the peak flow of runoff from a stormwater quality storm event. Flow-based BMPs include vegetated filter strips and swales.

The San Diego RWQCB has defined the design discharge for flow-based BMPs as the runoff generated from a storm with a rainfall intensity of 0.2 inch/hour. Hydrologic Design Methodology



13 CEQA Summary

This section summarizes the results of the Water Quality Technical Report (WQTR) in the context of CEQA significance guidelines.

13.1 WATER QUALITY

13.1.1 Waste Discharge Requirements

Does the project violate any waste discharge requirements?

The project is not anticipated to violate any waste discharge requirements. During construction of the project, a Storm Water Pollution Prevention Plan for Construction Activities (SWPPP) will ensure proper storm water control, minimizing or eliminating storm water contact with potential pollutants and the discharge of polluted storm water from the site. The SWPPP will be in compliance with the requirements of the State Water Resources Control Board (SWRCB) General Permit for Construction Activities (Construction Permit). The project applicant will file a Notice of Intent that demonstrates their intent to comply with all requirements of the Construction Permit.

After construction, activities on the project site will not involve the discharge of municipal or sanitary waste to surface waters, and the project does not propose non-storm water discharges that might require authorization by the Regional Water Quality Control Board (RWQCB).

Storm water management on the site will comply with RWQCB Municipal NPDES Permit requirements, including the incorporation of site design, source control, and treatment control Best Management Practices (BMPs).

13.1.2 303(d) Impairments

Is the project tributary to an already impaired water body, as listed on the Clean Water Act Section 303(d) list? If so, could the project result in an increase in any pollutant for which the water body is already impaired?

Yes. The project is tributary to a water body listed as impaired on the CWA Section 303(d) list (San Diego Bay).

13.1.3 Polluted Runoff

Would the project provide substantial additional sources of polluted runoff?

No. The project does not represent a substantial additional source of polluted runoff. The project represents less than one percent of the local hydrologic sub area. The project includes site design and source control BMPs to prevent the generation of potential pollutants and to prevent exposure of storm water to pollutants. In addition, the project

includes treatment control BMPs to treat polluted storm water runoff to the maximum extent practicable before it exits the site.

13.1.4 Water Quality Objectives

Could the proposed project cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?

The project is not anticipated to cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses. The project includes site design and source control BMPs to prevent the generation of potential pollutants and to prevent exposure of storm water to pollutants. In addition, the project includes treatment control BMPs to treat polluted storm water runoff to the maximum extent practicable before it exits the site.



14 Hydrology Study

The hydrology study describes the effects of the proposed renovations to the Imperial Beach Public Works Yard on the quantity and pattern of storm water runoff in the local watershed.

This section examines the proposed hydrology of the site and nearby watershed and presents preliminary design of drainage facilities. This analysis is for planning purposes and does not present final design engineering recommendations for the project.

14.1 DESIGN CRITERIA

Rational Method

Runoff calculations for this study were accomplished using the Rational Method. The Rational Method is a physically-based numerical method where runoff is assumed to be directly proportional to rainfall and area, less losses for infiltration and depression storage. Flows were computed based on the Rational formula:

$$Q = C i A$$

where ...

- Q = Peak discharge (cfs);
- C = runoff coefficient, based on land use and soil type;
- i = rainfall intensity (in/hr);
- A = watershed area (acre)

The runoff coefficient represents the ratio of rainfall that runs off the watershed versus the portion that infiltrates to the soil or is held in depression storage. The runoff coefficient is dependent on the land use coverage and soil type. The project site is made up of Soil Type D for all soils see Section 3.9 of this report.

For a typical drainage study, rainfall intensity varies with the watershed time of concentration. The watershed time of concentration at any given point is defined as the time it would theoretically take runoff to travel from the most upstream point in the watershed to a concentration point, as calculated by equations in the San Diego County Hydrology Manual as appropriate.

Rainfall intensity was calculated using the intensity-duration chart and formula found in the San Diego County Hydrology Manual.

Channel Flow

The channel flow was analyzed using the computer program Flowmaster. The channel sections are input along with the longitudinal slope, n value, and flow. Using Manning's

Equation, Flowmaster calculates normal depth along with channel velocity. The results are shown in Attachment G.

14.2 PEAK RUNOFF

As shown in the tables below, the project will create a slight increase in the peak 2-, 10-, and 100-year discharge from the site at Node 200 (See hydrology maps for node locations and drainage areas) due to the slight increase in impervious area as shown in Table 1-2 and a small amount of additional on-site area flowing to the proposed swale/channel as a result of the final grading scheme. The peak discharge at Node 300 remains unchanged from pre- to post-development because the overall area and percent impervious remain unchanged. Node 100 is an intermediate node that was used to calculate the flow entering the existing and proposed channels from the offsite areas to the south of the site. The flow at Node 100 remains unchanged from pre- to post-development because the offsite areas draining to Node 100 remain the same. The following table summarizes the hydrologic conditions in terms of peak runoff to each node.

Table 14-1 Summary of **Pre-Development** Peak Discharge (cfs)

Node	2-Year	10-Year	100-Year
100	8.5	12.4	19.3
200*	9.12	13.25	20.724.0
300	0.5	0.7	1.0

Table 14-2 Summary of **Post-Development** Peak Discharge (cfs)

Node	2-Year	10-Year	100-Year
100	8.5	12.4	19.3
200*	9.87	14.31	21.922.3
300	0.5	0.7	1.0*

14.3 VELOCITIES AND INUNDATION

As stated in Section 1.4 the project proposes to create a concrete channel and vegetated swale section that will intercept on-site runoff before directing the discharge off-site. This proposed channel and swale will replace an existing earthen channel that runs along the southwestern property line and currently conveys runoff from the site to the discharge point at the western side of the site. The following section provides a discussion of velocities and inundation levels associated with the runoff being conveyed in the existing and proposed channels. The existing and proposed channels were analyzed to determine

* To be conservative, flow rates at node 200 were ~~increased by the percentage of area on site that contributes to the swale areas calculated~~ using the same Tc and C-values that were used to calculate the Q's at node 100. The Travel Time in the existing and proposed swales was not taken into account because it resulted in a decrease in flow from node 100 to node 200 due to the relatively large increase in time of concentration and the relatively small increase in area draining to the swales between nodes 100 and 200. Please refer to Attachment G for calculations.

velocities and inundation levels associated with the 2-, 10-, and 100-year storm events. The proposed channel was additionally analyzed for the water quality flow.

The existing channel located along the southwestern property line between the project site and the Bayside Elementary School is an undefined channel section of varying widths and depths that follows the existing topography in a southeasterly to north westerly flow direction towards the western side of the site. Due to the irregular nature of the channel there is existing inundation impacts from the channel on the neighboring property (Bayside Elementary School) as shown on the Existing Hydrology Map included in Attachment G.

The velocities in the existing channel range from approximately 1.560 feet per second in the 2-year storm event to 2.530 feet per second in the 100-year storm event. This range of velocities is not considered erosive in nature and is typically high enough not to be considered depository, however based on site investigation it was noted at the western end of channel there are areas of sediment deposit which would indicate that the velocities may actually be depository in nature during low flow rain events.

The proposed concrete channel and vegetated swale have been designed to convey the entire 100-year storm event to the discharge point at the westerly end of the site. Inundation levels for all the design storms in the post-development conditions will be contained entirely within the channel and vegetated swale. The proposed swale is also located farther from the property line than the existing channel, which will help minimize flooding impacts on the neighboring property.

The maximum velocity in the proposed concrete channel is 5.2748 feet per second. The maximum velocity in the vegetated swale is 2.5377 feet per second. See Peak Discharge Calculations in Attachment G for complete velocity calculation information. Rip rap is proposed at the end of the concrete channel as well as the vegetated swale.

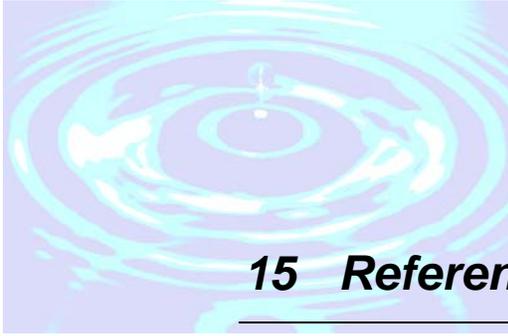
14.4 SUMMARY AND CONCLUSIONS

This section provides a summary discussion of the potential effects of the proposed project on local water resources in terms of quantity and location.

- The proposed project will not significantly alter drainage patterns on the site. While some localized drainage diversions occur as a result of the proposed grading these diversions are contained within the project limits. There are no off-Site runoff diversions.
- The proposed project will create a small increase in peak runoff at the boundary of the site, however given the small size of the project area relative to the watershed and the project's proximity to San Diego Bay this increase in peak runoff will have no calculable impact on the downstream water surface elevation. There are no downstream drainage facilities that would be impacted hydraulically by the minor increase in peak runoff.
- The proposed project will not increase inundation levels within the site. Attachment G shows that the entire 100-year storm event will be contained within the proposed channel/swale. Once the flow leaves the proposed

channel/swale it will return to the existing channel for approximately 40' before discharging to Otay River~~San Diego Bay~~.

- The proposed project will not create any erosive velocities. Attachment G shows the proposed velocities in the concrete channel, vegetated swale, and existing swale. In the proposed condition, rip rap will be used to reduce the velocity at the end of the concrete channel as well as the vegetated swale.



15 References

15.1 GENERAL REFERENCES

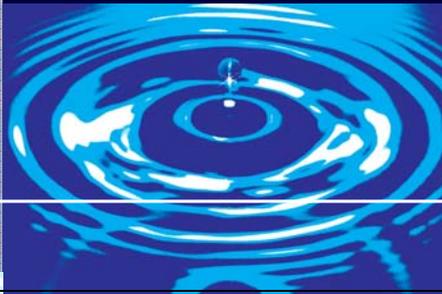
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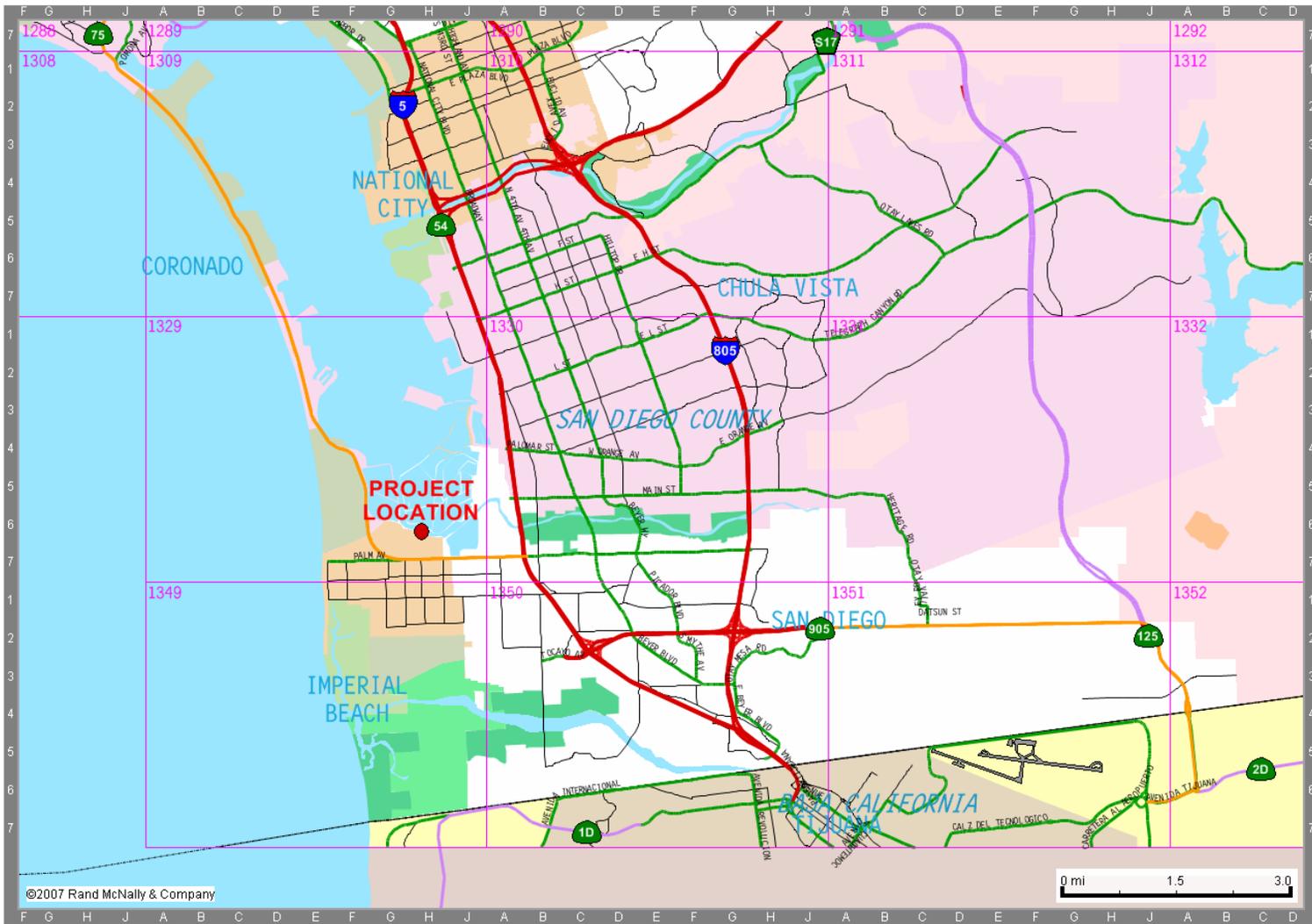
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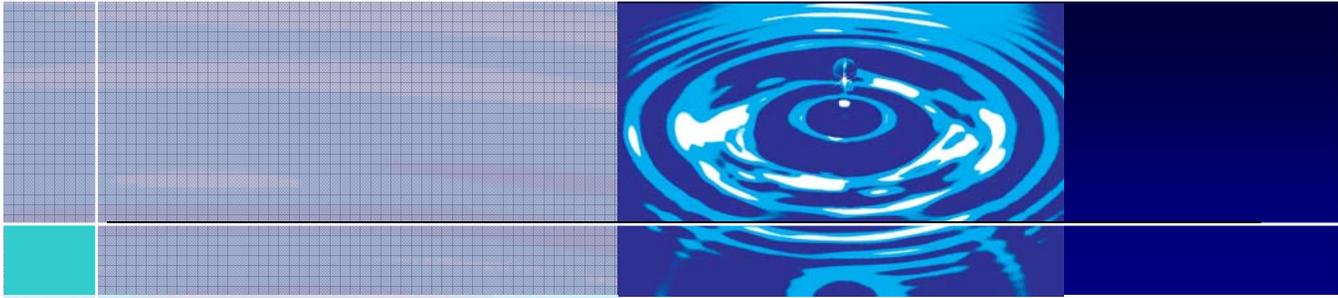


ATTACHMENT A

Location Map



Location Map (Reference Thomas Bros. 1169-J3)



ATTACHMENT B

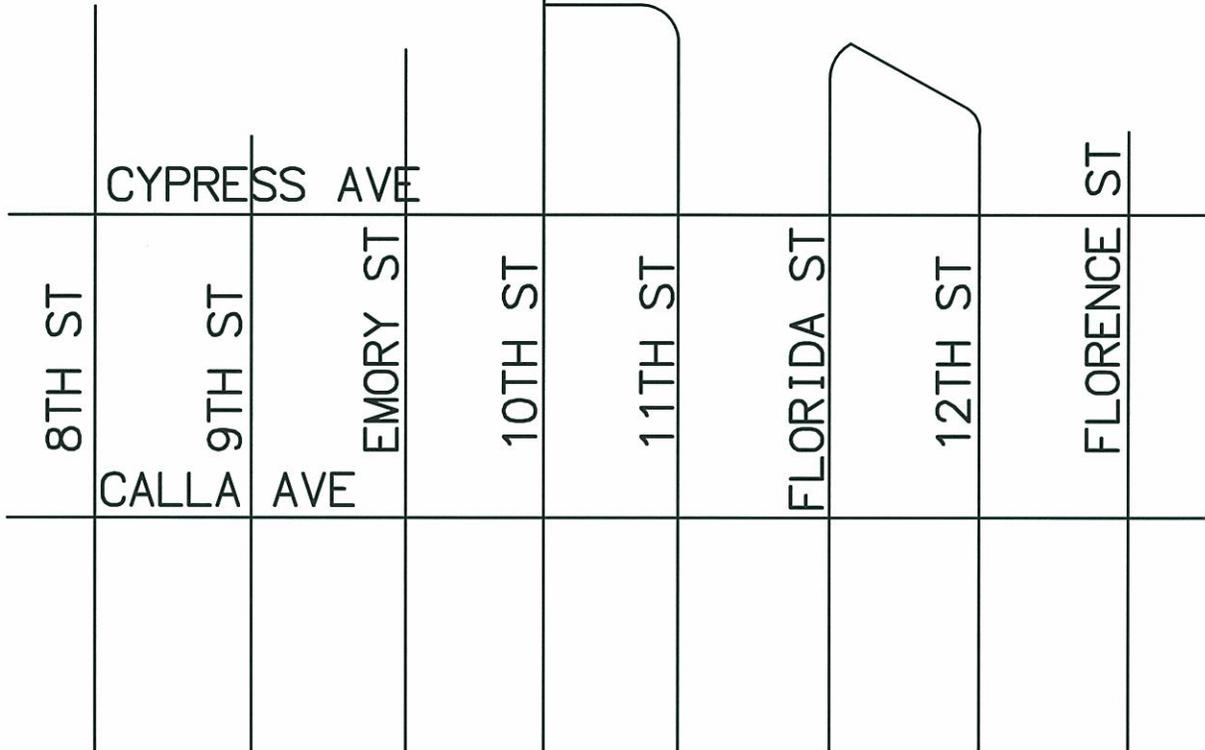
Project Site Map / FEMA FIRM

RBF
CONSULTING

PROJECT
LOCATION



CHERRY



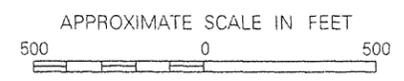
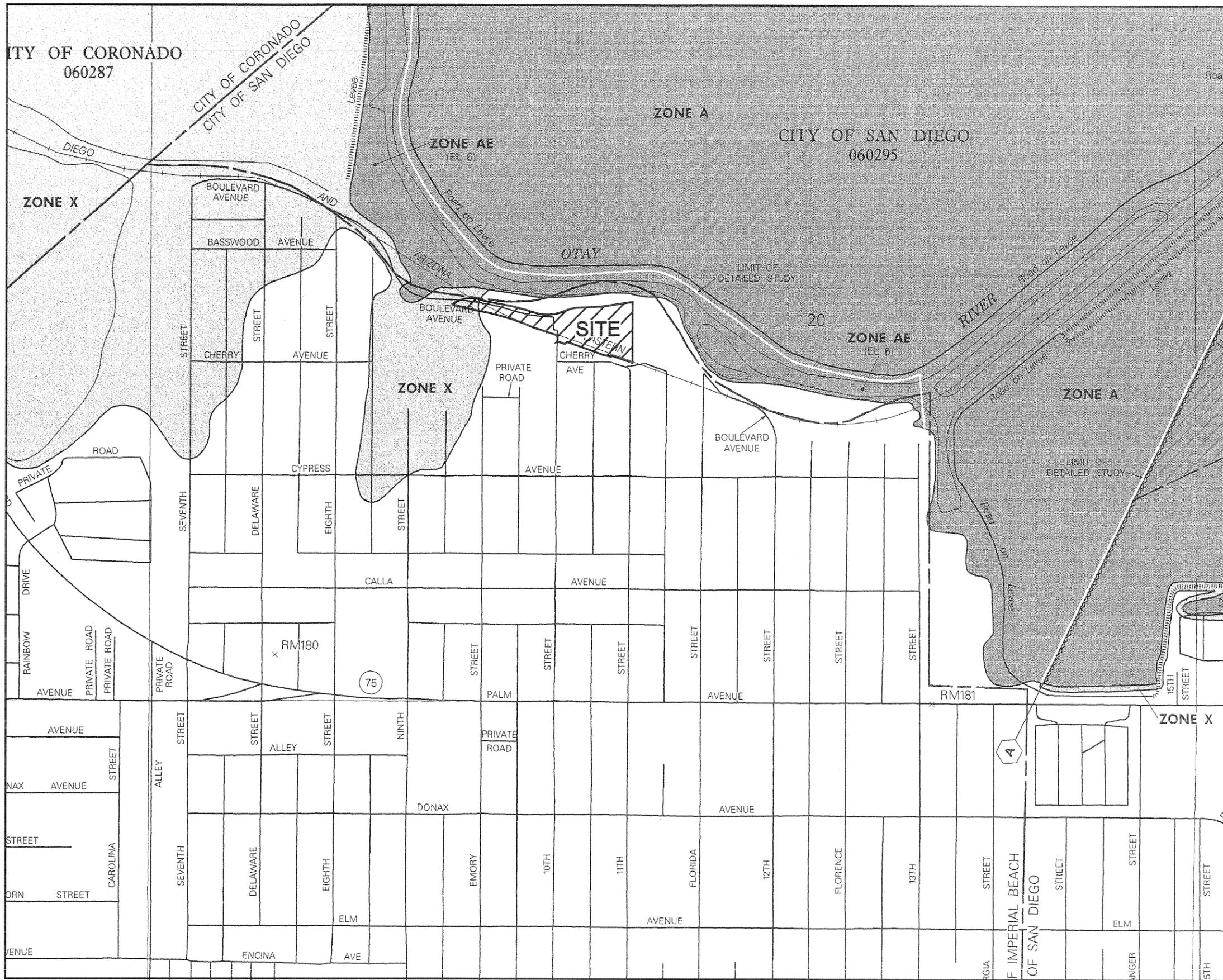
N.T.S.

NOT FOR CONSTRUCTION

Imperial Beach Public Works Yard Improvements
Project Site Map



NOVEMBER 2007 - RBF JN 25-102214



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
 SAN DIEGO COUNTY,
 CALIFORNIA AND
 INCORPORATED AREAS

PANEL 2153 OF 2375
 (SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
CORONADO, CITY OF	060287	2153	F
IMPERIAL BEACH, CITY OF	060291	2153	F
SAN DIEGO, CITY OF	060295	2153	F
SAN DIEGO COUNTY, UNINCORPORATED AREAS	060284	2153	F

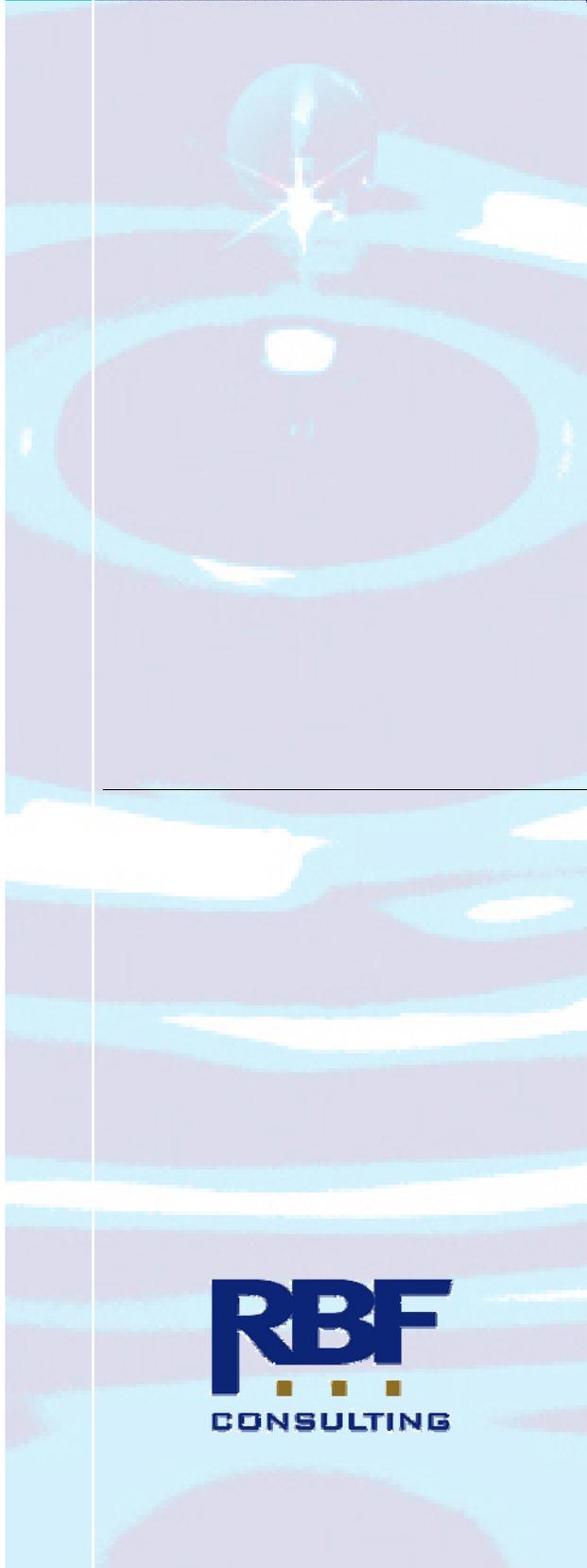
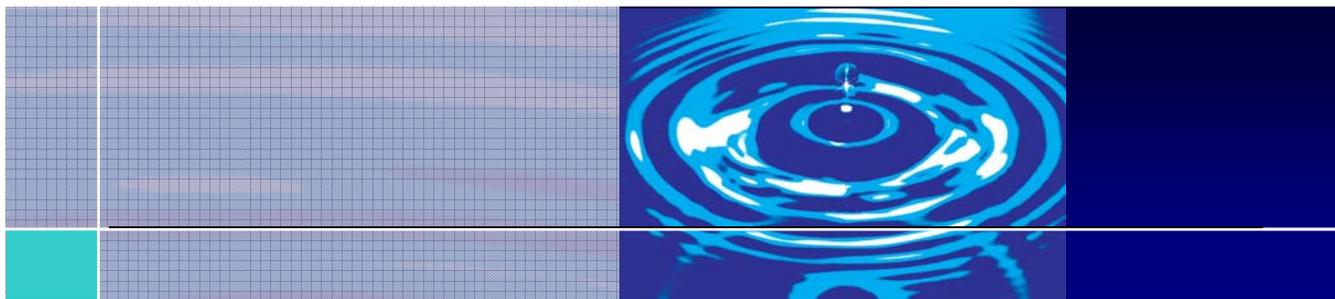
MAP NUMBER
06073C2153 F

EFFECTIVE DATE:
JUNE 19, 1997



Federal Emergency Management Agency

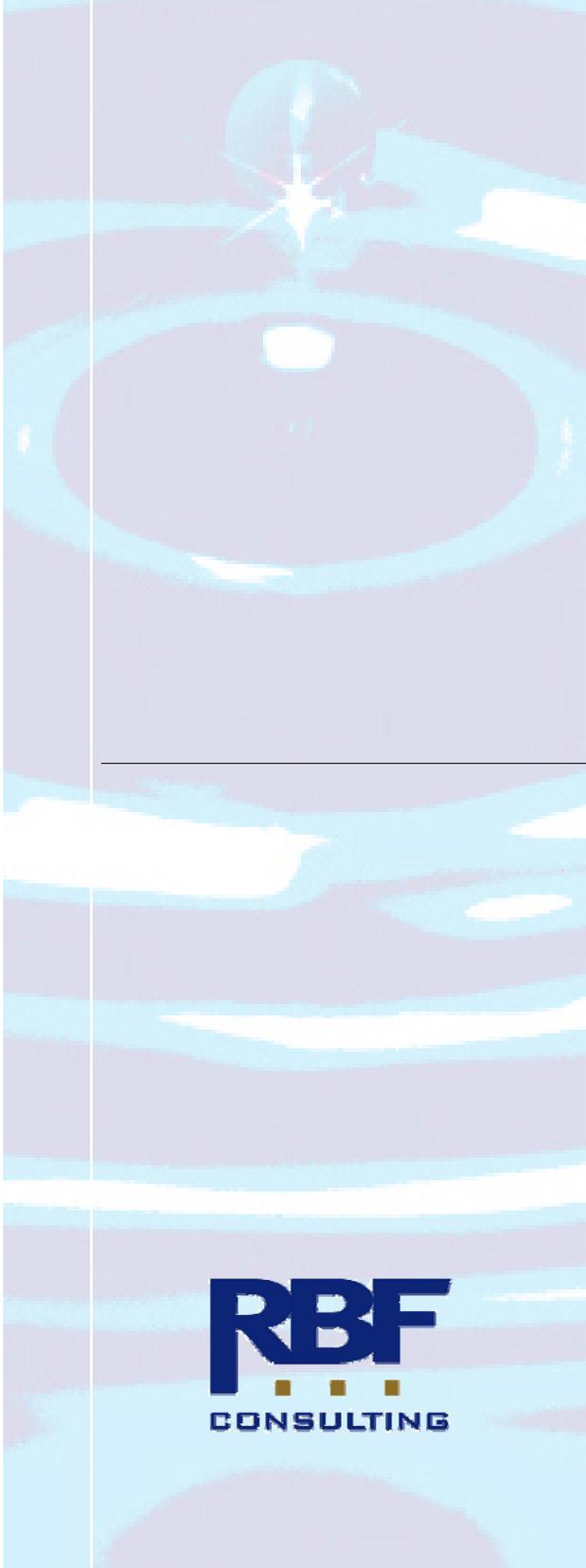
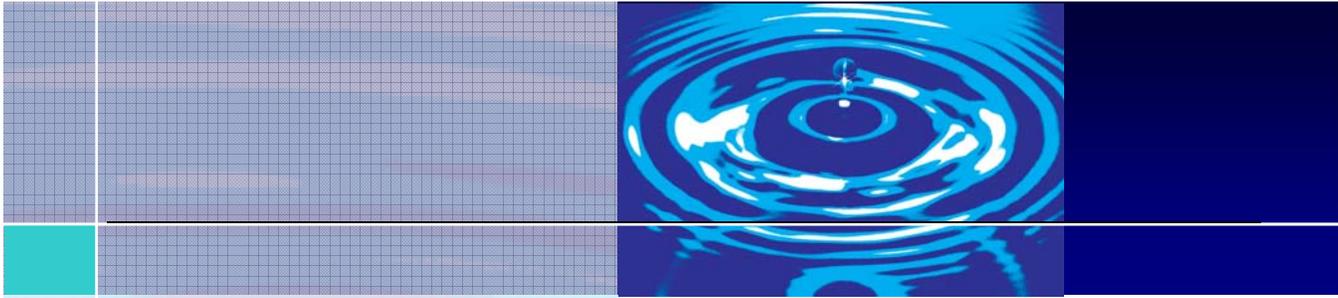
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



ATTACHMENT C
Water Quality Monitoring Data

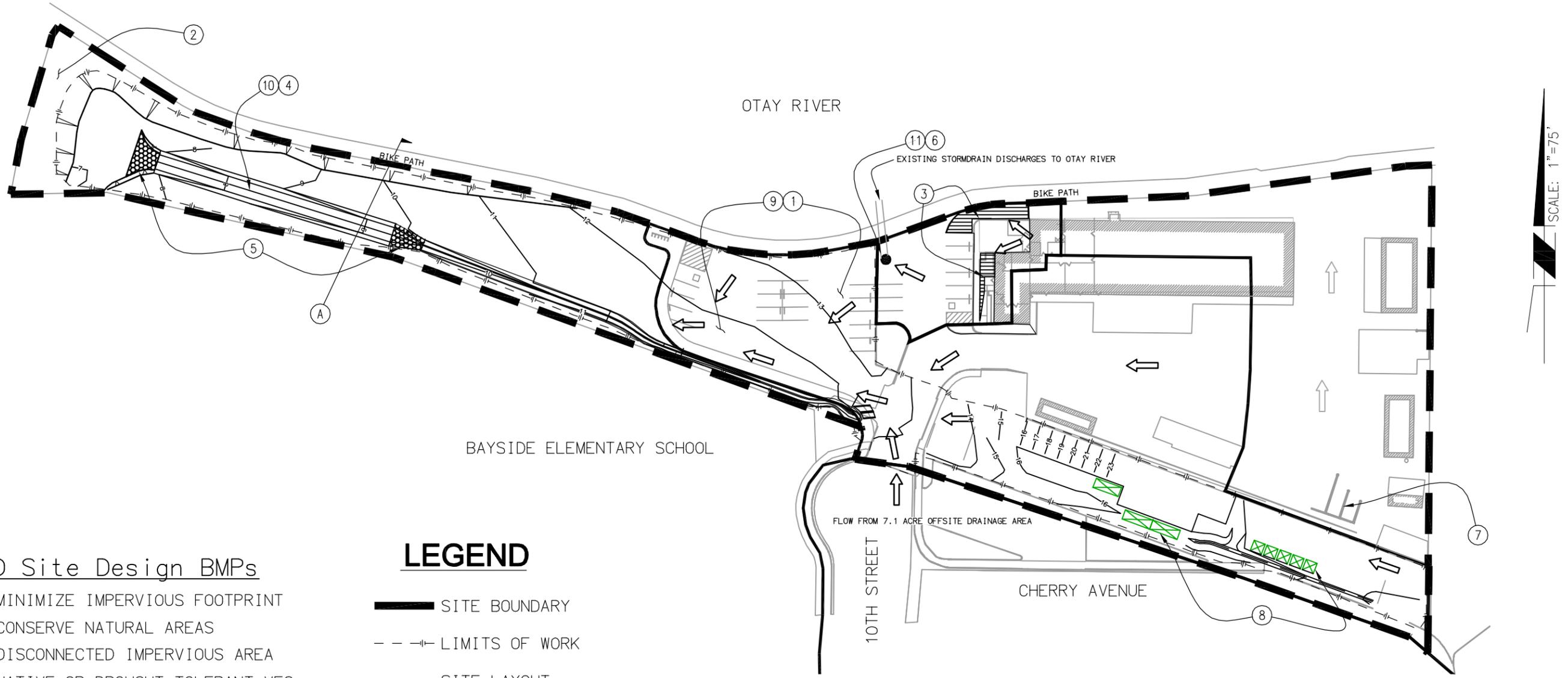
Water Quality Monitoring Data

There are no relevant water quality monitoring data available for the project site.



ATTACHMENT D

BMP Location Map



LID Site Design BMPs

- ① MINIMIZE IMPERVIOUS FOOTPRINT
- ② CONSERVE NATURAL AREAS
- ③ DISCONNECTED IMPERVIOUS AREA
- ④ NATIVE OR DROUGHT TOLERANT VEG.
- ⑤ ENERGY DISSIPATER

Source Control BMPs

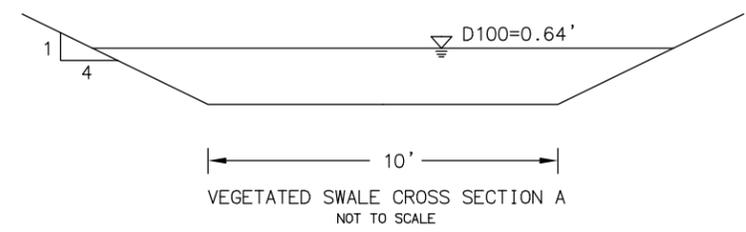
- ⑥ STORM DRAIN STENCIL
- ⑦ MATERIAL STORAGE AREA
- ⑧ TRASH STORAGE AREA
- ⑨ PERVIOUS PARKING

Treatment Control BMPs

- ⑩ VEGETATED SWALE
- ⑪ INLET INSERT

LEGEND

- SITE BOUNDARY
- LIMITS OF WORK
- SITE LAYOUT
- PROPOSED GRADING CONTOURS
- FLOW DIRECTION
- UNDISTURBED AREA FLOW (SEE NOTE)
- DRAINAGE AREA
- DISCONNECTION OF IMPERVIOUS AREA
- RIPRAP



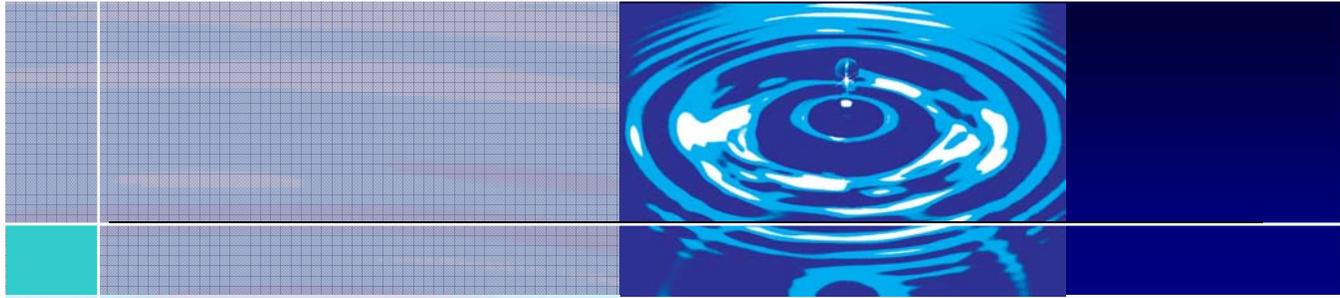
NOTE: ONSITE FLOWS FROM UNDISTURBED AREAS (LIGHT ARROWS) ARE NOT IMPACTED BY THE PROPOSED WORK.

IB PUBLIC WORKS YARD

BMP LOCATION MAP

RBF CONSULTING PLANNING ■ DESIGN ■ CONSTRUCTION
 9755 CLAIREMONT MESA BOULEVARD, SUITE 100
 SAN DIEGO, CALIFORNIA 92124-1324
 858.614.5000 • FAX 858.614.5001 • www.RBF.com

PROJECT LOCATION IMPERIAL BEACH, CA		
DRAFTED BY SBM	DATE 1/09	SCALE 1"=75'
RBF JOB NO. 25-102214		



ATTACHMENT E

Treatment BMP Data and Sizing Calculations

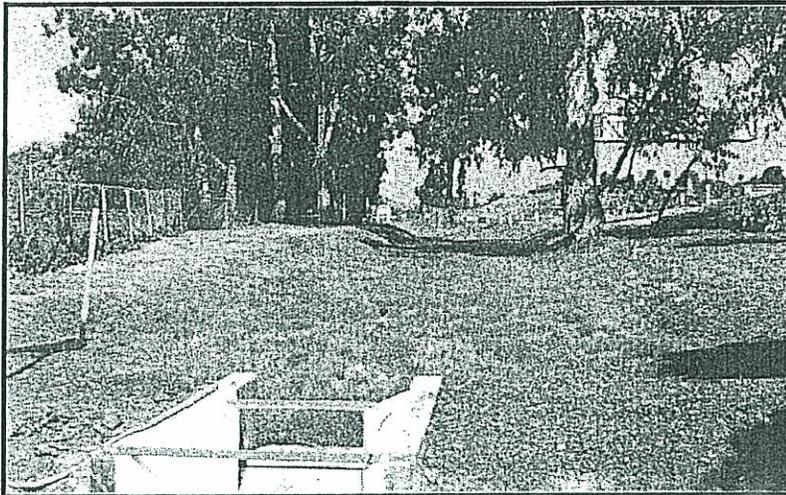
TREATMENT BMP DESIGN

EXISTING GRATE INLET FILTER INSERT				
C	i ₈₅ (in/hr)	A (acre)	Q ₈₅ (cfs)	MFG MAX TREATMENT Q (cfs)
0.84	0.2	0.19	0.03	11.65

VEGETATED SWALE DESIGN CALCULATIONS							
C	i ₈₅ (in/hr)	A (acre)	Q ₈₅ (cfs)	V (fps)*	L _{PROVIDED} (ft)**	L _{REQUIRED} (ft)	T _{RESIDENCE} (min)
0.64	0.2	9.65	1.24	0.28	168	168	10.0

*FROM FLOWMASTER OUTPUT
 **SWALE SECTION WITH 1.0% SLOPE

For "C" value calculations see Attachment G



Description

Vegetated swales are open, shallow channels with vegetation covering the side slopes and bottom that collect and slowly convey runoff flow to downstream discharge points. They are designed to treat runoff through filtering by the vegetation in the channel, filtering through a subsoil matrix, and/or infiltration into the underlying soils. Swales can be natural or manmade. They trap particulate pollutants (suspended solids and trace metals), promote infiltration, and reduce the flow velocity of stormwater runoff. Vegetated swales can serve as part of a stormwater drainage system and can replace curbs, gutters and storm sewer systems.

California Experience

Caltrans constructed and monitored six vegetated swales in southern California. These swales were generally effective in reducing the volume and mass of pollutants in runoff. Even in the areas where the annual rainfall was only about 10 inches/yr, the vegetation did not require additional irrigation. One factor that strongly affected performance was the presence of large numbers of gophers at most of the sites. The gophers created earthen mounds, destroyed vegetation, and generally reduced the effectiveness of the controls for TSS reduction.

Advantages

- If properly designed, vegetated, and operated, swales can serve as an aesthetic, potentially inexpensive urban development or roadway drainage conveyance measure with significant collateral water quality benefits.

Design Considerations

- Tributary Area
- Area Required
- Slope
- Water Availability

Targeted Constituents

<input checked="" type="checkbox"/>	Sediment	▲
<input checked="" type="checkbox"/>	Nutrients	●
<input checked="" type="checkbox"/>	Trash	●
<input checked="" type="checkbox"/>	Metals	▲
<input checked="" type="checkbox"/>	Bacteria	●
<input checked="" type="checkbox"/>	Oil and Grease	▲
<input checked="" type="checkbox"/>	Organics	▲

Legend (Removal Effectiveness)

- Low
- High
- ▲ Medium



- Roadside ditches should be regarded as significant potential swale/buffer strip sites and should be utilized for this purpose whenever possible.

Limitations

- Can be difficult to avoid channelization.
- May not be appropriate for industrial sites or locations where spills may occur
- Grassed swales cannot treat a very large drainage area. Large areas may be divided and treated using multiple swales.
- A thick vegetative cover is needed for these practices to function properly.
- They are impractical in areas with steep topography.
- They are not effective and may even erode when flow velocities are high, if the grass cover is not properly maintained.
- In some places, their use is restricted by law: many local municipalities require curb and gutter systems in residential areas.
- Swales are more susceptible to failure if not properly maintained than other treatment BMPs.

Design and Sizing Guidelines

- Flow rate based design determined by local requirements or sized so that 85% of the annual runoff volume is discharged at less than the design rainfall intensity.
- Swale should be designed so that the water level does not exceed 2/3rds the height of the grass or 4 inches, whichever is less, at the design treatment rate.
- Longitudinal slopes should not exceed 2.5%
- Trapezoidal channels are normally recommended but other configurations, such as parabolic, can also provide substantial water quality improvement and may be easier to mow than designs with sharp breaks in slope.
- Swales constructed in cut are preferred, or in fill areas that are far enough from an adjacent slope to minimize the potential for gopher damage. Do not use side slopes constructed of fill, which are prone to structural damage by gophers and other burrowing animals.
- A diverse selection of low growing, plants that thrive under the specific site, climatic, and watering conditions should be specified. Vegetation whose growing season corresponds to the wet season are preferred. Drought tolerant vegetation should be considered especially for swales that are not part of a regularly irrigated landscaped area.
- The width of the swale should be determined using Manning's Equation using a value of 0.25 for Manning's n.

Construction/Inspection Considerations

- Include directions in the specifications for use of appropriate fertilizer and soil amendments based on soil properties determined through testing and compared to the needs of the vegetation requirements.
- Install swales at the time of the year when there is a reasonable chance of successful establishment without irrigation; however, it is recognized that rainfall in a given year may not be sufficient and temporary irrigation may be used.
- If sod tiles must be used, they should be placed so that there are no gaps between the tiles; stagger the ends of the tiles to prevent the formation of channels along the swale or strip.
- Use a roller on the sod to ensure that no air pockets form between the sod and the soil.
- Where seeds are used, erosion controls will be necessary to protect seeds for at least 75 days after the first rainfall of the season.

Performance

The literature suggests that vegetated swales represent a practical and potentially effective technique for controlling urban runoff quality. While limited quantitative performance data exists for vegetated swales, it is known that check dams, slight slopes, permeable soils, dense grass cover, increased contact time, and small storm events all contribute to successful pollutant removal by the swale system. Factors decreasing the effectiveness of swales include compacted soils, short runoff contact time, large storm events, frozen ground, short grass heights, steep slopes, and high runoff velocities and discharge rates.

Conventional vegetated swale designs have achieved mixed results in removing particulate pollutants. A study performed by the Nationwide Urban Runoff Program (NURP) monitored three grass swales in the Washington, D.C., area and found no significant improvement in urban runoff quality for the pollutants analyzed. However, the weak performance of these swales was attributed to the high flow velocities in the swales, soil compaction, steep slopes, and short grass height.

Another project in Durham, NC, monitored the performance of a carefully designed artificial swale that received runoff from a commercial parking lot. The project tracked 11 storms and concluded that particulate concentrations of heavy metals (Cu, Pb, Zn, and Cd) were reduced by approximately 50 percent. However, the swale proved largely ineffective for removing soluble nutrients.

The effectiveness of vegetated swales can be enhanced by adding check dams at approximately 17 meter (50 foot) increments along their length (See Figure 1). These dams maximize the retention time within the swale, decrease flow velocities, and promote particulate settling. Finally, the incorporation of vegetated filter strips parallel to the top of the channel banks can help to treat sheet flows entering the swale.

Only 9 studies have been conducted on all grassed channels designed for water quality (Table 1). The data suggest relatively high removal rates for some pollutants, but negative removals for some bacteria, and fair performance for phosphorus.

Table 1 Grassed swale pollutant removal efficiency data

Study	Removal Efficiencies (% Removal)						Type
	TSS	TP	TN	NO ₃	Metals	Bacteria	
Caltrans 2002	77	8	67	66	83-90	-33	dry swales
Goldberg 1993	67.8	4.5	-	31.4	42-62	-100	grassed channel
Seattle Metro and Washington Department of Ecology 1992	60	45	-	-25	2-16	-25	grassed channel
Seattle Metro and Washington Department of Ecology, 1992	83	29	-	-25	46-73	-25	grassed channel
Wang et al., 1981	80	-	-	-	70-80	-	dry swale
Dorman et al., 1989	98	18	-	45	37-81	-	dry swale
Harper, 1988	87	83	84	80	88-90	-	dry swale
Kercher et al., 1983	99	99	99	99	99	-	dry swale
Harper, 1988.	81	17	40	52	37-69	-	wet swale
Koon, 1995	67	39	-	9	-35 to 6	-	wet swale

While it is difficult to distinguish between different designs based on the small amount of available data, grassed channels generally have poorer removal rates than wet and dry swales, although some swales appear to export soluble phosphorus (Harper, 1988; Koon, 1995). It is not clear why swales export bacteria. One explanation is that bacteria thrive in the warm swale soils.

Siting Criteria

The suitability of a swale at a site will depend on land use, size of the area serviced, soil type, slope, imperviousness of the contributing watershed, and dimensions and slope of the swale system (Schueler et al., 1992). In general, swales can be used to serve areas of less than 10 acres, with slopes no greater than 5%. Use of natural topographic lows is encouraged and natural drainage courses should be regarded as significant local resources to be kept in use (Young et al., 1996).

Selection Criteria (NCTCOG, 1993)

- Comparable performance to wet basins
- Limited to treating a few acres
- Availability of water during dry periods to maintain vegetation
- Sufficient available land area

Research in the Austin area indicates that vegetated controls are effective at removing pollutants even when dormant. Therefore, irrigation is not required to maintain growth during dry periods, but may be necessary only to prevent the vegetation from dying.

The topography of the site should permit the design of a channel with appropriate slope and cross-sectional area. Site topography may also dictate a need for additional structural controls. Recommendations for longitudinal slopes range between 2 and 6 percent. Flatter slopes can be used, if sufficient to provide adequate conveyance. Steep slopes increase flow velocity, decrease detention time, and may require energy dissipating and grade check. Steep slopes also can be managed using a series of check dams to terrace the swale and reduce the slope to within acceptable limits. The use of check dams with swales also promotes infiltration.

Additional Design Guidelines

Most of the design guidelines adopted for swale design specify a minimum hydraulic residence time of 9 minutes. This criterion is based on the results of a single study conducted in Seattle, Washington (Seattle Metro and Washington Department of Ecology, 1992), and is not well supported. Analysis of the data collected in that study indicates that pollutant removal at a residence time of 5 minutes was not significantly different, although there is more variability in that data. Therefore, additional research in the design criteria for swales is needed. Substantial pollutant removal has also been observed for vegetated controls designed solely for conveyance (Barrett et al, 1998); consequently, some flexibility in the design is warranted.

Many design guidelines recommend that grass be frequently mowed to maintain dense coverage near the ground surface. Recent research (Colwell et al., 2000) has shown mowing frequency or grass height has little or no effect on pollutant removal.

Summary of Design Recommendations

- 1) The swale should have a length that provides a minimum hydraulic residence time of at least 10 minutes. The maximum bottom width should not exceed 10 feet unless a dividing berm is provided. The depth of flow should not exceed 2/3rds the height of the grass at the peak of the water quality design storm intensity. The channel slope should not exceed 2.5%.
- 2) A design grass height of 6 inches is recommended.
- 3) Regardless of the recommended detention time, the swale should be not less than 100 feet in length.
- 4) The width of the swale should be determined using Manning's Equation, at the peak of the design storm, using a Manning's n of 0.25.
- 5) The swale can be sized as both a treatment facility for the design storm and as a conveyance system to pass the peak hydraulic flows of the 100-year storm if it is located "on-line." The side slopes should be no steeper than 3:1 (H:V).
- 6) Roadside ditches should be regarded as significant potential swale/buffer strip sites and should be utilized for this purpose whenever possible. If flow is to be introduced through curb cuts, place pavement slightly above the elevation of the vegetated areas. Curb cuts should be at least 12 inches wide to prevent clogging.
- 7) Swales must be vegetated in order to provide adequate treatment of runoff. It is important to maximize water contact with vegetation and the soil surface. For general purposes, select fine, close-growing, water-resistant grasses. If possible, divert runoff (other than necessary irrigation) during the period of vegetation

establishment. Where runoff diversion is not possible, cover graded and seeded areas with suitable erosion control materials.

Maintenance

The useful life of a vegetated swale system is directly proportional to its maintenance frequency. If properly designed and regularly maintained, vegetated swales can last indefinitely. The maintenance objectives for vegetated swale systems include keeping up the hydraulic and removal efficiency of the channel and maintaining a dense, healthy grass cover.

Maintenance activities should include periodic mowing (with grass never cut shorter than the design flow depth), weed control, watering during drought conditions, reseeding of bare areas, and clearing of debris and blockages. Cuttings should be removed from the channel and disposed in a local composting facility. Accumulated sediment should also be removed manually to avoid concentrated flows in the swale. The application of fertilizers and pesticides should be minimal.

Another aspect of a good maintenance plan is repairing damaged areas within a channel. For example, if the channel develops ruts or holes, it should be repaired utilizing a suitable soil that is properly tamped and seeded. The grass cover should be thick; if it is not, reseed as necessary. Any standing water removed during the maintenance operation must be disposed to a sanitary sewer at an approved discharge location. Residuals (e.g., silt, grass cuttings) must be disposed in accordance with local or State requirements. Maintenance of grassed swales mostly involves maintenance of the grass or wetland plant cover. Typical maintenance activities are summarized below:

- Inspect swales at least twice annually for erosion, damage to vegetation, and sediment and debris accumulation preferably at the end of the wet season to schedule summer maintenance and before major fall runoff to be sure the swale is ready for winter. However, additional inspection after periods of heavy runoff is desirable. The swale should be checked for debris and litter, and areas of sediment accumulation.
- Grass height and mowing frequency may not have a large impact on pollutant removal. Consequently, mowing may only be necessary once or twice a year for safety or aesthetics or to suppress weeds and woody vegetation.
- Trash tends to accumulate in swale areas, particularly along highways. The need for litter removal is determined through periodic inspection, but litter should always be removed prior to mowing.
- Sediment accumulating near culverts and in channels should be removed when it builds up to 75 mm (3 in.) at any spot, or covers vegetation.
- Regularly inspect swales for pools of standing water. Swales can become a nuisance due to mosquito breeding in standing water if obstructions develop (e.g. debris accumulation, invasive vegetation) and/or if proper drainage slopes are not implemented and maintained.

Cost

Construction Cost

Little data is available to estimate the difference in cost between various swale designs. One study (SWRPC, 1991) estimated the construction cost of grassed channels at approximately \$0.25 per ft². This price does not include design costs or contingencies. Brown and Schueler (1997) estimate these costs at approximately 32 percent of construction costs for most stormwater management practices. For swales, however, these costs would probably be significantly higher since the construction costs are so low compared with other practices. A more realistic estimate would be a total cost of approximately \$0.50 per ft², which compares favorably with other stormwater management practices.

Table 2 Swale Cost Estimate (SEWRPC, 1991)

Component	Unit	Extent	Unit Cost				Total Cost		
			Low	Moderate	High	Low	Moderate	High	
Mobilization / Demobilization-Light	Swale	1	\$107	\$274	\$441	\$107	\$274	\$441	
Site Preparation									
Clearing ^a	Acres	0.5	\$2,200	\$3,800	\$5,400	\$1,100	\$1,900	\$2,700	
Grubbing ^b	Acres	0.25	\$3,800	\$5,200	\$6,600	\$950	\$1,300	\$1,650	
General Excavator ^c	Yd ³	372	\$2.10	\$3.70	\$5.30	\$781	\$1,376	\$1,972	
Level and Till ^d	Yd ³	1,210	\$0.20	\$0.35	\$0.50	\$242	\$424	\$605	
Sites Development									
Salvaged Topsoil	Yd ³	1,210	\$0.40	\$1.00	\$1.60	\$484	\$1,210	\$1,936	
Seed, and Mulch ^e	Yd ²	1,210	\$1.20	\$2.40	\$3.60	\$1,452	\$2,904	\$4,356	
Subtotal	--	--	--	--	--	\$5,116	\$9,388	\$13,660	
Contingencies	Swale	1	25%	25%	25%	\$1,279	\$2,347	\$3,415	
Total	--	--	--	--	--	\$6,395	\$11,735	\$17,075	

Source: (SEWRPC, 1991)

Note: Mobilization/demobilization refers to the organization and planning involved in establishing a vegetative swale.

^a Swale has a bottom width of 1.0 foot, a top width of 10 feet with 1:3 side slopes, and a 1,000-foot length.

^b Area cleared = (top width + 10 feet) x swale length.

^c Area grubbed = (top width x swale length).

^d Volume excavated = (0.67 x top width x swale depth) x swale length (parabolic cross-section).

^e Area filled = (top width + B/(swale depth)²) x swale length (parabolic cross-section).

^f Area seeded = area cleared x 0.5.

^g Area sodded = area cleared x 0.5.

Table 3 Estimated Maintenance Costs (SEWRPC, 1991)

Component	Unit Cost	Swale Size (Depth and Top Width)		Comment
		1.5 Foot Depth, One-Foot Bottom Width, 10-Foot Top Width	3-Foot Depth, 3-Foot Bottom Width, 21-Foot Top Width	
Lawn Mowing	\$0.85 / 1,000 ft ² /mowing	\$0.14 / linear foot	\$0.21 / linear foot	Lawn maintenance area = (top width + 10 feet) x length. Mow eight times per year
General Lawn Care	\$9.00 / 1,000 ft ² /year	\$0.18 / linear foot	\$0.28 / linear foot	Lawn maintenance area = (top width + 10 feet) x length
Swale Debris and Litter Removal	\$0.10 / linear foot / year	\$0.10 / linear foot	\$0.10 / linear foot	-
Grass Reseeding with Mulch and Fertilizer	\$0.30 / yd ²	\$0.01 / linear foot	\$0.01 / linear foot	Area revegetated equals 1% of lawn maintenance area per year
Program Administration and Swale Inspection	\$0.15 / linear foot / year, plus \$25 / inspection	\$0.15 / linear foot	\$0.15 / linear foot	Inspect four times per year
Total	--	\$0.58 / linear foot	\$ 0.75 / linear foot	--

Maintenance Cost

Caltrans (2002) estimated the expected annual maintenance cost for a swale with a tributary area of approximately 2 ha at approximately \$2,700. Since almost all maintenance consists of mowing, the cost is fundamentally a function of the mowing frequency. Unit costs developed by SEWRPC are shown in Table 3. In many cases vegetated channels would be used to convey runoff and would require periodic mowing as well, so there may be little additional cost for the water quality component. Since essentially all the activities are related to vegetation management, no special training is required for maintenance personnel.

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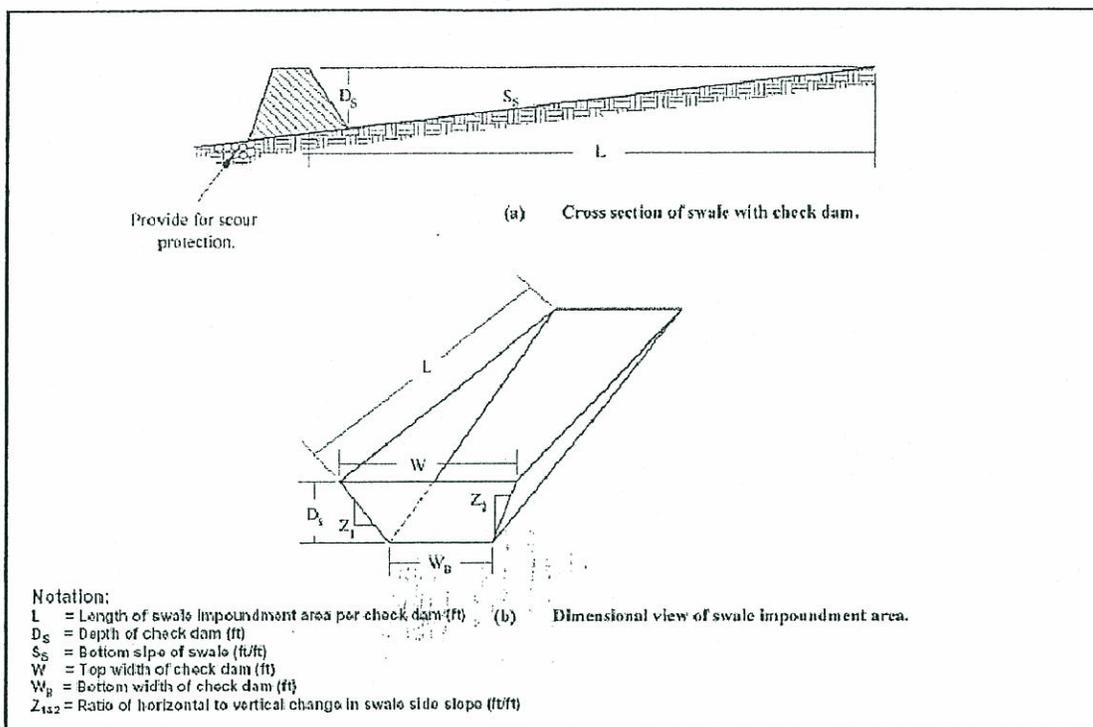
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Description

Drain inserts are manufactured filters or fabric placed in a drop inlet to remove sediment and debris. There are a multitude of inserts of various shapes and configurations, typically falling into one of three different groups: socks, boxes, and trays. The sock consists of a fabric, usually constructed of polypropylene. The fabric may be attached to a frame or the grate of the inlet holds the sock. Socks are meant for vertical (drop) inlets. Boxes are constructed of plastic or wire mesh. Typically a polypropylene "bag" is placed in the wire mesh box. The bag takes the form of the box. Most box products are one box; that is, the setting area and filtration through media occur in the same box. Some products consist of one or more trays or mesh grates. The trays may hold different types of media. Filtration media vary by manufacturer. Types include polypropylene, porous polymer, treated cellulose, and activated carbon.

California Experience

The number of installations is unknown but likely exceeds a thousand. Some users have reported that these systems require considerable maintenance to prevent plugging and bypass.

Advantages

- Does not require additional space as inserts as the drain inlets are already a component of the standard drainage systems.
- Easy access for inspection and maintenance.
- As there is no standing water, there is little concern for mosquito breeding.
- A relatively inexpensive retrofit option.

Limitations

Performance is likely significantly less than treatment systems that are located at the end of the drainage system such as ponds and vaults. Usually not suitable for large areas or areas with trash or leaves than can plug the insert.

Design and Sizing Guidelines

Refer to manufacturer's guidelines. Drain inserts come in many configurations but can be placed into three general groups: socks, boxes, and trays. The sock consists of a fabric, usually constructed of polypropylene. The fabric may be attached to a frame or the grate of the inlet holds the sock. Socks are meant for vertical (drop) inlets. Boxes are constructed of plastic or wire mesh. Typically a polypropylene "bag" is placed in the wire mesh box. The bag takes the form of the box. Most box products are

Design Considerations

- Use with other BMPs
- Fit and Seal Capacity within Inlet

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics

Removal Effectiveness

See New Development and Redevelopment Handbook-Section 5.



one box; that is, the setting area and filtration through media occurs in the same box. One manufacturer has a double-box. Stormwater enters the first box where setting occurs. The stormwater flows into the second box where the filter media is located. Some products consist of one or more trays or mesh grates. The trays can hold different types of media. Filtration media vary with the manufacturer: types include polypropylene, porous polymer, treated cellulose, and activated carbon.

Construction/Inspection Considerations

Be certain that installation is done in a manner that makes certain that the stormwater enters the unit and does not leak around the perimeter. Leakage between the frame of the insert and the frame of the drain inlet can easily occur with vertical (drop) inlets.

Performance

Few products have performance data collected under field conditions.

Siting Criteria

It is recommended that inserts be used only for retrofit situations or as pretreatment where other treatment BMPs presented in this section area used.

Additional Design Guidelines

Follow guidelines provided by individual manufacturers.

Maintenance

Likely require frequent maintenance, on the order of several times per year.

Cost

- The initial cost of individual inserts ranges from less than \$100 to about \$2,000. The cost of using multiple units in curb inlet drains varies with the size of the inlet.
- The low cost of inserts may tend to favor the use of these systems over other, more effective treatment BMPs. However, the low cost of each unit may be offset by the number of units that are required, more frequent maintenance, and the shorter structural life (and therefore replacement).

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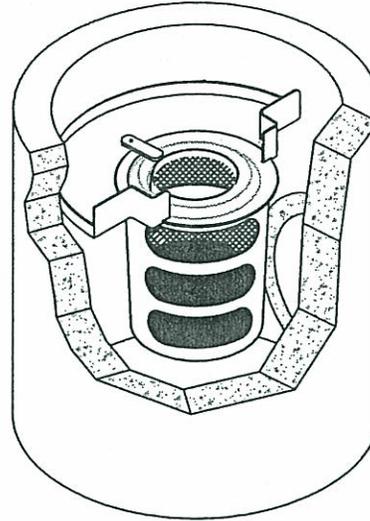
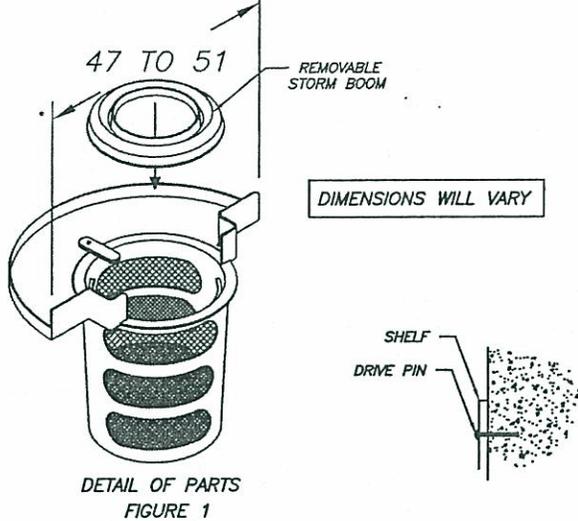
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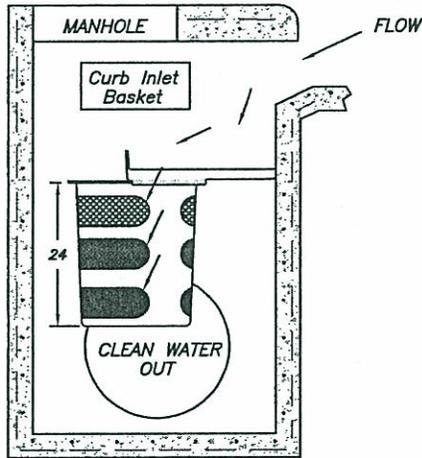
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ENVIRO-SAFE HIGH CAPACITY ROUND GRATE INLET SKIMMER
 THE CURB SHELF BASKET WATER CLEANSING SYSTEM
 HIGH CAPACITY CURB INLET BASKET

ROUND GISB FOR MOUNTING UNDER MANHOLE



ROUND CANISTER IN CYLINDRICAL BASIN



REMOVABLE BASKET CATCHES EVERYTHING
 AND MAY BE REMOVED THROUGH MANHOLE
 WITHOUT ENTRY.

FLOW RATES per 3 FT. Basket

$$Q = SO * c_d * A * \sqrt{2 * g * h}$$

$c_d = \text{Coefficient of Discharge} = .67$

	SO	A (ft ²)	h (ft)	Q (ft ³ /s)
TOP SIDE	1	135.22	5.50	3.42
CENTER SIDE	.62	130.36	11.5	2.95
BOTTOM SIDE	.56	125.50	17.50	3.17
BOTTOM	.68	63.14	20.81	2.11
TOTAL				11.65

NOTES:

1. SHELF SYSTEM PROVIDES FOR ENTIRE COVERAGE OF INLET OPENING SO TO DIVERT ALL FLOW TO BASKET.
2. SHELF SYSTEM MANUFACTURED FROM MARINE GRADE FIBERGLASS, GEL COATED FOR UV PROTECTION.
3. SHELF SYSTEM ATTACHED TO THE CATCH BASIN WITH NON-CORROSIVE HARDWARE.
4. FILTRATION BASKET STRUCTURE MANUFACTURED OF MARINE GRADE FIBERGLASS, GEL COATED FOR UV PROTECTION.
5. FILTRATION BASKET FINE SCREEN AND COARSE CONTAINMENT SCREEN MANUFACTURED FROM STAINLESS STEEL.
6. FILTRATION BASKET HOLDS BOOM OF ABSORBENT MEDIA TO CAPTURE HYDROCARBONS. BOOM IS EASILY REPLACED WITHOUT REMOVING MOUNTING HARDWARE.
7. FILTRATION BASKET LOCATION IS DIRECTLY UNDER MANHOLE FOR EASY MAINTENANCE.

5 YEAR MANUFACTURERS WARRANTY

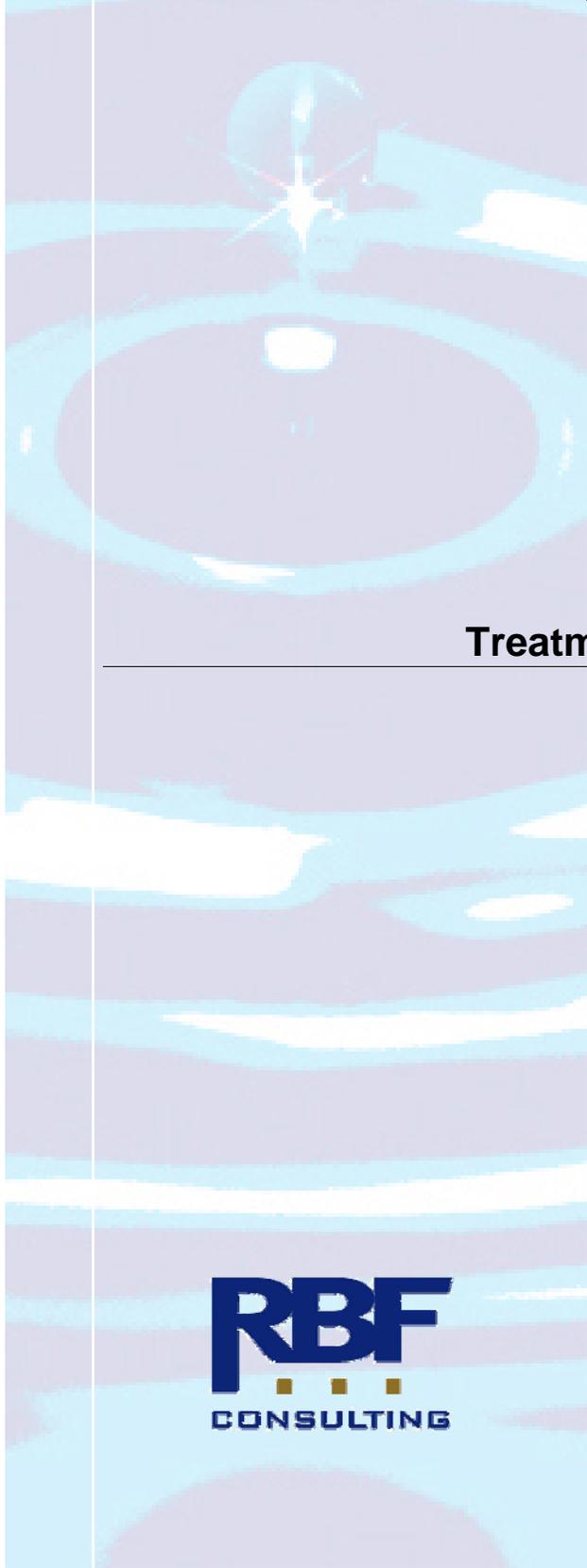
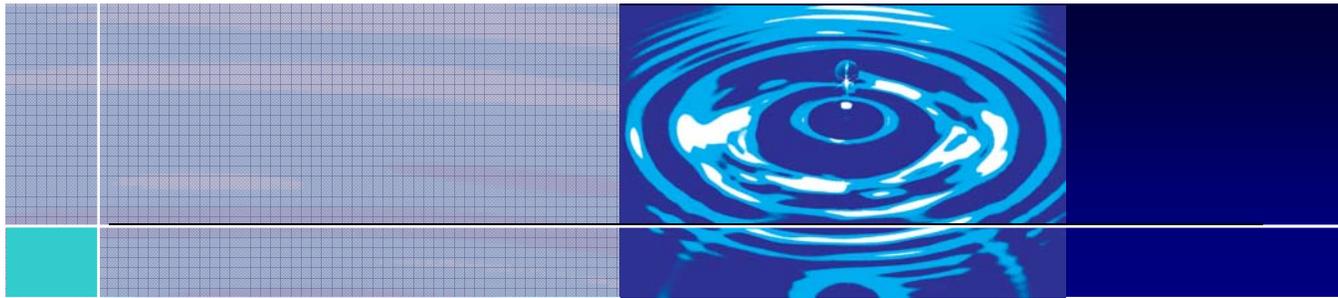
PATENTED

ALL FILTER SCREENS ARE STAINLESS STEEL

EXCLUSIVE CALIFORNIA DISTRIBUTOR:
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 DESIGNED TO BE PERMANENT INFRASTRUCTURE AND SHOULD
 LAST FOR DECADES.

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CURB INLET BASKET SYSTEM		REVISION:
DATE: 04/12/04	SCALE: SF = 15	DATE:
DRAFTER: N.R.B.	UNITS = INCHES	DATE:



ATTACHMENT F

Treatment BMP Maintenance Program

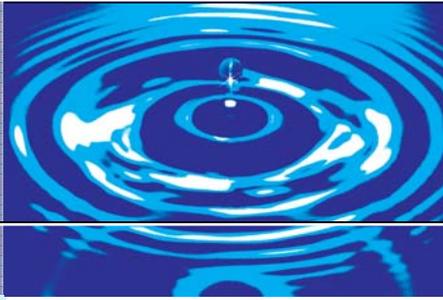
EXHIBIT B BMP Maintenance Program

Maintenance Program for Vegetated Swales

Inspection Frequency/Indications:	<u>Regular Inspections</u> <input type="checkbox"/> Before wet season begins (September); <input type="checkbox"/> After wet season (April). <u>Performance Inspections</u> <input type="checkbox"/> After rainfall events greater than 0.5 inch
Maintenance Indications	Maintenance Activities
<input type="checkbox"/> Damage to slopes, inlet, outlet, or other structures	<input type="checkbox"/> Repair slopes, inlet, outlet, or other structures
<input type="checkbox"/> Barren areas or badly established vegetation	<input type="checkbox"/> Re-plant or re-seed barren areas or badly established vegetation, use erosion control mats if necessary
<input type="checkbox"/> Over-grown vegetation, emergent woody vegetation and/or weeds	<input type="checkbox"/> Trim vegetation to 6 inches, remove emergent woody vegetation and weeds
<input type="checkbox"/> Sediment accumulation over 3 inches	<input type="checkbox"/> Remove sediment accumulation
<input type="checkbox"/> Trash and litter present in swale	<input type="checkbox"/> Remove trash and debris
<input type="checkbox"/> Rodent burrows that inhibit function of facility	<input type="checkbox"/> Abate rodents and other vectors as necessary
<input type="checkbox"/> Standing water in facility	<input type="checkbox"/> Drain standing water
Waste Disposal	Sediment, other pollutants, and all other waste shall be properly disposed of in a licensed landfill or by another appropriate disposal method in accordance with local, state, and federal regulations.

Maintenance Program for Filter Insert(s).

Inspection Frequency/Indications:	<u>Regular Maintenance Inspections</u> <input type="checkbox"/> Before wet season begins (September); <input type="checkbox"/> After wet season (April). <u>Performance Inspections</u> <input type="checkbox"/> After rainfall events greater than 0.5 inches; <input type="checkbox"/> At indication that filter insert is malfunctioning.
Maintenance Indications	Maintenance Activities
<input type="checkbox"/> Trash and debris interfering with function of insert	<input type="checkbox"/> Remove trash and debris
<input type="checkbox"/> Broken or damaged structure	<input type="checkbox"/> Repair inlet structure
<input type="checkbox"/> Sediment clogging filter	<input type="checkbox"/> Remove sediment
<input type="checkbox"/> Sediment 50 percent full	<input type="checkbox"/> Remove sediment
<input type="checkbox"/> Insert adsorbent material at capacity	<input type="checkbox"/> Replace adsorbent material when it has reached capacity or at an interval recommended by manufacturer. At minimum, the adsorbent material must be replaced annually.
Waste Disposal	Sediment, other pollutants, and all other waste shall be properly disposed of in a licensed landfill or by another appropriate disposal method in accordance with local, state, and federal regulations.



ATTACHMENT G

Peak Discharge and Velocity Calculations



Insert ODM-Existing.pdf (full size print)

Insert ODM-Proposed.pdf (full size print)

TREATMENT BMP DESIGN

EXISTING GRATE INLET FILTER INSERT				
C	i ₈₅ (in/hr)	A (acre)	Q ₈₅ (cfs)	MFG MAX TREATMENT Q (cfs)
0.84	0.2	0.19	0.03	11.65

VEGETATED SWALE DESIGN CALCULATIONS							
C	i ₈₅ (in/hr)	A (acre)	Q ₈₅ (cfs)	V (fps)*	L _{PROVIDED} (ft)**	L _{REQUIRED} (ft)	T _{RESIDENCE} (min)
0.64	0.2	9.65	1.24	0.28	168	168	10.0

*FROM FLOWMASTER OUTPUT
 **SWALE SECTION WITH 1.0% SLOPE

For "C" value calculations see Attachment G

2-YEAR PEAK FLOWRATE CALCULATIONS

EXISTING AND PROPOSED CONDITIONS COMPOUND C CALCULATION		
AREA	A (ac)	C
ONSITE PERVIOUS	0.73	0.35
ONSITE IMPERVIOUS	0.67	0.9
OFFSITE	7.10	0.63
COMPOSITE (NODE 100)	8.5	0.63

EXISTING CONDITION COMPOUND C CALCULATION		
AREA	A (ac)	C
ONSITE PERVIOUS	1.01	0.35
ONSITE IMPERVIOUS	0.67	0.9
OFFSITE	7.56	0.63
COMPOSITE (NODE 200)	9.24	0.62
ONSITE TO DRAIN PERVIOUS	0.02	0.35
ONSITE TO DRAIN IMPERVIOUS	0.17	0.90
COMPOSITE (NODE 300)	0.19	0.84

PROPOSED CONDITION COMPOUND C CALCULATION		
AREA	A (ac)	C
ONSITE PERVIOUS	0.03	0.35
ONSITE SEMI-PERVIOUS (DG)	1.21	0.55
ONSITE IMPERVIOUS	0.85	0.9
OFFSITE	7.56	0.63
COMPOSITE (NODE 200)	9.65	0.64
ONSITE TO DRAIN PERVIOUS	0.02	0.35
ONSITE TO DRAIN IMPERVIOUS	0.17	0.90
COMPOSITE (NODE 300)	0.19	0.84

UPSTREAM	CONDITION	EL1	EL2	L (ft)	LT* (ft)	ΔE^* (ft)	Ti* (min)	Tt* (min)	Tc* (min)	I* (in/hr)
NODE 100	EXISTING	30.96	11.6	1185	1105	17.7	8.1	4.6	12.7	1.6
	PROPOSED	30.96	11.6	1185	1105	17.7	8.1	4.6	12.7	1.6

DOWNSTREAM	CONDITION	EL1	EL2	L (ft)	LT* (ft)	ΔE^* (ft)	Ti* (min)	Tt* (min)	Tc* (min)	I* (in/hr)
NODE 200 ¹	EXISTING	30.96	7.37	1688	1608	23.6	8.1	8.0	16.1	1.4
	PROPOSED	30.96	7.37	1692	1612	23.6	8.1	8.0	16.1	1.4
NODE 300	EXISTING	15.10	13.96	145	75	1.14	3.1	0.6	5.0	2.9
	PROPOSED	15.10	13.96	145	75	1.14	3.1	0.6	5.0	2.9

*CALCULATED USING METHODOLOGY OUTLINED IN SECTION 3 OF THE SAN DIEGO COUNTY HYDROLOGY MANUAL

¹ Travel time from Node 100 to Node 200 (3.4 minutes) has been neglected so that the analysis indicates an increase in peak flow rate from Node 100 to Node 200. As such, the rainfall intensity at Node 200 (1.36 in/hr) was set equal to the rainfall intensity at Node 100 (1.59 in/hr).

UPSTREAM	CONDITION	C	I (in/hr)	A (ac)	Q (cfs)
NODE 100	EXISTING	0.63	1.59	8.50	8.5
	PROPOSED	0.63	1.59	8.50	8.5
DOWNSTREAM	CONDITION	C	I (in/hr)	A (ac)	Q (cfs)
NODE 200	EXISTING	0.62	1.59	9.24	9.1
	PROPOSED	0.64	1.59	9.65	9.8
NODE 300	EXISTING	0.84	2.90	0.19	0.5
	PROPOSED	0.84	2.90	0.19	0.5

10-YEAR PEAK FLOWRATE CALCULATIONS

EXISTING AND PROPOSED CONDITIONS COMPOUND C CALCULATION		
AREA	A (ac)	C
ONSITE PERVIOUS	0.73	0.35
ONSITE IMPERVIOUS	0.67	0.9
OFFSITE	7.10	0.63
COMPOSITE (NODE 100)	8.5	0.63

EXISTING CONDITION COMPOUND C CALCULATION		
AREA	A (ac)	C
ONSITE PERVIOUS	1.01	0.35
ONSITE IMPERVIOUS	0.67	0.9
OFFSITE	7.56	0.63
COMPOSITE (NODE 200)	9.24	0.62
ONSITE TO DRAIN PERVIOUS	0.02	0.35
ONSITE TO DRAIN IMPERVIOUS	0.17	0.90
COMPOSITE (NODE 300)	0.19	0.84

PROPOSED CONDITION COMPOUND C CALCULATION		
AREA	A (ac)	C
ONSITE PERVIOUS	0.03	0.35
ONSITE SEMI-PERVIOUS (DG)	1.21	0.55
ONSITE IMPERVIOUS	0.85	0.9
OFFSITE	7.56	0.63
COMPOSITE (NODE 200)	9.65	0.64
ONSITE TO DRAIN PERVIOUS	0.02	0.35
ONSITE TO DRAIN IMPERVIOUS	0.17	0.90
COMPOSITE (NODE 300)	0.19	0.84

UPSTREAM	CONDITION	EL1	EL2	L (ft)	LT* (ft)	ΔE^* (ft)	Ti* (min)	Tt* (min)	Tc* (min)	I* (in/hr)
NODE 100	EXISTING	30.96	11.6	1185	1105	17.7	8.1	4.6	12.7	3.6
	PROPOSED	30.96	11.6	1185	1105	17.7	8.1	4.6	12.7	3.6

DOWNSTREAM	CONDITION	EL1	EL2	L (ft)	LT* (ft)	ΔE^* (ft)	Ti* (min)	Tt* (min)	Tc* (min)	I* (in/hr)
NODE 200 ¹	EXISTING	30.96	7.37	1688	1608	23.6	8.1	8.0	16.1	2.0
	PROPOSED	30.96	7.37	1692	1612	23.6	8.1	8.0	16.1	2.0
NODE 300	EXISTING	15.10	13.96	145	75	1.14	3.1	0.6	5.0	4.2
	PROPOSED	15.10	13.96	145	75	1.14	3.1	0.6	5.0	4.2

*CALCULATED USING METHODOLOGY OUTLINED IN SECTION 3 OF THE SAN DIEGO COUNTY HYDROLOGY MANUAL

¹ Travel time from Node 100 to Node 200 (3.4 minutes) has been neglected so that the analysis indicates an increase in peak flow rate from Node 100 to Node 200. As such, the rainfall intensity at Node 200 (1.98 in/hr) was set equal to the rainfall intensity at Node 100 (2.31 in/hr).

UPSTREAM	CONDITION	C	I (in/hr)	A (ac)	Q (cfs)
NODE 100	EXISTING	0.63	2.31	8.50	12.4
	PROPOSED	0.63	2.31	8.50	12.4
DOWNSTREAM	CONDITION	C	I (in/hr)	A (ac)	Q (cfs)
NODE 200	EXISTING	0.62	2.31	9.24	13.2
	PROPOSED	0.64	2.31	9.65	14.3
NODE 300	EXISTING	0.84	4.22	0.19	0.7
	PROPOSED	0.84	4.22	0.19	0.7

100-YEAR PEAK FLOWRATE CALCULATIONS

EXISTING AND PROPOSED CONDITIONS COMPOUND C CALCULATION		
AREA	A (ac)	C
ONSITE PERVIOUS	0.73	0.35
ONSITE IMPERVIOUS	0.67	0.9
OFFSITE	7.10	0.63
COMPOSITE (NODE 100)	8.5	0.63

EXISTING CONDITION COMPOUND C CALCULATION		
AREA	A (ac)	C
ONSITE PERVIOUS	1.01	0.35
ONSITE IMPERVIOUS	0.67	0.9
OFFSITE	7.56	0.63
COMPOSITE (NODE 200)	9.24	0.62
ONSITE TO DRAIN PERVIOUS	0.02	0.35
ONSITE TO DRAIN IMPERVIOUS	0.17	0.90
COMPOSITE (NODE 300)	0.19	0.84

PROPOSED CONDITION COMPOUND C CALCULATION		
AREA	A (ac)	C
ONSITE PERVIOUS	0.03	0.35
ONSITE SEMI-PERVIOUS (DG)	1.21	0.55
ONSITE IMPERVIOUS	0.85	0.9
OFFSITE	7.56	0.63
COMPOSITE (NODE 200)	9.65	0.64
ONSITE TO DRAIN PERVIOUS	0.02	0.35
ONSITE TO DRAIN IMPERVIOUS	0.17	0.90
COMPOSITE (NODE 300)	0.19	0.84

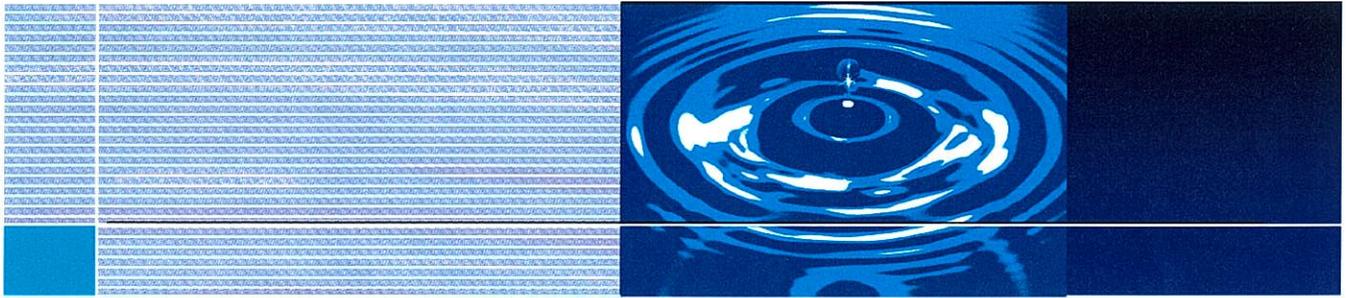
UPSTREAM	CONDITION	EL1	EL2	L (ft)	LT* (ft)	ΔE^* (ft)	Ti* (min)	Tt* (min)	Tc* (min)	I* (in/hr)
NODE 100	EXISTING	30.96	11.6	1185	1105	17.7	8.1	4.6	12.7	3.6
	PROPOSED	30.96	11.6	1185	1105	17.7	8.1	4.6	12.7	3.6

DOWNSTREAM	CONDITION	EL1	EL2	L (ft)	LT* (ft)	ΔE^* (ft)	Ti* (min)	Tt* (min)	Tc* (min)	I* (in/hr)
NODE 200 ¹	EXISTING	30.96	7.37	1688	1608	23.6	8.1	8.0	16.1	3.1
	PROPOSED	30.96	7.37	1692	1612	23.6	8.1	8.0	16.1	3.1
NODE 300	EXISTING	15.10	13.96	145	75	1.14	3.1	0.6	5.0	6.6
	PROPOSED	15.10	13.96	145	75	1.14	3.1	0.6	5.0	6.6

*CALCULATED USING METHODOLOGY OUTLINED IN SECTION 3 OF THE SAN DIEGO COUNTY HYDROLOGY MANUAL

¹ Travel time from Node 100 to Node 200 (3.4 minutes) has been neglected so that the analysis indicates an increase in peak flow rate from Node 100 to Node 200. As such, the rainfall intensity at Node 200 (3.10 in/hr) was set equal to the rainfall intensity at Node 100 (3.61 in/hr).

UPSTREAM	CONDITION	C	I (in/hr)	A (ac)	Q (cfs)
NODE 100	EXISTING	0.63	3.61	8.50	19.3
	PROPOSED	0.63	3.61	8.50	19.3
DOWNSTREAM	CONDITION	C	I (in/hr)	A (ac)	Q (cfs)
NODE 200	EXISTING	0.62	3.61	9.24	20.7
	PROPOSED	0.64	3.61	9.65	22.3
NODE 300	EXISTING	0.84	6.59	0.19	1.0
	PROPOSED	0.84	6.59	0.19	1.0



EXISTING CHANNEL CALCULATIONS

Section - 1, 100-Year

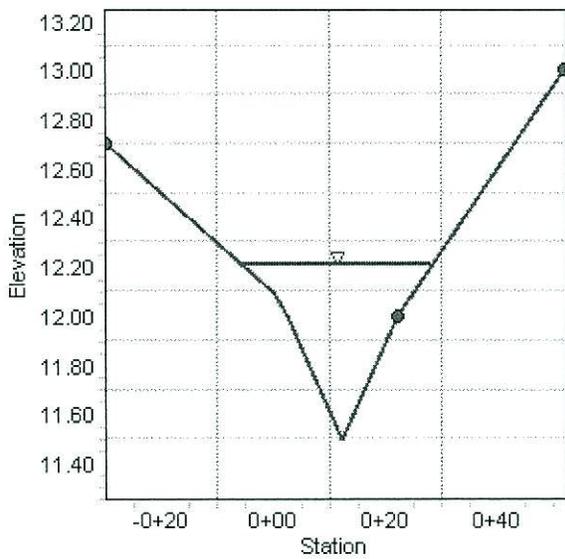
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.71	ft
Discharge	20.70	ft ³ /s

Cross Section Image



Section - 1, 100-Year

Results

Froude Number		0.65
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.71	ft
Critical Depth	0.59	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.02444	ft/ft

Section - 2, 100-Year

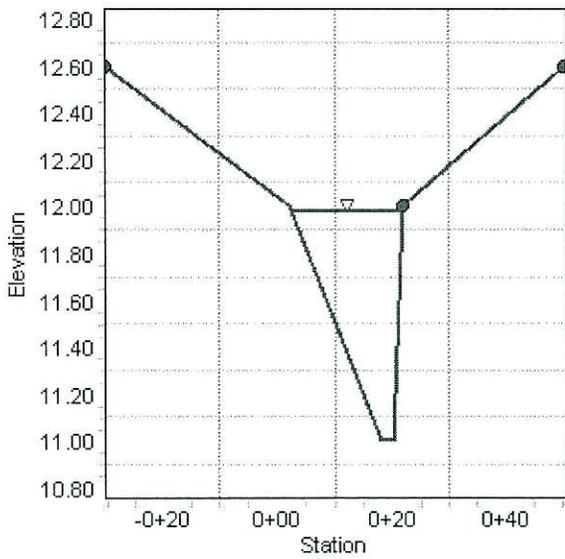
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.98	ft
Discharge	20.70	ft ³ /s

Cross Section Image



Section - 2, 100-Year

Results

Froude Number 0.47
Flow Type Subcritical

GVF Input Data

Downstream Depth 0.00 ft
Length 0.00 ft
Number Of Steps 0

GVF Output Data

Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Downstream Velocity Infinity ft/s
Upstream Velocity Infinity ft/s
Normal Depth 0.98 ft
Critical Depth 0.70 ft
Channel Slope 0.00500 ft/ft
Critical Slope 0.02470 ft/ft

Section - 3, 100-Year

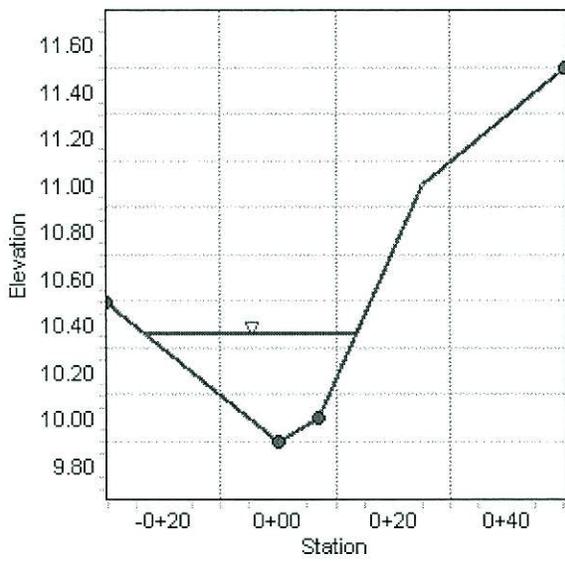
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00700	ft/ft
Normal Depth	0.46	ft
Discharge	20.70	ft ³ /s

Cross Section Image



Section - 3, 100-Year

Results

Froude Number 0.79
Flow Type Subcritical

GVF Input Data

Downstream Depth 0.00 ft
Length 0.00 ft
Number Of Steps 0

GVF Output Data

Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Downstream Velocity Infinity ft/s
Upstream Velocity Infinity ft/s
Normal Depth 0.46 ft
Critical Depth 0.41 ft
Channel Slope 0.00700 ft/ft
Critical Slope 0.01169 ft/ft

Section - 5, 100-Year

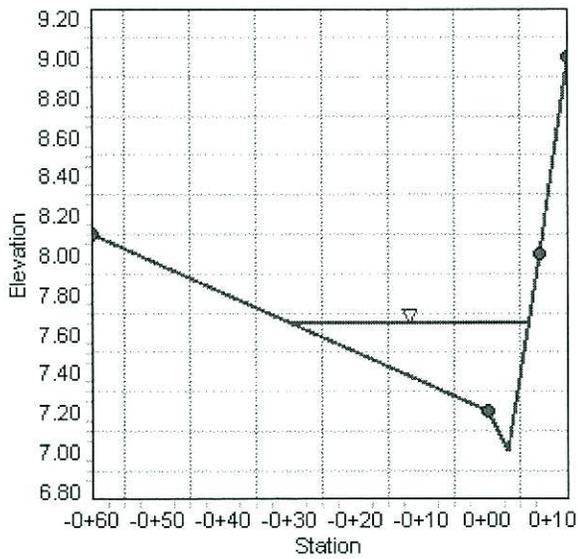
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.65	ft
Discharge	20.70	ft ³ /s

Cross Section Image



Section - 5, 100-Year

Results

Froude Number	0.75
Flow Type	Subcritical

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.65	ft
Critical Depth	0.59	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.01870	ft/ft

Section - 1, 10-Year

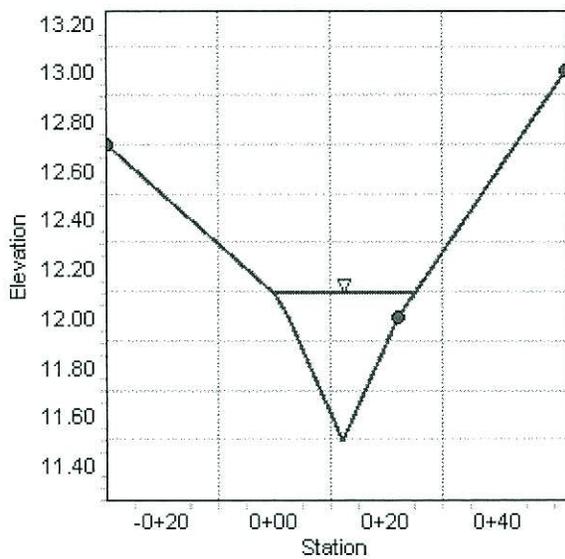
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.60	ft
Discharge	13.20	ft ³ /s

Cross Section Image



Section - 1, 10-Year

Results

Froude Number 0.63
Flow Type Subcritical

GVF Input Data

Downstream Depth 0.00 ft
Length 0.00 ft
Number Of Steps 0

GVF Output Data

Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Downstream Velocity Infinity ft/s
Upstream Velocity Infinity ft/s
Normal Depth 0.60 ft
Critical Depth 0.49 ft
Channel Slope 0.01000 ft/ft
Critical Slope 0.02668 ft/ft

Section - 2, 10-Year

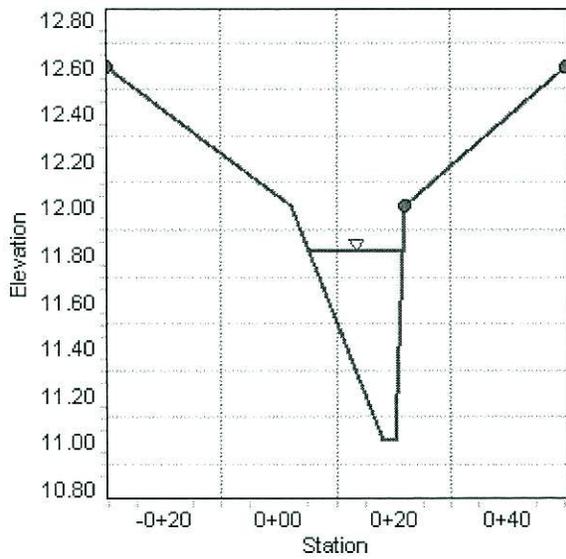
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.81	ft
Discharge	13.20	ft ³ /s

Cross Section Image



Section - 2, 10-Year

Results

Froude Number 0.46
Flow Type Subcritical

GVF Input Data

Downstream Depth 0.00 ft
Length 0.00 ft
Number Of Steps 0

GVF Output Data

Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Downstream Velocity Infinity ft/s
Upstream Velocity Infinity ft/s
Normal Depth 0.81 ft
Critical Depth 0.57 ft
Channel Slope 0.00500 ft/ft
Critical Slope 0.02624 ft/ft

Section - 3, 10-Year

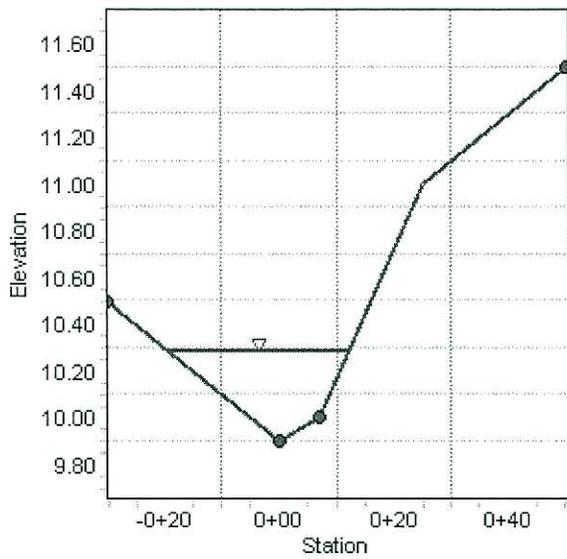
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.00700	ft/ft
Normal Depth	0.38	ft
Discharge	13.20	ft ³ /s

Cross Section Image



Section - 3, 10-Year

Results

Froude Number 0.75
Flow Type Subcritical

GVF Input Data

Downstream Depth 0.00 ft
Length 0.00 ft
Number Of Steps 0

GVF Output Data

Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Downstream Velocity Infinity ft/s
Upstream Velocity Infinity ft/s
Normal Depth 0.38 ft
Critical Depth 0.34 ft
Channel Slope 0.00700 ft/ft
Critical Slope 0.01312 ft/ft

Section - 5, 10-Year

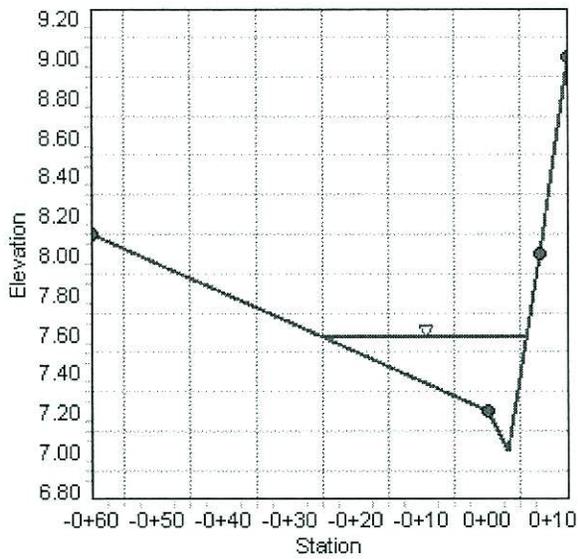
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.57	ft
Discharge	13.20	ft ³ /s

Cross Section Image



Section - 5, 10-Year

Results

Froude Number	0.71
Flow Type	Subcritical

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.57	ft
Critical Depth	0.52	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.02053	ft/ft

Section - 1, 2-Year

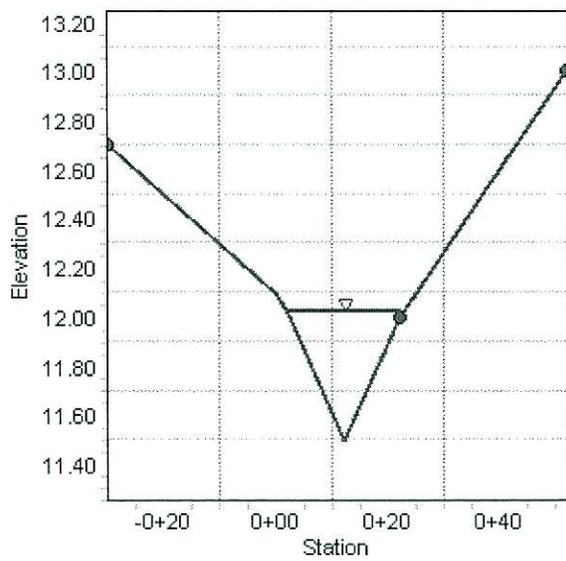
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.52	ft
Discharge	9.10	ft ³ /s

Cross Section Image



Section - 1, 2-Year

Results

Froude Number	0.60
Flow Type	Subcritical

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.52	ft
Critical Depth	0.42	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.02952	ft/ft

Section - 2, 2-Year

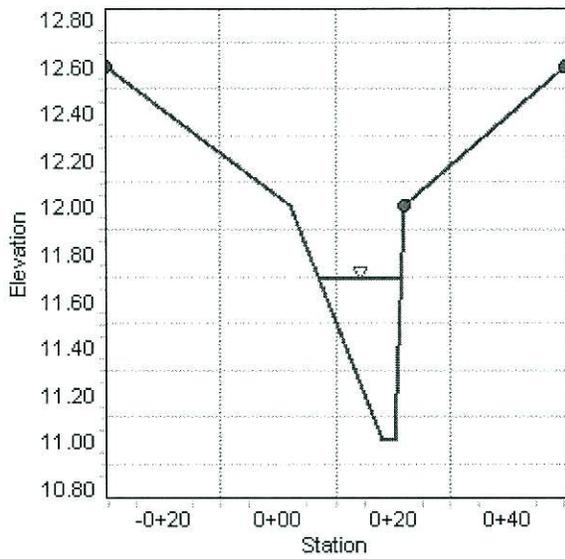
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.69	ft
Discharge	9.10	ft ³ /s

Cross Section Image



Section - 2, 2-Year

Results

Froude Number 0.45
Flow Type Subcritical

GVF Input Data

Downstream Depth 0.00 ft
Length 0.00 ft
Number Of Steps 0

GVF Output Data

Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Downstream Velocity Infinity ft/s
Upstream Velocity Infinity ft/s
Normal Depth 0.69 ft
Critical Depth 0.48 ft
Channel Slope 0.00500 ft/ft
Critical Slope 0.02759 ft/ft

Section - 3, 2-Year

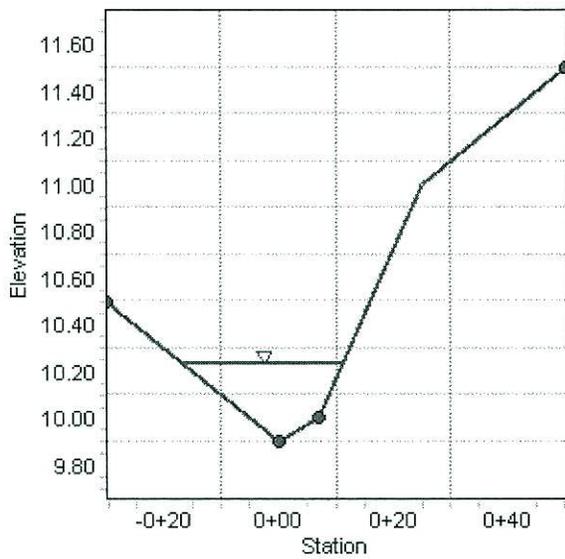
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.00700	ft/ft
Normal Depth	0.33	ft
Discharge	9.10	ft ³ /s

Cross Section Image



Section - 3, 2-Year

Results

Froude Number	0.71
Flow Type	Subcritical

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.33	ft
Critical Depth	0.29	ft
Channel Slope	0.00700	ft/ft
Critical Slope	0.01448	ft/ft

Section - 4, 2-Year

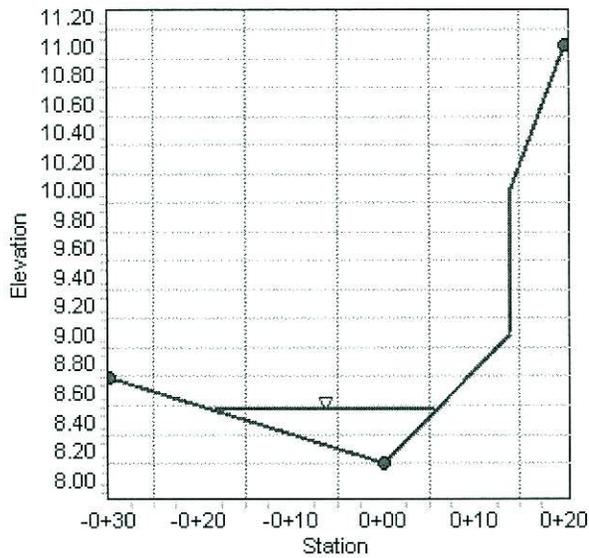
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.01250	ft/ft
Normal Depth	0.37	ft
Discharge	9.10	ft ³ /s

Cross Section Image



Section - 5, 2-Year

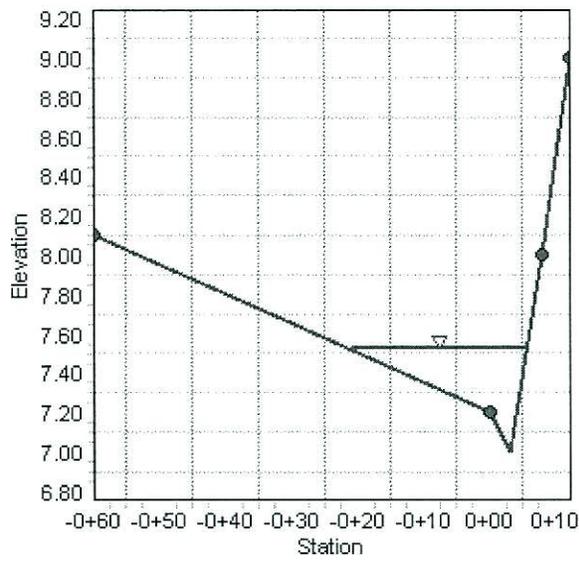
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.52	ft
Discharge	9.10	ft ³ /s

Cross Section Image



Section - 5, 2-Year

Results

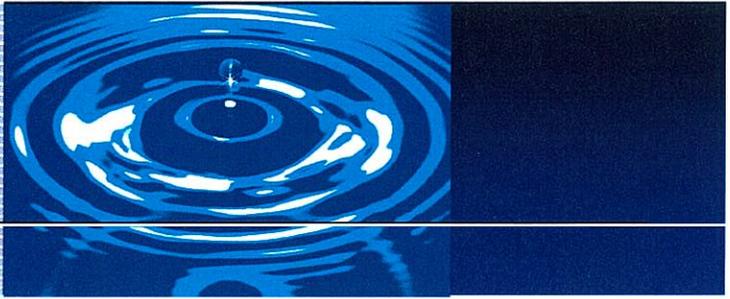
Froude Number 0.69
Flow Type Subcritical

GVF Input Data

Downstream Depth 0.00 ft
Length 0.00 ft
Number Of Steps 0

GVF Output Data

Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Downstream Velocity Infinity ft/s
Upstream Velocity Infinity ft/s
Normal Depth 0.52 ft
Critical Depth 0.46 ft
Channel Slope 0.01000 ft/ft
Critical Slope 0.02224 ft/ft



PROPOSED CHANNEL & SWALE CALCULATIONS

Section - 1, 100-Year

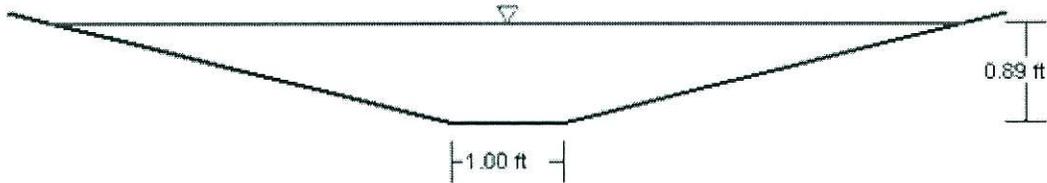
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	0.00600 ft/ft
Normal Depth	0.89 ft
Left Side Slope	4.00 ft/ft (H:V)
Right Side Slope	4.00 ft/ft (H:V)
Bottom Width	1.00 ft
Discharge	22.30 ft ³ /s

Cross Section Image



V: 1
H: 1

Section - 1, 100-Year

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00600	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	1.00	ft
Discharge	22.30	ft ³ /s

Results

Normal Depth	0.89	ft
Flow Area	4.07	ft ²
Wetted Perimeter	8.35	ft
Top Width	8.13	ft
Critical Depth	1.02	ft
Critical Slope	0.00308	ft/ft
Velocity	5.48	ft/s
Velocity Head	0.47	ft
Specific Energy	1.36	ft
Froude Number	1.37	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.89	ft
Critical Depth	1.02	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00308	ft/ft

Section - 2, 100-Year

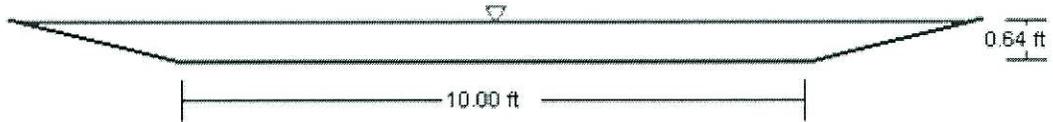
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.035
Channel Slope	0.01000 ft/ft
Normal Depth	0.64 ft
Left Side Slope	4.00 ft/ft (H:V)
Right Side Slope	4.00 ft/ft (H:V)
Bottom Width	10.00 ft
Discharge	22.30 ft ³ /s

Cross Section Image



V: 1
H: 1

Section - 2, 100-Year

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.035	
Channel Slope	0.01000	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	10.00	ft
Discharge	22.30	ft ³ /s

Results

Normal Depth	0.64	ft
Flow Area	8.05	ft ²
Wetted Perimeter	15.28	ft
Top Width	15.13	ft
Critical Depth	0.50	ft
Critical Slope	0.02395	ft/ft
Velocity	2.77	ft/s
Velocity Head	0.12	ft
Specific Energy	0.76	ft
Froude Number	0.67	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.64	ft
Critical Depth	0.50	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.02395	ft/ft

Section - 3, 100-Year

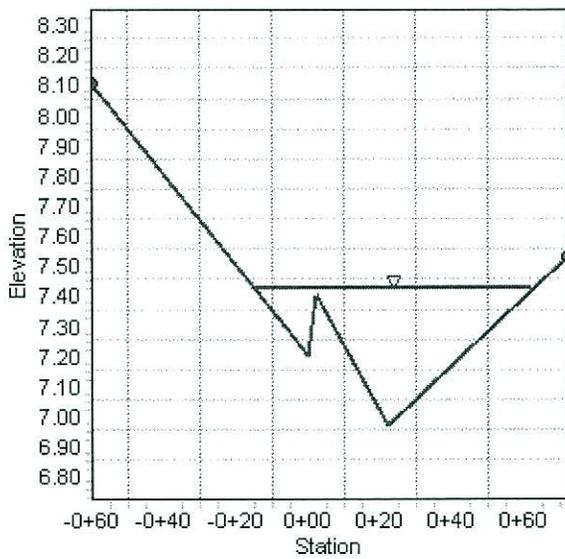
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.45	ft
Discharge	22.30	ft ³ /s

Cross Section Image



Section - 3, 100-Year

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.45	ft
Critical Depth	0.37	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.03271	ft/ft

Section - 4, 100-Year

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.61	ft
Critical Depth	0.41	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.02711	ft/ft

Section - 1, 10-Year

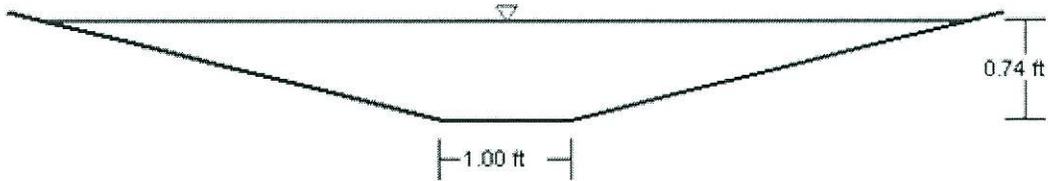
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	0.00600 ft/ft
Normal Depth	0.74 ft
Left Side Slope	4.00 ft/ft (H:V)
Right Side Slope	4.00 ft/ft (H:V)
Bottom Width	1.00 ft
Discharge	14.30 ft ³ /s

Cross Section Image



V: 1
H: 1

Section - 1, 10-Year

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00600	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	1.00	ft
Discharge	14.30	ft ³ /s

Results

Normal Depth	0.74	ft
Flow Area	2.92	ft ²
Wetted Perimeter	7.09	ft
Top Width	6.91	ft
Critical Depth	0.84	ft
Critical Slope	0.00327	ft/ft
Velocity	4.90	ft/s
Velocity Head	0.37	ft
Specific Energy	1.11	ft
Froude Number	1.33	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.74	ft
Critical Depth	0.84	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00327	ft/ft

Section - 2, 10-Year

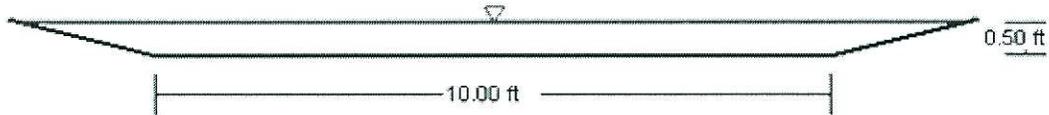
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.035
Channel Slope	0.01000 ft/ft
Normal Depth	0.50 ft
Left Side Slope	4.00 ft/ft (H:V)
Right Side Slope	4.00 ft/ft (H:V)
Bottom Width	10.00 ft
Discharge	14.30 ft ³ /s

Cross Section Image



V: 1
H: 1

Section - 2, 10-Year

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.035	
Channel Slope	0.01000	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	10.00	ft
Discharge	14.30	ft ³ /s

Results

Normal Depth	0.50	ft
Flow Area	5.97	ft ²
Wetted Perimeter	14.11	ft
Top Width	13.98	ft
Critical Depth	0.38	ft
Critical Slope	0.02596	ft/ft
Velocity	2.39	ft/s
Velocity Head	0.09	ft
Specific Energy	0.59	ft
Froude Number	0.65	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.50	ft
Critical Depth	0.38	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.02596	ft/ft

Section - 3, 10-Year

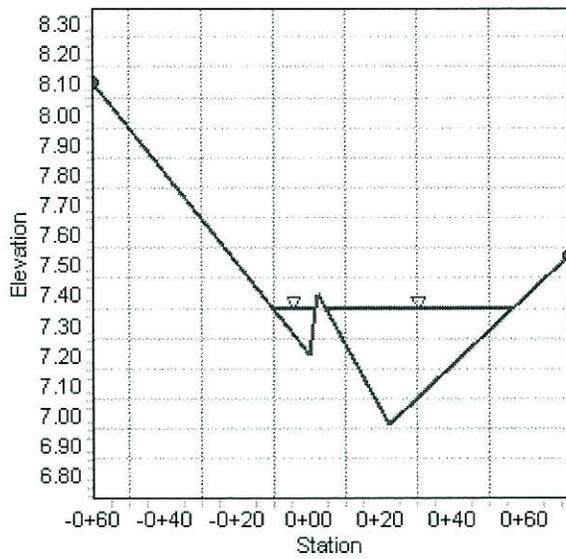
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.38	ft
Discharge	14.30	ft ³ /s

Cross Section Image



Section - 3, 10-Year

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.38	ft
Critical Depth	0.31	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.03437	ft/ft

Section - 4, 10-Year

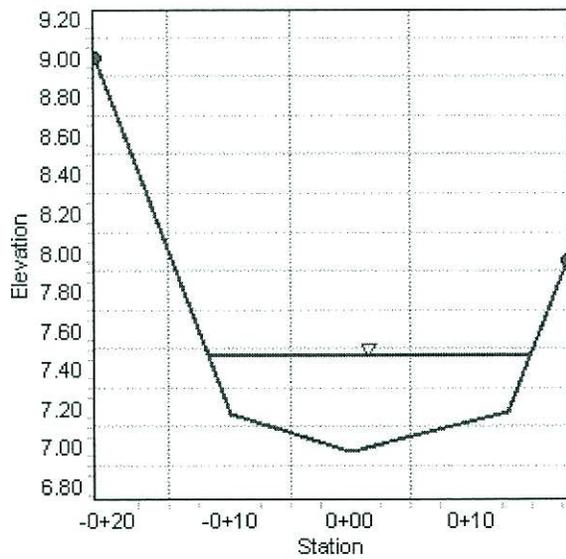
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.49	ft
Discharge	14.30	ft ³ /s

Cross Section Image



Section - 4, 10-Year

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.49	ft
Critical Depth	0.33	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.02965	ft/ft

Section - 1, 2-Year

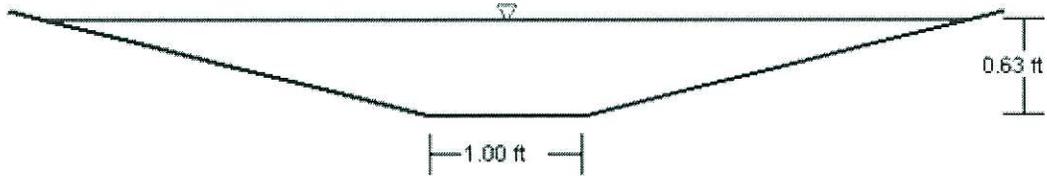
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	0.00600 ft/ft
Normal Depth	0.63 ft
Left Side Slope	4.00 ft/ft (H:V)
Right Side Slope	4.00 ft/ft (H:V)
Bottom Width	1.00 ft
Discharge	9.80 ft ³ /s

Cross Section Image



V: 1
H: 1

Section - 1, 2-Year

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00600	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	1.00	ft
Discharge	9.80	ft ³ /s

Results

Normal Depth	0.63	ft
Flow Area	2.20	ft ²
Wetted Perimeter	6.17	ft
Top Width	6.02	ft
Critical Depth	0.71	ft
Critical Slope	0.00344	ft/ft
Velocity	4.45	ft/s
Velocity Head	0.31	ft
Specific Energy	0.94	ft
Froude Number	1.30	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.63	ft
Critical Depth	0.71	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00344	ft/ft

Section - 2, 2-Year

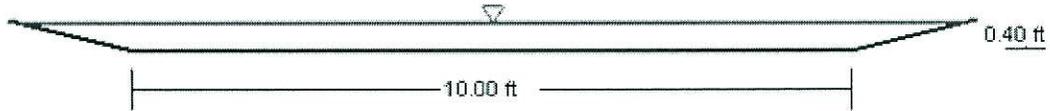
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.035
Channel Slope	0.01000 ft/ft
Normal Depth	0.40 ft
Left Side Slope	4.00 ft/ft (H:V)
Right Side Slope	4.00 ft/ft (H:V)
Bottom Width	10.00 ft
Discharge	9.80 ft ³ /s

Cross Section Image



V: 1
H: 1

Section - 2, 2-Year

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.035	
Channel Slope	0.01000	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	10.00	ft
Discharge	9.80	ft ³ /s

Results

Normal Depth	0.40	ft
Flow Area	4.65	ft ²
Wetted Perimeter	13.31	ft
Top Width	13.21	ft
Critical Depth	0.30	ft
Critical Slope	0.02787	ft/ft
Velocity	2.11	ft/s
Velocity Head	0.07	ft
Specific Energy	0.47	ft
Froude Number	0.63	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.40	ft
Critical Depth	0.30	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.02787	ft/ft

Section - 3, 2-Year

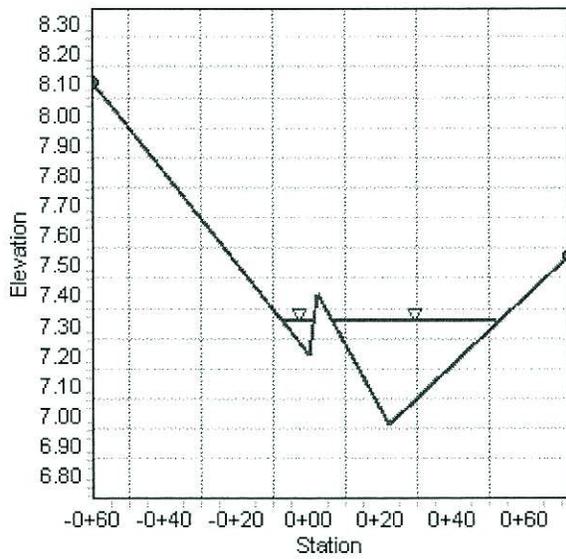
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.34	ft
Discharge	9.80	ft ³ /s

Cross Section Image



Section - 3, 2-Year

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.34	ft
Critical Depth	0.27	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.03570	ft/ft

Section - 4, 2-Year

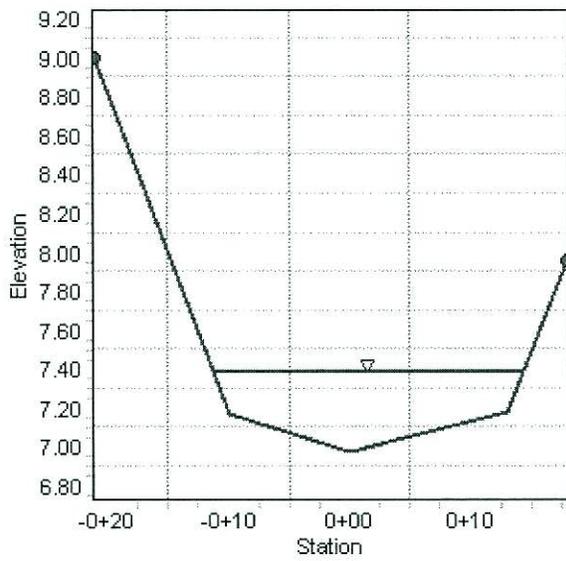
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.41	ft
Discharge	9.80	ft ³ /s

Cross Section Image



Section - 4, 2-Year

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.41	ft
Critical Depth	0.28	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.03204	ft/ft

Section - 1, WQ Flow

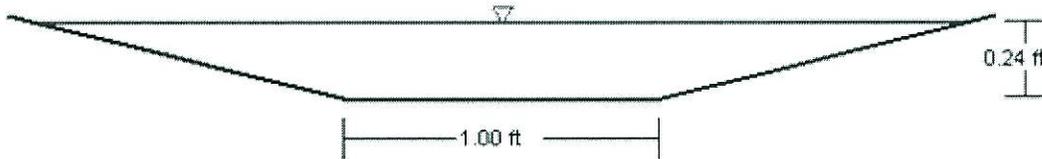
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.013
Channel Slope	0.00600 ft/ft
Normal Depth	0.24 ft
Left Side Slope	4.00 ft/ft (H:V)
Right Side Slope	4.00 ft/ft (H:V)
Bottom Width	1.00 ft
Discharge	1.24 ft ³ /s

Cross Section Image



V: 1
H: 1

Section - 1, WQ Flow

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00600	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	1.00	ft
Discharge	1.24	ft ³ /s

Results

Normal Depth	0.24	ft
Flow Area	0.48	ft ²
Wetted Perimeter	3.00	ft
Top Width	2.94	ft
Critical Depth	0.26	ft
Critical Slope	0.00455	ft/ft
Velocity	2.60	ft/s
Velocity Head	0.11	ft
Specific Energy	0.35	ft
Froude Number	1.14	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.24	ft
Critical Depth	0.26	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00455	ft/ft

Section - 2, WQ Flow

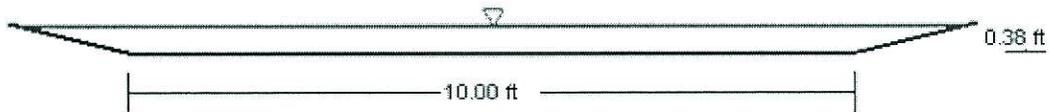
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.250
Channel Slope	0.01000 ft/ft
Normal Depth	0.38 ft
Left Side Slope	4.00 ft/ft (H:V)
Right Side Slope	4.00 ft/ft (H:V)
Bottom Width	10.00 ft
Discharge	1.24 ft ³ /s

Cross Section Image



V: 1
H: 1

Section - 2, WQ Flow

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.250	
Channel Slope	0.01000	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	10.00	ft
Discharge	1.24	ft ³ /s

Results

Normal Depth	0.38	ft
Flow Area	4.35	ft ²
Wetted Perimeter	13.12	ft
Top Width	13.02	ft
Critical Depth	0.08	ft
Critical Slope	2.16586	ft/ft
Velocity	0.28	ft/s
Velocity Head	0.00	ft
Specific Energy	0.38	ft
Froude Number	0.09	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.38	ft
Critical Depth	0.08	ft
Channel Slope	0.01000	ft/ft
Critical Slope	2.16586	ft/ft

Section - 3, WQ Flow

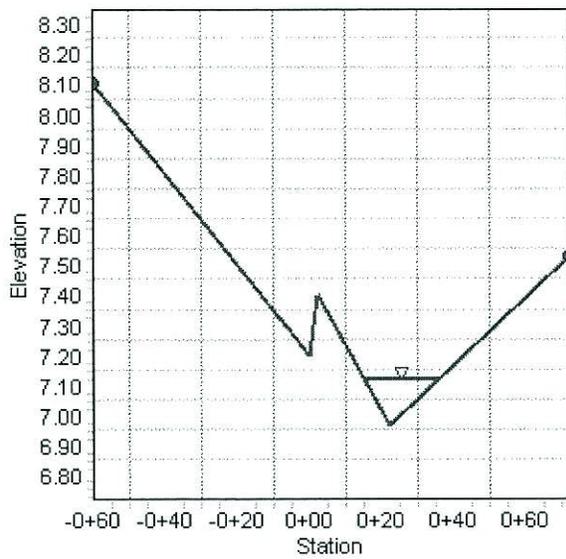
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.15	ft
Discharge	1.24	ft ³ /s

Cross Section Image



Section - 3, WQ Flow

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.15	ft
Critical Depth	0.12	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.04613	ft/ft

Section - 4, WQ Flow

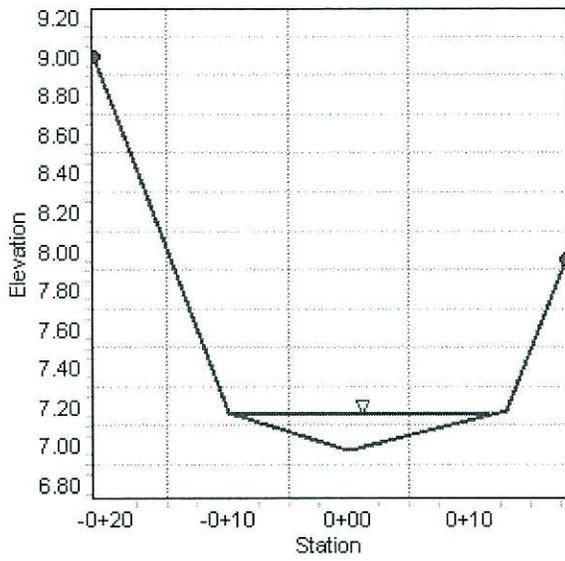
Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	0.19	ft
Discharge	1.24	ft ³ /s

Cross Section Image



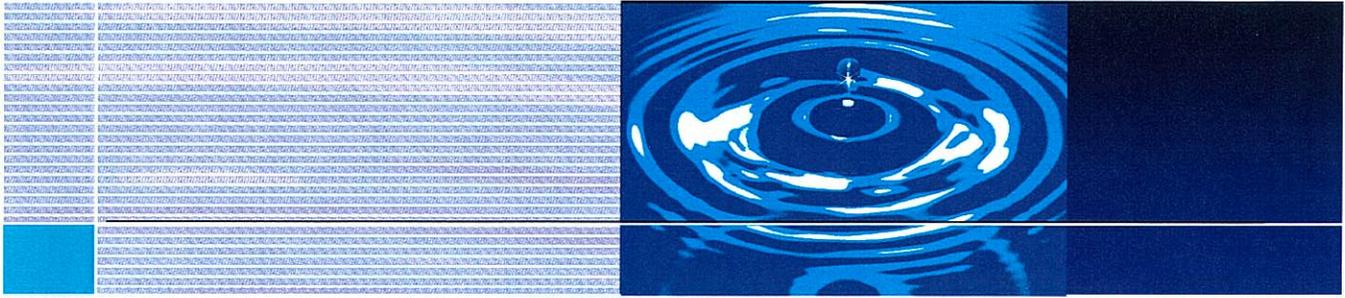
Section - 4, WQ Flow

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.19	ft
Critical Depth	0.13	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.04499	ft/ft



ATTACHMENT H

Engineer's Certification





Certification

This Water Quality Technical Report (WQTR) has been prepared under the direction of the following Registered Civil Engineer. The Registered Civil Engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based. The plans and specifications in this SWMP are not for construction purposes; the contractor shall refer to final approved construction documents for plans and specifications.


Rich Lucera

RCE 58089


January 9, 2009



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Linda S. Adams
Secretary for
Environmental Protection

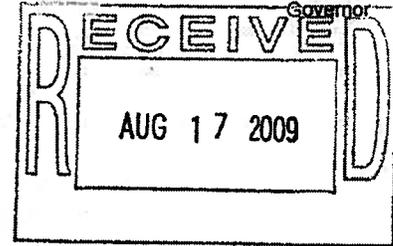


Department of Toxic Substances Control

Maziar Movassaghi
Acting Director
5796 Corporate Avenue
Cypress, California 90630



Arnold Schwarzenegger
Governor



August 10, 2009

Mr. Jim Nakagawa, Imperial Beach City Planner
Community Development Department
825 Imperial Beach Boulevard
Imperial Beach, California 91932

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR IMPERIAL BEACH PUBLIC WORKS YARD EXPANSION (MF950) PROJECT (SCH # 2009071093), SAN DIEGO COUNTY

Dear Mr. Nakagawa:

The Department of Toxic Substances Control (DTSC) has received your submitted draft Initial Study (IS) and Mitigation Negative Declaration (MND) for the above-mentioned project. The following project description is stated in your document: "This is an application for Design Review (DRC 080009), Site Plan Review (SPR 080010), and California Coastal Development Permit (CDP 6-09-030) for the expansion of the Public Works yard on a 2.86-acre parcel at 495 10th Street in the Public Facility (PF) Zone. The project would include a mixture of remodeling, renovation, and expansion activities. The project is located within the existing City of Imperial Beach Public Works Yard site. The City of Imperial Beach is located in the southwestern portion of San Diego County. The site is used for activities associated with the Public Works Yard and the City's Public Works Department. The majority of land uses in the immediately vicinity of the project site are urbanized residential uses. The project site is adjacent to Bayside Elementary School to the west and the Bayshore Bikeway to the north, which separates the project site from the southern reaches of San Diego Bay." DTSC has the following comments:

- 1) The ND should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents. Please see comment No. 9 below for more information.

For all identified sites, the EIR should evaluate whether conditions at the site may pose a threat to human health or the environment. Following are the databases of some of the pertinent regulatory agencies:

- National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).
 - EnviroStor: A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
 - Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.
 - Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
 - Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
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 - Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
 - The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).
- 2) All environmental investigations, sampling and/or remediation for the site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found should be clearly summarized in a table.
- 3) If buildings or other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should be conducted for the presence

of other related hazardous chemicals, lead-based paints or products, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies.

- 4) Project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination.
- 5) Human health and the environment of sensitive receptors should be protected during the construction or demolition activities. If it is found necessary, a study of the site and a health risk assessment overseen and approved by the appropriate government agency and a qualified health risk assessor should be conducted to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment.
- 6) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA.
- 7) If during construction/demolition of the project, the soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented.
- 8) If the site was used for agricultural, livestock or related activities, onsite soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project.

Mr. Jim Nakagawa
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- 9) DTSC can provide guidance for cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies which would not be considered responsible parties under CERCLA, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

If you have any questions regarding this letter, please contact Mr. Rafiq Ahmed, Project Manager, at rahmed@dtsc.ca.gov, or by phone at (714) 484-5491.

Sincerely,



Greg Holmes
Unit Chief
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
state.clearinghouse@opr.ca.gov

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
1001 I Street, 22nd Floor, M.S. 22-2
Sacramento, California 95814
nritter@dtsc.ca.gov

CEQA # 2671



COMMUNITY DEVELOPMENT DEPARTMENT
825 IMPERIAL BEACH BOULEVARD • IMPERIAL BEACH, CALIFORNIA 91932

SEPTEMBER 2, 2009

**MITIGATED NEGATIVE DECLARATION FOR
PUBLIC WORKS YARD PROJECT (MF 950)
RESPONSES TO COMMENTS**

A Notice of Intent to Adopt a Mitigated Negative Declaration (MND) for the Imperial Beach Public Works Yard project (MF 950) at 495 10th Street was released on July 23, 2009 advising that the Mitigated Negative Declaration was available for public review from July 23, 2009 to August 21, 2009 and that comments would be received until 5:00 p.m. August 21, 2009. The MND was also sent to the State Clearinghouse for review (SCH#2009071093) by state agencies from July 27, 2009 to August 25, 2009.

The following letter was received within the comment period::

PRIVATE CITIZENS:

none

FEDERAL AGENCIES:

none

STATE AGENCIES:

Letter dated August 10, 2009 from the California Department of Toxic Substances Control.

To finalize the document, staff has prepared Responses to Comments.

Letter of Comment	Response to Comment
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 <p style="text-align: center;">  Department of Toxic Substances Control Maziar Movsesseghi Acting Director 5796 Corporate Avenue Cypress, California 90630 </p>  <p style="text-align: center;"> Arnold Schwarzenegger Governor </p>  <p>August 10, 2009</p> <p>Mr. Jim Nakagawa, Imperial Beach City Planner Community Development Department 825 Imperial Beach Boulevard Imperial Beach, California 91932</p> <p>NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR IMPERIAL BEACH PUBLIC WORKS YARD EXPANSION (MF950) PROJECT (SCH # 2009071093), SAN DIEGO COUNTY</p> <p>Dear Mr. Nakagawa:</p> <p>The Department of Toxic Substances Control (DTSC) has received your submitted draft Initial Study (IS) and Mitigation Negative Declaration (MND) for the above-mentioned project. The following project description is stated in your document: "This is an application for Design Review (DRC 080009), Site Plan Review (SPR 080010), and California Coastal Development Permit (CDP 6-09-030) for the expansion of the Public Works yard on a 2.86-acre parcel at 495 10th Street in the Public Facility (PF) Zone. The project would include a mixture of remodeling, renovation, and expansion activities. The project is located within the existing City of Imperial Beach Public Works Yard site. The City of Imperial Beach is located in the southwestern portion of San Diego County. The site is used for activities associated with the Public Works Yard and the City's Public Works Department. The majority of land uses in the immediately vicinity of the project site are urbanized residential uses. The project site is adjacent to Bayside Elementary School to the west and the Bayshore Bikeway to the north, which separates the project site from the southern reaches of San Diego Bay." DTSC has the following comments:</p> <ol style="list-style-type: none"> 1) The ND should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents. Please see comment No. 9 below for more information. 	<p>Letter from California Department of Toxic Substances Control:</p> <p>Response to Letter dated August 10, 2009:</p> <p>An addendum to the Initial Study addressing hazardous materials will state that hazardous waste from the outside the property will not be disposed of onsite and the City has specific policies for the handling of fuels, motor oils, and solvents associated with vehicle maintenance on the site. The policies identify proper handling, storage, and disposal of potentially hazardous chemicals used on the site.</p> <p>A search of the County of San Diego Department of Environmental Health Hazardous Material Establishment Search database for the City of IB Public Works Yard was conducted. No hazardous materials citations have been issued on the property. No know hazardous materials sites were listed for the project site. No unauthorized hazardous materials have been improperly disposed of at the site and there is no evidence that implementing the project would release harmful materials into the surrounding area.</p>
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Letter of Comment	Response to Comment
<p>Mr. Jim Nakagawa August 12, 2009 Page 2</p> <p>For all identified sites, the EIR should evaluate whether conditions at the site may pose a threat to human health or the environment. Following are the databases of some of the pertinent regulatory agencies:</p> <ul style="list-style-type: none"> • National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA). • EnviroStor: A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below). • Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA. • Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA. • Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations. • Leaking Underground Storage Tanks (LUST) / Spills, Leaks, Investigations and Cleanups (SLIC): A list that is maintained by Regional Water Quality Control Boards. • Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks. • The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS). <p>2) All environmental investigations, sampling and/or remediation for the site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found should be clearly summarized in a table.</p> <p>3) If buildings or other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should be conducted for the presence</p>	

Letter of Comment	Response to Comment
<p>Mr. Jim Nakagawa August 12, 2009 Page 3</p> <p>of other related hazardous chemicals, lead-based paints or products, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies.</p> <p>4) Project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination.</p> <p>5) Human health and the environment of sensitive receptors should be protected during the construction or demolition activities. If it is found necessary, a study of the site and a health risk assessment overseen and approved by the appropriate government agency and a qualified health risk assessor should be conducted to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment.</p> <p>6) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA.</p> <p>7) If during construction/demolition of the project, the soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented.</p> <p>8) If the site was used for agricultural, livestock or related activities, onsite soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project.</p>	

Letter of Comment	Response to Comment
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Mr. Jim Nakagawa
August 12, 2009
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- 9) DTSC can provide guidance for cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies which would not be considered responsible parties under CERCLA, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

If you have any questions regarding this letter, please contact Mr. Rafiq Ahmed, Project Manager, at rahmed@dtsc.ca.gov, or by phone at (714) 484-5491.

Sincerely,



Greg Holmes
Unit Chief
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
state.clearinghouse@opr.ca.gov

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
1001 I Street, 22nd Floor, M.S. 22-2
Sacramento, California 95814
nritter@dtsc.ca.gov

CEQA # 2671



COMMUNITY DEVELOPMENT DEPARTMENT
825 IMPERIAL BEACH BOULEVARD • IMPERIAL BEACH, CALIFORNIA 91932

**MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) FOR THE
IMPERIAL BEACH PUBLIC WORKS YARD EXPANSION PROJECT (MF 950)
AT 495 10TH STREET**

A Mitigated Negative Declaration (MND) for the Public Works Yard Expansion Project (MF 950) was prepared and released for public review from July 23, 2009 to August 21, 2009. It was also routed through the State Clearinghouse (#2009071093) for state agency review from July 27, 2009 to August 25, 2009 and distributed to the US Fish and Wildlife Service, the Coastal Commission, the Metropolitan Transit Service (MTS), and Save Our Heritage Organization (SOHO).

California Environmental Quality Act (CEQA) Guidelines Section 15074(d) requires that the lead agency adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to mitigate or avoid significant environmental effects.

The attached Mitigation Monitoring Checklist provides a mechanism for monitoring the mitigation measures in compliance with the MND. This checklist is organized by categories of environmental impacts (e.g. aesthetics, geology, and hydrology and water quality). Potential impacts identified in the MND are summarized for each impact area and the required mitigation measures are listed. The checklist identifies the implementation schedule, who is responsible for implementing the measure, monitoring mechanism, and required monitoring and reporting frequency.

ADOPTION:

This Mitigation Monitoring Reporting Program was adopted as a component of Resolution No. 2009-6800 by the Imperial Beach City Council on September 2, 2009.

James Nakagawa, AICP
Imperial Beach City Planner

Mitigation Measures	Monitoring Requirement	Responsible for Mitigation Implementation	Completion Requirement	Agency Responsible for Verification
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<p>Aesthetics:</p> <p>1. Final landscape plans that screen the chain link fence facing Cherry Avenue and vegetation planted on the west portion of the site shall be referred to the US Fish and Wildlife Service and submitted to the Community Development Department for approval.</p> <p>Geology and Soils:</p> <p>2. Liquefiable soils may be present on the site. The confirmation of their presence (or absence) shall be done through subsurface exploration (e.g., drilling) and laboratory testing.</p> <p>3. The project has a potential for strong ground motions due to earthquakes. Accordingly, the potential for relatively strong seismic accelerations will need to be considered in the design of proposed improvements.</p> <p>Hydrology and Water Quality:</p> <p>4. Project shall adhere to the Water Quality Technical Report (WQTP) and Hydrology Study prepared by RBF Consultants as conditioned and approved by the City of Imperial Beach including Construction and Permanent Best Management Practices (BMP) and other requirements pursuant to the City's Standard Urban Storm Water Mitigation Plan (SUSMP).</p>	<p>1. Review plans and installation of landscaping.</p> <p>2. Soil testing</p> <p>3. Review plans</p> <p>4. Water quality plans review and construction</p>	<p>1. Public Works Dept</p> <p>2. Public Works</p> <p>3. Public Works</p> <p>4. Public Works</p>	<p>1. Landscaping installation before project completion.</p> <p>2. Testing prior to permit issuance and construction</p> <p>3. Plan review</p> <p>4. Installation of BMP</p>	<p>1. Community Development, Public Works, and US Fish and Wildlife Service.</p> <p>2. Building Dept</p> <p>3. Building Dept</p> <p>4. Building and Public Works Depts</p>
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