CITY OF DEL MAR JURISDICTIONAL URBAN RUNOFF MANAGEMENT PLAN FISCAL YEAR 2011 ANNUAL REPORT

SUBMITTED TO:
SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD
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SEPTEMBER 30, 2011

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

EXECUTIVE SUMMARY

The City of Del Mar (City) developed its Jurisdictional Urban Runoff Management Program (JURMP) in 2008 to meet the requirements of the Municipal Separate Storm Sewer System (MS4) Urban Runoff Discharge Order No. R9-2007-0001 (Permit) issued to the City and the Regional Copermittees by the California Regional Water Quality Control Board, San Diego Region (Regional Board). The Permit requires the Copermittees individually, but collaboratively, to develop and implement comprehensive programs to reduce and eliminate urban runoff pollutants that are discharged from their storm drain systems to the receiving waters. The City's program and activities, designed to meet these requirements, are described in detail in the City's 2008 JURMP.

The City has prepared this JURMP Annual Report to provide a comprehensive description of all the activities conducted by the City to comply with all the requirements of Section D of the Permit, as described in the 2008 City of Del Mar JURMP. This Annual Report covers the implementation of jurisdictional activities during the period from July 1, 2010 through June 30, 2011 (reporting period).

The City was compliant with the Permit through its continued implementation of the 2008 JURMP. The City believes that the core program activities outlined in the Permit: education; inspections; monitoring; and enforcement are most effective at reducing pollutant generating activities. Within the City's program, the inspections and monitoring programs are not only implemented to identify sources, but provide the City with opportunities to educate the community. It is through the outreach and education of the general population that awareness and behaviors will change for the betterment of water quality. On the occasion where outreach is not effective at changing behaviors, the City uses its enforcement authorities to obtain compliance.

The City's diligent efforts towards best management practice (BMP) implementation are a key element for this year's report. City staff has been active in activity/area specific BMP implementation as demonstrated through the municipal facility inspection program. Another supporting effort for municipal activities has been data tracking and the ability to report the results of the City's own activities. With each year of program implementation, the City becomes more effective and efficient at tracking meaningful data accurately. Staff continues to refine the systems for tracking. During the reporting period the City implemented an online database for tracking construction inspections and refined the web-based urban runoff reporting system.

Some interesting and key numbers associated with the City staff's efforts to implement the program follow:

- **66.9 tons** – The amount of debris, sediment and trash removed during Fiscal Year 2011 from the City's storm drain system thereby prevented from entering the lagoons and Pacific Ocean;
- **1,131 miles** – The number of miles the street sweeper swept during Fiscal Year 2011;
- **94.5 tons** – The amount of material collected from street sweeping during Fiscal Year 2011, and thereby prevented from entering the lagoons and Pacific Ocean.

The City continued to implement an effective level of service which included the following notable activities:

- Improvements to the handouts used to inform and communicate development project information with applicants. The intent is to streamline the process while ensuring that the correct information and requirements are in place.
- Initiated use of its electronic database designed specifically to track storm water inspections at construction sites. The database tracks projects and inspection results to ease reporting and allows City personnel to easily access the database from multiple computers.
- Continued to exceed Permit requirements by inspecting 100% of the inventoried commercial and industrial businesses – this is above the required 25%.
- Developed a door hangar that can be used to notify residents and businesses of issues related to the Clean Water Program identified at or near their location.

Funding of municipal programs, including stormwater programs, continues to be an issue for all of the cities in San Diego County. The City of Del Mar is no exception. Given its economic ties to the beach and ocean, the City of Del Mar recognizes the importance of clean water and its NPDES program. During Fiscal Year 2009, the City took steps to ensure that adequate funding is available on a more permanent basis through voter-approved passage of the Clean Water Service Charge. This fee continues to fund a substantial portion of the program.

By and large, the City continues to be very successful at implementing its Clean Water Program. Residents, local businesses, and City staff are working diligently to protect the waterways and improve water quality at the beaches and lagoons, and will continue to carry out these efforts in the future.

1. INTRODUCTION

The name Del Mar means "of the sea," and highlights the symbiotic relationship between the City and Pacific Ocean. The City of Del Mar is a coastal, primarily residential community in the northern section of San Diego County. Del Mar is bounded by Solana Beach to the north, San Diego to the south and east, and the Pacific Ocean to the west. As the smallest City in the region, the City covers an area of approximately two (2) square miles, with a population of approximately 4,500 residents. The main attraction of visitors is the beach and sunny weather. The annual San Diego County Fair, horse racing, and other events held at the Del Mar Fairgrounds bring in people from the surrounding area and beyond.

The City's Clean Water Program is a multi-departmental program coordinated by the City's Clean Water Manager and is an integral part of making the City of Del Mar a beautiful place to live, work and visit. Day-to-day compliance activities are conducted by staff from the Planning & Community Development Department, the Department of Public Works, the City Engineering Department, and the Department of Community Services. The Program is committed to ensuring city-wide compliance with the San Diego Regional Water Quality Control Board's Regional Municipal Stormwater Permit.

This document is the fourth annual report for the City of Del Mar's 2008 Jurisdictional Urban Runoff Management Plan (2008 JURMP) which went into effect March 25, 2008 in accordance with NPDES Order No. R9-2007-0001 (Permit), and subsequent amendments. The reporting period covered by this document is from July 1, 2010, through June 30, 2011.

1.1 REPORT ORGANIZATION

This Fiscal Year 2011 Annual Report has been organized into sections matching the table of contents agreed upon and submitted by the Copermittees to the San Diego RWQCB. The City has modified its reporting format to tabulate applicable data and information in an effort to streamline the report presentation. **Figure 1-1** below represents the basic format for the majority of the report.

Under the requirements of the Municipal Permit, various types of data and information must be presented in JURMP Annual Reports. Quantifiable data and required confirmations are presented directly in the tabular format. However, in some cases, further descriptions or explanations of results are required. When this occurs, the supporting narrative is supplied in the sections following the tables, and referenced within the table itself. Lastly, some of the required information (e.g., inventories) is best included as appendices. In these cases, their locations are referenced in the tables.

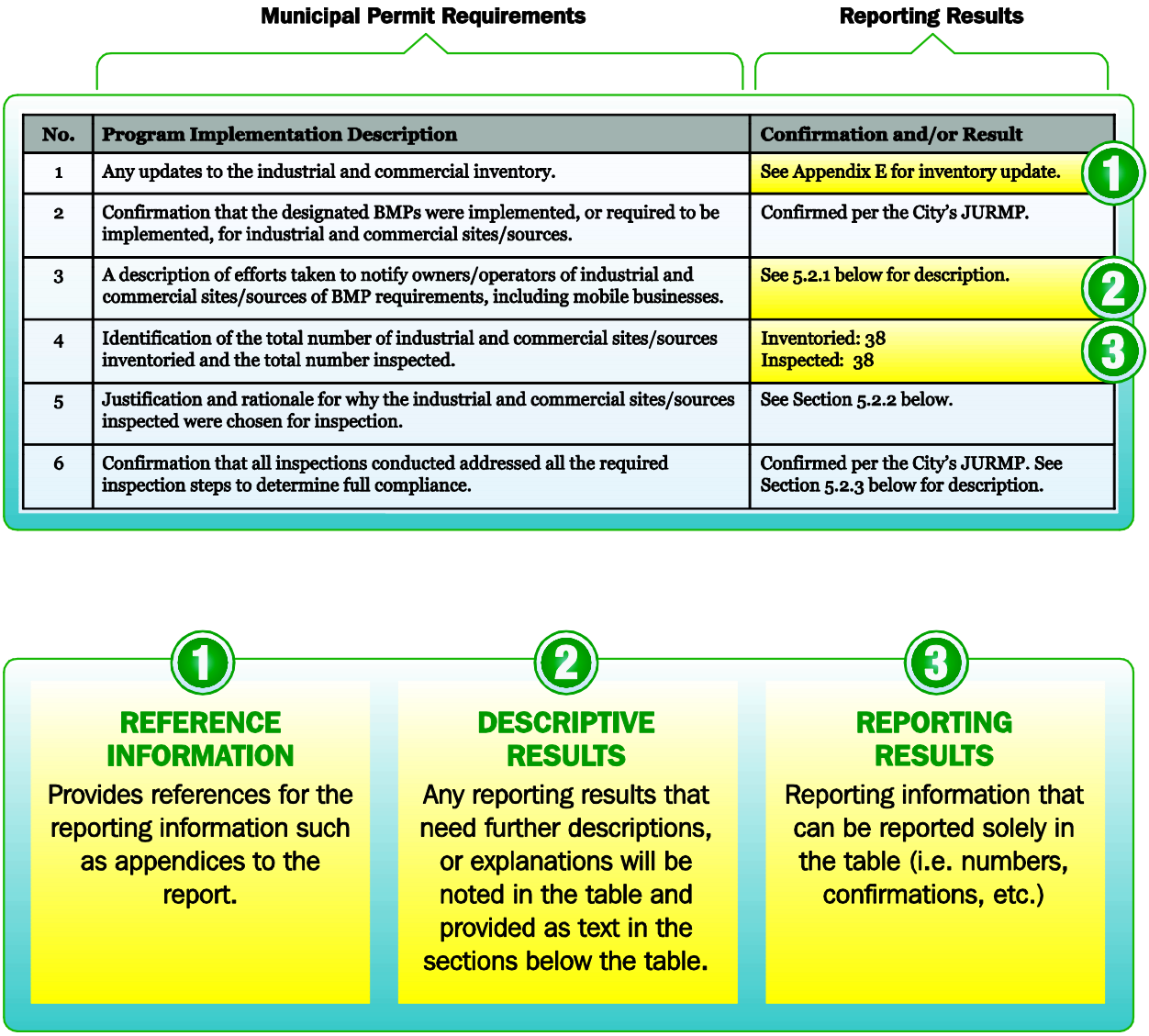

Figure 1-1: Example of Revised Reporting Format (for illustrative purposes only)

2. DEVELOPMENT PLANNING

2.1 PROGRAM IMPLEMENTATION

Table 2-1 represents the City of Del Mar's implementation of the Development Planning component as it relates to the requirements of the Municipal Permit during Fiscal Year 2011. Where reporting requirements necessitate information that is not easily tabularized, references are made in the table to locations where the information, or further explanation(s), is located.

During Fiscal Year 2011, the City was compliant with Section D.1 of the Municipal Permit, with the exceptions of any issues identified in the table below.

Table 2-1: Development Planning Program Implementation

Item No.	Program Implementation Description	Confirmation and/or result
1	A description of any amendments to the General Plan, the environmental review process, development project approval processes, or development project requirements.	See 2.2.1 below for descriptions
2	Confirmation that all development projects were required to undergo the Copermittee's urban runoff approval process and meet the applicable project requirements, including a description of how this information was tracked.	Confirmed – the information is tracked in individual project files and Excel.
3	A listing of the development projects to which Standard Urban Stormwater Mitigation Plan (SUSMP) requirements were applied.	See **Appendix A**
4	Confirmation that all applicable SUSMP BMP requirements were applied to all Priority Development Projects (PDPs), including a description of how this information was tracked.	Not Applicable – The City did not process any PDPs during the reporting period.
5	At least one example of a priority development project that was conditioned to meet SUSMP requirements and a description of the required BMPs.	Not Applicable – The City did not process any PDPs during the reporting period.
6	A listing of the priority development projects which were allowed to implement treatment control BMPs with low removal efficiency rankings, including the feasibility analyses which were conducted to exhibit that more effective BMPs were infeasible.	Not Applicable – The City did not process any PDPs during the reporting period.
7	An updated treatment control BMP inventory.	See 2.2.2 below
8	The number of treatment control BMPs inspected, including a summary of inspection results and findings.	One (1) project was inspected including two (2) TCBMPs. See 2.2.2 below for summary
9	100% of projects with high priority TCBMPs were inspected.	One (1) project is rated as high priority and the one (1) project was inspected.
10	Confirmation that the high priority TCBMPs were inspected prior to the rainy season.	Confirmed. See Section 2.2.2 below
11	At least 50% of projects with drainage insert TCBMPs were inspected.	There have been no projects developed within the City that used drainage inserts to satisfy TCBMP requirements. This requirement currently does not apply in the City.

Item No.	Program Implementation Description	Confirmation and/or result
12	A minimum of 20% of the total number of projects with approved TCBMPs, and a maximum of 200% of the average number of projects with TCBMPs approved per year were inspected.	100% of all projects with approved (and constructed) TCBMPs were inspected: there is one project with approved and constructed TCBMPs within the City.
13	A description of the annual verification of operation and maintenance of treatment control BMPs, including a summary of verification results and findings.	See 2.2.2 below for description and summary
14	Confirmation that BMP verification was conducted for all priority development projects prior to occupancy, including a description of how this information was tracked.	Not Applicable – During the reporting period, no Priority Development Projects were completed to the point of obtaining occupancy.
15	A listing of any projects which received a SUSMP waiver.	Not applicable. No Waiver Program in place, and no waivers issued.
16	A description of implementation of any SUSMP waiver mitigation program.	Not applicable. No Waiver Program in place and no waivers issued.
17	A description of Hydromodification Management Plan (HMP) development collaboration and participation.	No further development of the HMP took place during the reporting period – the RWQCB adopted the Copermittees HMP on July 14, 2010.
18	A listing of development projects required to meet HMP requirements, including a description of hydrologic control measures implemented.	No projects were required to meet HMP requirements: no Priority Development Projects were approved during the reporting period.
19	A listing of priority development projects not required to meet HMP requirements, including a description of why the projects were found to be exempt from the requirements.	
20	A listing of development projects disturbing 50 acres or more, including information on whether Interim Hydromodification Criteria were met by each of the projects, together with a description of hydrologic control measures implemented for each applicable project.	
21	The number of violations and enforcement actions (including types) taken for development projects, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	No enforcement actions were taken for development projects during the reporting period.
22	A description of notable activities conducted to manage urban runoff from development projects.	See 2.2.3 below for descriptions

2.2 TABLE 2-1 SUPPLEMENTAL INFORMATION

2.2.1 Table 2-1 Item No. 1

General Plan Updates
During Fiscal Year 2011, there were no amendments to the City's environmental review process.

Environmental Review Process Amendments
During Fiscal Year 2011, there were no amendments to the City's environmental review process.

Development Project Approval Process Amendments
The City revised its counter materials that are used by applicants when applying for development permits. The purpose of the revisions was to more clearly describe the responsibilities of the applicants. The revised counter materials contain BMP and documentation requirements to limit any confusion on the part of the applicants or their representatives.

Development Project Requirements Amendments
During the reporting period the City made updates to its Standard Urban Stormwater Mitigation Plan (SUSMP) document. The modifications were required to adequately include Hydromodification Management Plan requirements. The updated SUSMP was completed and took effect on January 14, 2011 – a copy can be found in **Appendix B**.

2.2.2 Table 2-1 Items No. 7, No. 8, No. 10 and No. 13

The City of Del Mar is the smallest City in the County and rarely has Priority Development Projects (PDPs) processed for development. Therefore, there has only been one PDP project that has been constructed. The following is a summary of the project:

Morotta / James Single Family Residence
The project is a single family residence constructed within 200 feet of the San Dieguito Lagoon (an environmentally sensitive area). The project BMPs were verified prior to receiving occupancy in March 2009. The project TCBMPs are two bioswales that cover the majority of the property fronting San Dieguito Drive. On September 30, 2010, City staff conducted an on-site inspection and verified the TCBMPs still exist and appear to be maintained and effective.

2.2.3 Table 2-1 Item No. 22

The City performed the following notable activities during the Fiscal Year 2011 reporting period:

- Revisions to the counter materials to improve the process and the applications received by the development community.

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3. CONSTRUCTION

3.1 PROGRAM IMPLEMENTATION

Table 3-1 represents the City of Del Mar's Fiscal Year 2011 implementation of the Construction component as it relates to the requirement of the Municipal Permit. Where reporting requirements necessitate information that is not easily tabularized, references are made in the table to locations where the information, or further explanation(s), is located.

During Fiscal Year 2011, the City was compliant with Section D.2 of the Municipal Permit with the exception of any issues identified below.

Table 3-1: Construction Program Implementation

Item No.	Program Implementation Description	Confirmation and/or result
1	Confirmation that all construction sites were required to undergo the Copermittee's construction urban runoff approval process and meet the applicable construction requirements, including a description of how this information was tracked.	Confirmed – See Section 3.2.1 below for descriptions
2	Confirmation that a regularly updated construction site inventory was maintained, including a description of how the inventory was managed.	Confirmed – See Section 3.2.2 below for descriptions
3	A description of modifications made to the construction and grading ordinances and approval processes.	Changes were completed in FY 2008. No additional changes were implemented in Fiscal Year 2011
4	Confirmation that the designated BMPs were implemented, or required to be implemented, for all construction sites.	Confirmed
5	Confirmation that a maximum disturbed area for grading was applied to all applicable construction sites.	Confirmed
6	A listing of all construction sites with conditions requiring advanced treatment, together with confirmation that advanced treatment was required at such construction sites.	Since the advanced treatment requirements took effect, no projects have triggered these requirements
7	For each construction site within each priority category (high, medium, and low), identification of the period of time (weeks) the site was active within the rainy season, the number of inspections conducted during the rainy season, and the total number of inspections conducted for all sites.	See **Appendix E**

Item No.	Program Implementation Description	Confirmation and/or result
8	A description of the general results of the inspections.	See Section 3.2.3 below
9	Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	Confirmed
10	The number of violations and enforcement actions (including types) taken for construction sites, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	See Section 3.2.4 below
11	A description of notable activities conducted to manage urban runoff from construction sites.	See Section 3.2.5 below

3.2 TABLE 3-1 SUPPLEMENTAL INFORMATION

3.2.1 Table 3-1 Item No. 1

As required by the Permit, and outlined in the 2008 JURMP, all permitted construction sites were required to undergo the City's construction urban runoff approval process, and meet the applicable construction requirements. Appropriate, designated BMPs were required to be implemented for all construction sites. This information is tracked in individual project files as well as though the inspection database.

3.2.2 Table 3-1 Item No. 2

Section 5.2.2 of the 2008 JURMP describes how a watershed-based inventory of all construction sites is prepared by the City of Del Mar, while Section 5.2.3 provides a description of the steps taken to develop, and update this inventory on a monthly basis. The City of Del Mar continues to use the construction inspection tracking system discussed in the Supplemental Information provided to Regional Board Staff in February 2009, to ensure that its system meets the reporting requirements outlined in Section J.3.a.(3)(b)vii of the Permit. The tracking system itself is a combined database which includes Geographical Information System (GIS) input, and spreadsheet tallies. Information is entered into the database on a regular basis, no less than monthly. City enforcement staff maintain the GIS information via "drive-by" verification of the status of all construction sites, and subsequently entering the data into the GIS system. Monthly inventories of active construction sites are then produced for use in the field by staff. Regular patrols by City staff are also used to determine if a site's status has changed in the interim.

Since construction project sites are constantly approved, cancelled (permits withdrawn by the applicant, denied by the City, expire, etc.), and completed, the City's inventory is fluid. In addition to the regular updates, staff continues to routinely patrol construction sites to "field truth" data received from the Planning and Building Departments, and annotate areas of surface disturbance that may, or may not be, permitted.

Appendix C provides a copy of the monthly construction site inventory, including the priority classification for each site. **Appendix D** includes printouts of the GIS Construction Site Inventory Maps for each month of the reporting period.

3.2.3 Table 3-1 Item No. 8

During the reporting period, four (4) active construction sites met the high priority criteria designation. High priority projects and their respective addresses are listed below:

- Pacifica Stratford: 500-600 Stratford Court
- Batchelder: 100 Stratford Court
- Handzel: 100 12th Street
- 21st Street Pump Station: 21st Street at Court Street

These properties were inspected at a minimum of bi-weekly during the Fiscal Year 2011 wet season. All remaining construction projects were classified as "Low" priority sites, and inspected "as-needed" during the Fiscal Year 2011 Wet Season. As required by Section D.2.d.(4) of the Permit, all construction sites, regardless of priority classification, continued to be inspected on an "as-needed" basis during the remainder of the year.

During Fiscal Year 2011, 44 construction sites were, at some point during the year, in the active construction phase: 4 high priority sites and 40 low priority sites. In total, the Clean Water Program conducted 106 documented storm water inspections throughout the reporting period.

The following is a summary table of the number of inspections conducted at each type of construction project.

Table 3-2: Fiscal Year 2011 Construction Inspection Summary

Inspection Item	No. of Sites
High Priority Site Inspections	72
Low Priority Site Inspections	34

In general, the Fiscal Year 2011 inspections resulted in compliant construction sites, although follow-up inspections were required at some sites due to BMP deficiencies. Common corrections needed after review by the City included:

- Maintaining construction exit/entrances
- Uncovered trash dumpsters
- Uncovered stock piles/equipment storage
- Inadequate or poorly maintained silt fence
- Inadequate or poorly maintained erosion control

Through verbal warnings, and in some cases written warnings, the BMP deficiencies were adequately addressed. At the end of the reporting period, there were no on-going compliance issues.

3.2.4 Table 3-1 Item No. 10

This section provides the number of violations and enforcement actions (including types) taken for construction sites, including information on any necessary follow-up actions taken. The section also exhibits that compliance has been achieved and describes the actions taken to achieve compliance.

Del Mar has implemented a policy of education first, with aggressive enforcement measures only being used when compliance requests are ignored and/or in the event of an actual discharge which has the potential to impact to receiving waters. In general, contractors have been compliant with BMP requirements at their respective construction sites. In the majority of those instances where compliance has not been attained, a single verbal or written warning was all that was required to achieve compliance.

During the reporting period, two (2) enforcement actions, including any written warnings, Notices of Violation (NOVs), and/or Administrative Citations were issued by staff. This does not include verbal warnings issued during patrols which were addressed in a timely manner, unless the contractor failed to comply with the direction of the inspector. In general, the inspections conducted revealed that education efforts over the past several years have resulted in a high level of compliance. In those incidents where contractors were not in full compliance, it was either easily remedied by maintenance or re-installation of BMPs. **Table 3-3** provides a summary of formal enforcement actions taken by the City for construction activities not in compliance with BMP requirements under the City's 2008 JURMP.

Table 3-3: Fiscal Year 2011 Construction-Related Enforcement

Date	Project Address	Enforcement Action	Comments/Actions Taken
10/22/2010	519 Stratford Court	NOV, Admin Citation	Non-authorized storm water discharge and BMP violations; fine of $200
3/22/2011	500 Stratford Court	NOV, Admin Citation	Non-authorized storm water discharge and BMP violations; fine of $200

3.2.5 Table 3-1 Item No. 11

During the reporting period, the Clean Water Program initiated the use of its online database designed specifically to track storm water inspections at construction sites. The database tracks projects and inspection results to ease reporting and allows City personnel to easily access the database from multiple computers. Additionally, the City was able to directly communicate with construction site owners and contractors through email using the inspection records, thereby informing the responsible parties of deficiencies and further educating the construction community in regards to storm water issues.

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4. MUNICIPAL

4.1 PROGRAM IMPLEMENTATION

Table 4-1 represents the City of Del Mar's Fiscal Year 2011 implementation of the Municipal component as it relates to the Municipal Permit requirements. For any items in the table where an explanation, description, results, inventory, or examples are necessary, references are noted in the table, and are included as an Appendix, or are provided in Section 4.2.

During Fiscal Year 2011, the City was compliant with Section D.3.a. of the Municipal Permit with the exceptions of any issues identified below.

Table 4-1: Municipal Program Implementation

Item No.	Program Implementation Description	Confirmation and/or result
1	Any updates to the municipal inventory and prioritization.	No changes occurred to the municipal inventory or prioritization during the reporting period. See **Appendix F** for the current inventory.
2	Confirmation that the designated BMPs were implemented, or required to be implemented, for municipal areas and activities, as well as special events.	Confirmed. BMPs were required to be implemented per the JURMP.
3	A description of inspections and maintenance conducted for municipal treatment controls.	See Section 4.2.1 below
4	Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.	Inventory = 284 basins and inlets
		Inspected = 284 basins and inlets
		Catch basins found with accumulated waste exceeding cleaning criteria = None
		Cleaned = 284 basins and inlets
5	Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.	Total Distance of MS4 pipes = 5.87 miles
		Distance of MS4 inspected = 3,500 lineal feet
		Distance of MS4 found with accumulated waste exceeding cleaning criteria = None

Item No.	Program Implementation Description	Confirmation and/or result
		Cleaned = 2,500 lineal feet
6	Identification of the total distance (miles) of open channels, the distance of open channels inspected, the distance of open channels found with anthropogenic litter, and the distance of open channels cleaned.	Open Channels = 2.85 miles
		Inspected = 2.85 miles
		Distance found with anthropogenic litter = Estimated 10% of locations
		Cleaned = 2.85 miles
7	Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category. The Permit requires reporting in tons; however, the City's measurements are in cubic yards. Cubic yards are reported in tons using a 1,000 pound per cubic yard conversion.	Catch Basins/Inlets and MS4 = 55.2 tons (100.4 cubic yards)
		Open Channels = 11.7 tons (23.4 cubic yards, includes sediment and headwall cleanings)
8	Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.	None identified at this time.
9	Confirmation that the designated BMPs for pesticides, herbicides, and fertilizers were implemented, or required to be implemented, for municipal areas and activities.	Confirmed.
10	Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	5.7 curb-miles swept a minimum of weekly, including curbed medians.
11	Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	14.5 curb-miles swept a minimum of bimonthly, including curbed medians.
12	Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	31.2 curb-miles swept a minimum of biannually, including curbed medians.
13	Identification of the total distance of curb-miles swept.	1,131.7 miles; brooms were engaged 158.7 hours
14	Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.	Total Parking Lots = 2
		Sweeping frequency = Semi-monthly
		Parking Lots Swept = 2

Item No.	Program Implementation Description	Confirmation and/or result
15	Amount of material (tons) collected from street and parking lot sweeping. The Permit requires reporting in tons; however, the City's measurements are in cubic yards. Cubic yards are reported in tons using a 1,000 pound per cubic yard conversion.	94.5 tons (189.0 cubic yards)
16	A description of efforts implemented to prevent and eliminate infiltration from the sanitary sewer to the MS4.	See Section 4.2.2 below
17	Identification of the number of sites requiring inspections, the number of sites inspected, and the frequency of the inspections.	Sites requiring inspections = 25
		Sites inspected = 25
		Frequency of inspections = Annually
18	A description of the general results of the inspections.	See Section 4.2.3 below and **Appendix G**
19	Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	Confirmed. Inspections implemented in accordance with the JURMP.
20	The number of violations and enforcement actions (including types) taken for municipal areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	See Section 4.2.4 below
21	A description of any efforts conducted to reduce pollutant discharges from non-emergency firefighting flows.	See Section 4.2.5 below
22	A description of notable activities conducted to manage urban runoff from municipal areas and activities.	No notable activities beyond those already described in this section were conducted for the municipal component.

4.2 TABLE 4-1 SUPPLEMENTAL INFORMATION

4.2.1 Table 4-1 Item No. 3

Trash Guards Treatment Control

Trash Guard grates have been installed on the face of storm drain inlets along Camino del Mar in order to minimize the amount of debris and trash entering into storm drain catch basins and to maximize the effectiveness of street sweeping. The guards keep the trash and debris on the street to be removed by the street sweeper. Inspections of the guards were performed to verify they were still operational and performing as purposed.

Inlet Filter Treatment Control – North County Transit District

As reported in the 2008 JURMP, the City of Del Mar has a Maintenance Agreement in place with the North San Diego County Transit Development Board as part of the Del Mar Stabilization Project 1 (Drainage Improvements and Landslide Warning System), which consists of fifty-four (54) structures. Inlet filters have been installed in some of the structures to address water quality. The Maintenance Agreement requires the City to maintain fourteen (14) of the structures, while NCTD will be maintaining the remaining forty (40) structures. Out of the fourteen (14) structures maintained by the City, six (6) have been fitted with filters that are serviced by the City's contractor (Downstream Services, Inc.). This fiscal year, all six (6) filters were inspected and all of them required maintenance.

The following table represents a summary of the maintenance performed on the inlet filters.

Table 4-2: Summary of Inlet Filter Maintenance for Fiscal Year 2011

ID #	Location	Inlet Type	Materials	%Vol used	Comments
1	West end of 4th Street	Combo	D 100%	100%	Replaced (1) pouch. Was only able to clean to the FGP-48CIRF. The City was flushing hydrants.
2	West end of 8th Street	Grate	D 80% G 20%	100%	Replaced (3) pouches.
3	SW 11th Street	Curb	D 80% E 10% O 10%	100%	Replaced (2) pouches.
4	NW side of 11th Street	Curb	D 75% O 25%	100%	Replaced (3) pouches.
5	W of 13th Street	Curb	D 80% E 10% O 10%	100%	Replaced (2) pouches.
6	50' SW of pedestrian RR crossing, between RR tracks and Coast Blvd.	Grate	D 50% E 5% O 10%	65%	Replaced (3) pouches.

Note: D=Dirt/Silt/Sediment, E=Trash, G=Gravel. O=Organics

4.2.2 Table 4-1 Item No. 16

The City's sanitary sewer system includes the collection system and various sanitary sewer systems. The sewer system infrastructure includes approximately 24.75 miles of gravity main, 0.07 miles (or approximately 387 feet) of force main and 387 service points. The City's system also includes three (3) sewer pump/lift stations, 112 clean out facilities, and approximately 549 manhole structures. These facilities all are required to implement minimum BMPs and for the most part are inspected to verify BMP implementation and compliance. A description of the City's efforts for these facilities is included below.

Of the approximately 24.75 miles of the sanitary sewer collection system, approximately 19.2 miles were cleaned as part of the regular schedule of inspection and cleaning. Some portions of the collection system were cleaned more than once due to priority and buildup of materials. The City tracks "hot spot" portions of the sewer collection system and depending upon the likelihood of materials build up, will perform cleaning between two to four times per year.

Two (2) sanitary sewer overflows occurred during the reporting period. RWQCB (via CIWQS) and the County of San Diego Department of Environmental Health (via fax) verified that two overflows occurred during Fiscal Year 2011.

Table 4-3 below provides a summary of the two sewers found when overflows were occurring. Where possible, the spilled water from the sanitary sewer system was collected and recovered prior to being released to the surrounding environment.

Table 4-3: Reporting of Public Spills

Date	Location	Volume (gal)	Recovered (gal)	Released to Environment (gal)	Probable Cause
12/2/2010	2115 Balboa Avenue	80	80	0	Cleaning rags found in sewer line.
1/5/2011	347 Serpentine Drive	50	0	50	Buildup of sludge at bottom of cleanout obstructing the sewer water coming from 347 Serpentine Drive. Lateral cleanout is on quarterly high maintenance zone, and now will be checked monthly.
Total		**130**	**80**	**50**	

4.2.3 Table 4-1 Item No. 18

Municipal Facilities

The City's public facilities primarily include parks and recreational facilities, beaches and the Powerhouse Community Center. These facilities all are required to implement minimum BMPs and are inspected to verify BMP implementation and compliance.

The City's municipal facilities include the Public Works Yard, City Hall, the Del Mar Fire Station, and various potable water reservoirs. These facilities all are required to implement minimum BMPs and are inspected to verify BMP implementation and compliance. The municipal facilities were inspected as a part of the municipal inspections as described below.

Per the 2008 JURMP, the City formally inspects all high priority municipal sites. Municipal sites are considered to be fixed facilities where high priority municipal activities occur. The City conducted facility inspections for all 25 of its high priority facilities during Fiscal Year 2011 to ensure that BMPs (including those for pollution prevention) were being implemented.

The streets and road network are routinely inspected under various programs such as street sweeping, streets maintenance, and MS4 inspections. Formal inspection forms are not generated for the general routine inspections performed of these municipal network areas.

All inspections conducted during Fiscal Year 2011 addressed the required inspection steps to determine full compliance by utilizing the City's standard municipal inspection form. The

results of the inspections can be found in **Appendix G**. For each facility, recommendations for follow-up corrective actions were listed if applicable.

Special Events

During Fiscal Year 2011, the Community Services Department conducted inspections for all eighteen (18) special events. **Table 4-4** below provides a summary of the major events and the inspection results.

Table 4-4: Major Event Summary during Fiscal Year 2011

Event Name	Event Date	Estimated Attendance	Venue	Inspection Date(s) & Comments
Bocce Ball Tournament	7/17/2010	350	North Beach	Post-event inspection by cleanup crews; no spills or incidents reported
Summer Twilight Concert Series	7/20/2010	5,000	Powerhouse Park	Post-event inspection by cleanup crews; no spills or incidents reported
Del Mar Shores Lobster Bake	7/31/2010	250	Del Mar Shores Park	Post-event inspection by cleanup crews; no spills or incidents reported
Summer Twilight Concert Series	8/17/2010	5,000	Powerhouse Park	Post-event inspection by cleanup crews; no spills or incidents reported
Dog Surf Event	9/12/2010	5,000	North Beach	Post-event inspection by cleanup crews; no spills or incidents reported
Summer Twilight Concert Series	9/12/2010	5,000	Powerhouse Park	Post-event inspection by cleanup crews; no spills or incidents reported
MS Walk	9/24/2010	350	Del Mar Beach	Post-event inspection by cleanup crews; no spills or incidents reported
Del Mar Village Art Stroll	10/2/2010	2,500	Streets of Del Mar	Post-event inspection by cleanup crews; no spills or incidents reported
Ducky Derby	10/9/2010	500	Powerhouse Park	Post-event inspection by cleanup crews; no spills or incidents reported
MS Bike Ride	10/17/2010	2,500	Streets of Del Mar	Post-event inspection by cleanup crews; no spills or incidents reported
Bike Ride	11/6/2010	500	Streets of Del Mar	Post-event inspection by cleanup crews; no spills or incidents reported
NPT Breast Cancer 3Day LLC	11/19/2010	4,000	Streets of Del Mar	Post-event inspection by cleanup crews; no spills or incidents reported
Del Mar Village Winter Wonderland	12/5/2010	2,000	Streets of Del Mar	Post-event inspection by cleanup crews; no spills or incidents reported
La Jolla Half Marathon	4/17/2011	6,000	Streets of Del Mar	Post-event inspection by cleanup crews; no spills or incidents reported
Tour de Cure	5/7/2011	600	Streets of Del Mar	Post-event inspection by cleanup crews; no spills or incidents reported
San Diego Century Bicycle Tour	5/21/2011	1,500	Streets of Del Mar	Post-event inspection by cleanup crews; no spills or incidents reported
Summer Twilight Concert Series	6/21/2011	5,000	Powerhouse Park	Post-event inspection by cleanup crews; no spills or incidents reported
Del Mar Village Summer Solstice	6/23/2010	250	Powerhouse Park	Post-event inspection by cleanup crews; no spills or incidents reported

Beach Cleaning

The City's beaches are a vital part of the City's community – not only for the natural settings they provide, but also for the economic sustainability of the City. In an effort to prevent pollutants from entering the Pacific Ocean and potentially impacting the receiving waters, the City implements a regular beach cleaning program.

During the reporting period, the beaches were inspected on a daily basis and cleaned two to three times per week during the spring and summer and more frequently for holidays when the beach had the most use. The primary collections for disposal included plastic bottles and paper trash. When located, kelp wrack was sorted and left on the beach.

The City does not track the amount of debris collected from the beaches, as the cleaner dumps the debris at the Public Works Yard into a trash dumpster that is mixed with other refuse and waste.

4.2.4 Table 4-1 Item No. 20

There were no violations or enforcement actions taken at any municipal activities or facilities during Fiscal Year 2011.

4.2.5 Table 4-1 Item No. 21

Section 6.19 of the 2008 JURMP describes the City's program to reduce pollutants from non-emergency firefighting flows (i.e. flows from controlled or practice blazes and/or maintenance activities). During this reporting period, all training sessions were held at Regional Training facilities outside the City of Del Mar, and any vehicle maintenance (including washing) was conducted in accordance with Section 6.19 of the 2008 JURMP. No non-emergency firefighting flow from training or other maintenance activities occurred during Fiscal Year 2011 which would require any additional efforts to reduce pollutant discharges.

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5. INDUSTRIAL AND COMMERCIAL

5.1 PROGRAM IMPLEMENTATION

Table 5-1 represents the City of Del Mar's Fiscal Year 2011 implementation of the Industrial and Commercial component as it relates to the Municipal Permit requirements. For any items in the table where an explanation, description, results, inventory, or examples are necessary, references are noted in the table and are included as an Appendix or are provided in Section 5.2.

During Fiscal Year 2011, the City was compliant with Section D.3.b. of the Municipal Permit.

Table 5-1: Industrial and Commercial Program Implementation

Item No.	Program Implementation Description	Confirmation and/or result
1	Any updates to the industrial and commercial inventory.	See **Appendix H** for the inventory update
2	Confirmation that the designated BMPs were implemented, or required to be implemented, for industrial and commercial sites/sources.	Confirmed
3	A description of efforts taken to notify owners/operators of industrial and commercial sites/sources of BMP requirements, including mobile businesses.	See 5.2.1 below for description
4	Identification of the total number of industrial and commercial sites/sources inventoried and the total number inspected.	Inventoried = 44 stationary facilities Inspected = 44 stationary facilities
5	Justification and rationale for why the industrial and commercial sites/sources inspected were chosen for inspection.	Followed justification and rationale provided in 2008 JURMP
6	Confirmation that all inspections conducted addressed all the required inspection steps to determine full compliance.	Confirmed
7	At a minimum, 100% of all sites (excluding mobile sources) determined to pose a high threat to water quality (TTWQ) shall be inspected.	100% of all inventoried stationary sites determined to pose a high TTWQ were inspected.
8	At a minimum, 25% of the sites inventoried as required in section D.3.b.(1) of the Permit (excluding mobile businesses) shall be inspected.	The City's entire commercial and industrial inventory (100%) received site visits and/or inspections. **See Appendix I**

Item No.	Program Implementation Description	Confirmation and/or result
9	Identification of the number of third party inspections conducted.	None
10	Identification of efforts conducted to verify third party inspection effectiveness.	None
11	A description of efforts implemented to address mobile businesses.	See 5.2.2 below for description
12	The number of violations and enforcement actions (including types) taken for industrial and commercial sites/sources, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	See 5.2.3 below for discussion
13	A description of steps taken to identify non-filers and a list of non-filers (under the General Industrial Permit) identified by the Copermittees.	Followed steps described in JURMP
14	A description of notable activities conducted to manage urban runoff from industrial and commercial sites/sources.	The City continued to exceed Permit requirements by inspecting 100% of the inventoried commercial and industrial businesses.

5.2 TABLE 5-1 SUPPLEMENTAL INFORMATION

5.2.1 Table 5-1 Item No. 3

During Fiscal Year 2011, the City provided notification to owners/operators of industrial and commercial businesses of the applicable BMP requirements. This information was specific to automotive and food establishment businesses. Only seven (7) businesses operating within the City of Del Mar did not fall into one of these two categories - these included three (3) animal facilities, one (1) pottery manufacturing company, and three (3) hotels. These notification efforts will continue through the next Fiscal Year and will be reported in the next annual report.

Mobile businesses completing business license applications are directed to the Clean Water Manager for a one-on-one discussion regarding applicable BMPs and other applicable City program requirements.

5.2.2 Table 5-1 Item No. 11

An inventory of known mobile businesses within the City's jurisdiction has been updated for Fiscal Year 2011 and is included as **Appendix J**. This inventory is based on the City's business license list, and is updated on a regular basis. The current inventory lists over 880 mobile businesses operating within the City of Del Mar, and all are presently considered high TTWQ facilities. The City continues to take opportunities to educate mobile sources when poor practices are observed or reported to the City.

5.2.3 Table 5-1 Item No. 12

Industrial and Commercial Inspection Follow-up and Enforcement
The City's enforcement process is to perform a follow-up visit for those businesses found to be out of compliance during inspections. If the business is still out of compliance after the follow-up visit, City Code Enforcement is notified whereby a Notice of Violation (NOV) or citation will be issued if there is still no evidence of compliance. Although one (1) business was noted as requiring a follow-up due to the Fiscal Year 2011 inspection program, no NOVs were issued to any business as a result of the inspections. The follow-up inspection for the one (1) facility will be conducted during the Fiscal Year 2012 reporting period.

Complaint Investigation Follow-up and Enforcement – Industrial and Commercial Facilities
In addition to inspection follow-ups, the City also receives complaints or initiates investigations based on staff's observations of storm water violations. After reviewing the facts of the case, the Code Enforcement Officer or Clean Water Manager determines the level of violation (if any) and may issue an NOV and/or administrative citation as appropriate. The City has made it a policy that education is to play a significant role in the enforcement of storm water regulations. In most cases, a verbal warning is all that is necessary and compliance is achieved. However, in some instances, further enforcement action is required.

At present, the City does not actively track contacts made with local businesses that result in verbal warnings only. However, during Fiscal Year 2011, ten (10) investigated incidents involving commercial or industrial operations warranted formal NOVs and/or issuance of Administrative Citations by the City. The City's Code Enforcement Officer issued NOVs as a result of the ten (10) investigations. Additionally, fines were levied at three (3) businesses totaling to $500.

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6. RESIDENTIAL

6.1 PROGRAM IMPLEMENTATION

Table 6-1 represents the City of Del Mar's implementation of the Residential component as it relates to the Municipal Permit requirements during Fiscal Year 2011. For any items in the table where an explanation, description, results, inventory, or examples are necessary, references are noted in the table, and are included as an Appendix or are provided in Section 6.2.

During Fiscal Year 2011, the City was compliant with Section D.3.c. of the Municipal Permit.

Table 6-1: Residential Program Implementation

Item No.	Program Implementation Description	Confirmation and/or result
1	Identification of the high threat to water quality residential areas and activities that were focused on.	As described in Section 8.2 of the City's 2008 JURMP, the City considers all residential areas within City limits to be high threat to water quality residential areas and activities.
2	Confirmation that the designated BMPs were implemented, or required to be implemented, for residential areas and activities.	Confirmed. Designated BMPs, per Appendix 8-A of the 2008 JURMP, were required to be implemented.
3	A description of efforts implemented to facilitate proper management and disposal of used oil and other household hazardous materials.	See Section 6.2.1 below
4	Types and amounts of household hazardous wastes (HHW) collected, if applicable.	6.25 tons of mixed HHW; See Section 6.2.1
5	The number of violations and enforcement actions (including types) taken for residential areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	See Section 6.2.2 below
6	A description of any evaluation of methods used for oversight of residential areas and activities, as well as any findings of the evaluation.	See Section 6.2.3 for description
7	A description of collaboration efforts taken to develop and implement the Regional Residential Education Program.	See Section 6.2.4 below
8.	A description of notable activities conducted to manage urban runoff from residential areas and activities	See Section 6.2.5 below

6.2 TABLE 6-1 SUPPLEMENTAL INFORMATION

6.2.1 Table 6-1 Item No. 3 and No. 4

The City continues to implement and facilitate proper management and disposal of used oil and household hazardous materials as described in Section 8.4.3 of the 2008 JURMP. During the reporting period, the City's contractor, PSC Environmental Services, LLC, continued to provide curbside pick-up and drop-off of household hazardous waste (HHW) for the City's residents. Table 6-2 below provides a summary of the HHW collection for the reporting period.

Table 6-2: Household Hazardous Waste Data

Fiscal Year	Pick-Up Service Users	Drop-off Services Users	Total Users	Total Weights of HHW Disposal (lbs)	Waste Oil Disposal (gal)
2010-2011	82	30	112	12,500*	No Data
2009-2010	43	17	60	6,686	15.9
2008-2009	96	16	112	12,542	6.9
2007-2008	130	34	165	11,698	50
2006-2007	104	31	135	12,845	No Data

*estimated by service provider

6.2.2 Table 6-1 Item No. 5

As a result of the investigations conducted by City staff, the enforcement actions in **Table 6-3** were taken. All enforcement actions resulted in compliance.

Table 6-3: Fiscal Year 2011 Residential Enforcement Actions Taken

Type of Enforcement Action	Number of Actions
Notice of Violation	15
Administrative Citation	2
Total Fines	**$300**

6.2.3 Table 6-1 Item No. 6

During the reporting period the City continued to utilize a combination of residential education, complaint investigation and code enforcement as methods for oversight of residential areas and activities as noted in the City's 2008 JURMP (Sections 8.3 and 8.4). The City evaluated the methods historically used and decided to implement an additional method of oversight – random patrols of residential neighborhoods. At least once a month, staff patrols all of the residential streets in the City to identify issues that require follow-up.

The City also developed a door hangar that can be used to notify residents and businesses of issues related to the Clean Water Program identified at or near their location. See **Appendix K** for a copy of the door hangar.

6.2.4 Table 6-1 Item No. 7

Regional Residential Education Program

The City continued to collaborate with other Copermittees in the implementation of the Regional Residential Education Program during Fiscal Year 2011. The City of Del Mar provides funds for the Regional Residential Education Program in collaboration with other Copermittees. A complete discussion, including program element development and implementation, of the Regional Education Program can be found in the Regional Urban Runoff Management Program annual report, submitted by the Principal Permittee under separate cover.

6.2.5 Table 6-1 Item No. 8

The City decided to implement an additional method of oversight for residential areas and activities – random patrols of residential neighborhoods. At least once a month, staff patrols all of the residential streets in the City to identify issues that require follow-up.

As previously stated, the City developed a door hangar that can be used to notify residents and businesses of issues related to the Clean Water Program identified at or near their location. See **Appendix K** for a copy of the door hangar.

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7. ILLICIT DISCHARGE DETECTION AND ELIMINATION

Per RWQCB Addendum No. 2 to Order R9-2007-0001, the City will submit this section in its entirety on December 15, 2011.

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8. EDUCATION

8.1 PROGRAM IMPLEMENTATION

Table 8-1 represents the City of Del Mar's implementation of the Education component as it relates to the Municipal Permit requirements during Fiscal Year 2011. For any items in the table where an explanation, description, results, inventory, or examples are necessary, references are noted in the table and are included as an Appendix or are provided in Section 8.2.

During Fiscal Year 2011, the City was compliant with Section D.5 of the Municipal Permit.

Table 8-1: Education Program Implementation

Item No.	Program Implementation Description	Confirmation and/or result
1	A description of education efforts conducted for each target community.	The target communities are covered in items 2-6 of this table and all descriptions provided in Sections 8.2 below and noted Appendices are applicable to this item.
2	A description of how education efforts targeted underserved target audiences, high risk behaviors, and "allowable" behaviors and discharges.	See section 8.2.1 below
3	A description of education efforts conducted for municipal departments and personnel.	See section 8.2.2 below
4	A description of education efforts conducted for the new development and construction communities.	See section 8.2.3 below
5	A description of education efforts conducted for Industrial and Commercial owners/operators.	See section 8.2.4 below
6	A description of jurisdictional education efforts conducted for residents, the general public and school children.	See section 8.2.5 below

8.2 TABLE 8-1 SUPPLEMENTAL INFORMATION

8.2.1 Table 8-1 Item No. 2

As stated in the City's 2008 JURMP, there are no underserved or low-socioeconomic communities that have been identified in the City of Del Mar. However, the high-risk behaviors have been associated with non-stormwater discharges including residential over-irrigation and some mobile business practices.

To address the residential over-irrigation and other types of illegal discharges, the City developed a door hangar to be used to inform residents and businesses of non-stormwater discharges occurring at or near their locations. The City has begun using the hangars during the summer of 2011. The door hangar can be seen in **Appendix K.**

To address mobile businesses, the City has a policy where new business license applications for mobile businesses are directed to the Clean Water Manager to set up a one-on-one meeting with the applicants. This is setup to allow for education and outreach regarding the City's program and requirements. During the reporting period, business licenses for two new mobile businesses were applied for – however, contact was made with only one of the applicants. Subsequently, neither of the businesses completed the business license process.

8.2.2 Table 8-1 Item No. 3

Municipal Departments and Personnel

During the reporting period, staff received training on stormwater topics, including specific training focused on Permit requirements. The City of Del Mar held three (3) focused training sessions to educate field staff on job-specific stormwater principals and requirements, including the required "pre-wet season" training for construction inspections held for planning and code enforcement staff. 100% of the staff from the Planning and Community Development Department and Code Enforcement Division attended these trainings. The Clean Water Manager also hosted a workshop on SUSMP requirements which was attended by staff from Planning and Community Development and Engineering. Lastly, the Clean Water Manager provided training to the Public Works Department on issues related to their line of work. **Table 8-2** below summarizes the training conducted during the reporting period.

Table 8-2: Staff Education and Training Summary

Date	How Conducted	Education Topic	Attendees
09/30/2010	Planning and Community Development Staff Training Session	Overview of JURMP Construction Inspection Requirements (Wet Season)	Departmental Staff & Line Management
5/24/2011	Public Works Training Session	Clean Water Program and Public Works Specific Requirements	Public Works Staff and Management
6/14/2011	Planning and Community Development and Engineering Staff Training Session	Discussion on Land Development Requirements and Development of SUSMP Forms	Department Staff & Line Management – Planning and Engineering

City Council

In an effort to keep members of the City Council informed and aware of Clean Water Program issues, the Clean Water Manager provided updates at two City Council meetings. The emphasis

was placed on TMDLs that the City is currently involved with: bacteria in both San Dieguito and Los Peñasquitos watersheds and the sediment in the Los Peñasquitos watershed. Meeting dates include April 25, 2011, and May 11, 2011.

8.2.3 Table 8-1 Item No. 4

The City has two governing bodies whose purview is development activities within the City: the Design Review Board and the Planning Commission. The Clean Water Manager provided training to the Planning Commission on June 14, 2011, and to the Design Review Board on June 22, 2011. The trainings to both the Board/Commission and the development community in the audience were focused on Clean Water Program requirements for all development activity within the City. This included a discussion on impacts of development as well as the mitigation required through design and implementation of site design, source control and treatment control BMPs.

8.2.4 Table 8-1 Item No. 5

During Fiscal Year 2011, the City utilized its direct contact with the industrial and commercial businesses to provide outreach and activity specific education. The inspection staff has developed an excellent rapport with most of the business community and provides information and guidance as-needed. During site inspections or investigations, the City provided educational materials, e.g., posters and guidebooks, to the businesses.

8.2.5 Table 8-1 Item No. 6

In addition to the methods described above, the City of Del Mar uses media as a means of outreach to the general public. The City developed a 12 minute video in 2008 in an effort to reach and educate a wide audience about the Clean Water Program and regulatory requirements. The video, entitled "The Del Mar Clean Water Program: Keeping the Water Clean for You!" highlights the municipal programs conducted by the City, and provides a complete overview of the Permit elements. The video continues to remain available "on-demand" on the City of Del Mar website (www.delmar.ca.us/cleanwater.htm), and was made into DVD's for distribution to public groups, residents, and schools. In addition, the video has been used for discussions at City Council Meetings and during staff training. During the reporting period, the Clean Water Video was reviewed more than 108 times via the City's Website. In addition, the City distributed 20 copies of the DVD to community groups and other jurisdictions. **Table 8-3** below provides a breakdown by month on the number of times the video was viewed on the City's website during the Fiscal Year 2011 reporting period.

Table 8-3: Clean Water Video Webcast Summary

Month	Number of Views
Jul-10	10
Aug-10	13
Sep-10	4
Oct-10	18
Nov-10	8
Dec-10	9
Jan-11	14
Feb-11	9
Mar-11	8
Apr-11	3
May-11	7
Jun-11	5
TOTAL VIEWS	**108**

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9. PUBLIC PARTICIPATION

9.1 PROGRAM IMPLEMENTATION

During Fiscal Year 2011, the City was compliant with all elements of Section D.6 of the Municipal Permit.

General Public Feedback Mechanisms

The City continues to maintain an active website (www.delmar.ca.us) which provides the public with opportunities to contact City staff directly, and find information regarding any of the City's programs. The Clean Water Program has its own webpage that is updated as needed (http://www.delmar.ca.us/Government/dept/Pages/CleanWater.aspx) and allows the public to contact the Clean Water Manager and Code Enforcement Officer to report potential violations of the City's Stormwater Management and Discharge Control Ordinance (Section 11.30 of the Del Mar Municipal Code). The webpage also allows the public to ask questions regarding water use and runoff, and download information on the City's JURMP, and contains links to the City's various BMP Manuals and the Permit itself.

The City also continues to maintain a specific e-mailbox and hotline for reporting issues. This email address (cleanwater@delmar.ca.us) and hotline (858) 755-9313 x172 are directly answered by the City's Clean Water Manager. Every attempt is made to respond to any inquiry by the close of the next business day. When inquiries are made from areas within the 92014 zip code, but outside the City's jurisdiction (i.e. the "Del Mar Heights" portion of the City of San Diego), City of Del Mar staff notify City of San Diego staff for follow-up.

The City continues to provide opportunities for the general public to become involved with the implementation of the JURMP, by working with the community in reducing pollutant discharge through recycling opportunities, eliminating off-site drainage, and other activities aimed at protecting water quality through the reduction of water waste.

Formal Public Hearings and Workshops

The general public is given the opportunity to provide testimony and provide feedback on issues related to the Clean Water Program at regular meetings and workshops held by the Del Mar City Council, the Del Mar Planning Commission, and other City Committees. This can include public testimony on development planning and capital improvement projects relating to the project-specific implementation of stormwater controls. All testimony, concerns, and input are then referred to staff for review, comment, and action as appropriate.

During the Fiscal Year 2011 reporting period, the Del Mar City Council held 37 public meetings (including public workshops) in which the general public was given the opportunity to provide feedback on the Clean Water Program, or on any topics they wished to bring before the elected officials of the City.

During the reporting period, there were specific City Council agenda items relating to the Clean Water Program including implementation of the JURMP. To reach the widest audience possible, these hearings and workshops are streamed live over the internet, broadcast live on DelMarTV (Time Warner Cable Channels 19 & 24), replayed in their entirety the two days following the hearing on DelMarTV, and available on-demand through the City's website. **Table 9-1** below provides a list of the specific City Council Agenda items relating to the Clean Water Program, JURMP, or other water quality related issues for the Fiscal Year 2011 reporting period.

Table 9-1: Public Participation Program Implementation

Hearing Date	Subject
Sept. 20 , 2010	Clean Water Program Update/Standard Urban Stormwater Mitigation Plan (SUSMP) Update/JURMP Annual Report Update
April 25, 2011	Clean Water Program Update/Bacteria and Sediment TMDL Updates
May 11, 2011	Clean Water Program Budget Hearing

Staff as Feedback Mechanism

As indicated in the 2008 JURMP, the City of Del Mar believes that City staff are the public at work. More importantly, field staff are the eyes and ears of the City, interacting with the general public during their day-to-day work. Staff is continually encouraged to report violations and provide feedback to the City's Clean Water Manager on the implementation of the JURMP, and can provide valuable information on which systems and programs are working and suggestions on improving the programs.

During the reporting period, Development and Planning staff made recommendations for changes to the counter materials used to both inform applicants and receive project information related to the Clean Water Program. As previously mentioned (Section 2 of this report), the Clean Water Program made modifications to the counter material based upon this feedback from staff.

10. FISCAL ANALYSIS

10.1 PROGRAM IMPLEMENTATION

During Fiscal Year 2011, the City was compliant with Section G of the Municipal Permit.

Section 12 of 2008 JURMP provided a strategy for effectively conducting a fiscal analysis of the Program in its entirety. The fiscal analysis strategy in the 2008 JURMP included the expenditures (such as capital, operation and maintenance, education, and administrative expenditures) necessary to accomplish the activities of the Program. No modifications in Section 12 of the 2008 JURMP were made during this reporting period.

On January 29, 2009, the San Diego Municipal Copermittees adopted the "Standardized Fiscal Method and Format" which provides a model for the City of Del Mar and other Copermittees to perform the review and annual reporting as required in Order R9-2007-0001, Section G. This methodology and reporting format became effective in January 31, 2010. The "Standardized Fiscal Analysis Method and Format" (Fiscal Analysis Method) was collaboratively developed and adopted by the Copermittees in January 2009 in accordance with sections G, J.1.a(3)(k) and J.1.c(1)(d) of the Permit. The Fiscal Analysis Method document was submitted to the San Diego RWQCB on January 31, 2009, as Attachment 1 of the "Regional Urban Runoff Management Plan (RURMP) Annual Report for 2008-2009."

As required, the City of Del Mar is utilizing the format and guidelines described in the Fiscal Analysis Method for this reporting period. This section of the Annual Report provides a fiscal analysis of the City's urban runoff management programs which meets all requirements of the Permit.

10.1.1 Clean Water Program Budget

The City of Del Mar Clean Water Program is a multi-departmental program, funded as an enterprise fund in the City's Annual Budget. Enterprise funds account for operations that are financed and operated in a manner similar to private businesses, with the costs of providing the services recovered largely through user fees. Fund 55 ("The Clean Water Fund"), is one of three (3) enterprise funds in the City's budget, and was added to the City's budget in Fiscal Year 2004 to account for the mandated costs of the City's responsibilities Municipal Permit.

The City of Del Mar Operating and Capital Improvement Budgets for Fiscal Year 2010 and Fiscal Year 2011 were presented to the Del Mar City Council in a series of public workshops held in May and June 2009, and was adopted by the City Council at a public hearing held on June 22, 2009.

For the Fiscal Year 2010-2011 reporting period, the final amended budget for Fund 55 totaled $473,311.

Table 10-1 below provides a breakdown of program budget by major budget category for Fiscal Year 2011.

Table 10-1: Budget Summary – Clean Water Fund 55

Fund Account		Adopted Budget Fiscal Year 2011	Description/Comments
55-5220	Clean Water Engineering	82,200	Engineering contractual services including: Program management (Fiscal Year 2008) water quality testing, development and distribution of educational materials, fees to agencies (Fiscal Year 2008), and engineering services.
55-5530	Clean Water Planning	31,752	Active enforcement of Clean water regulations including project plan review, permitting, construction monitoring and plan review of BMPs.
55-5536	Clean Water Code Enforcement	29,964	Active in-field enforcement clean water regulations, including response to resident complaints
55-5539	Clean Water Program Management	190,463	Beginning mid-year Fiscal Year 2008, all program management and reporting activities, fees to agencies, and interaction with regional Copermittee groups.
55-5840	Public Works (General)	16,801	Provides for administration and general support for all clean water programs for property and facilities, including supervision of maintenance staff.
55-5841	Flood Control & Drainage	4,497	Provides for necessary monitoring, water quality testing, and labor associated with program requirements when Flood Control pumps are operated.
55-5845	Street Maintenance	84,665	Provides for a portion of sidewalk and street cleaning including street sweeping and storm drain maintenance within the City limits of Del Mar. Also covers costs with testing, recording contents, and recovering all deposited materials that otherwise would discharge to the beach, river, or lagoon.
55-5847	Street Landscaping	19,180	Provides for landscape supervision, documentation, and controls for the Clean Water aspects of the street landscaping for medians, islands, street ends, and other street related areas. The program also provides for improved litter control, pesticide and fertilization monitoring and reporting.
55-5848	Park Maintenance	13,789	Provides for park maintenance supervision, documentation, and controls for the Clean Water aspects of the landscaping for parks and open space areas. The program also provides for improved litter control, pesticide and fertilization monitoring and reporting.
Total Clean Water Program Budget – Fund 55		**$473,311**	

10.1.2 Fiscal Analysis Methods

The City of Del Mar utilized the format and guidelines included in the Fiscal Analysis Method for reporting purposes; however, given the City's financial accounting methods, a few modifications were necessary. These adjustments are described below.

10.1.3 Fiscal Analysis Results

The City's Fiscal Year 2011 jurisdictional (JURMP), watershed, (WURMP), and regional (RURMP) projected expenditures for the implementation of the Municipal Permit requirements are summarized in **Table 10-2** below.

10.1.4 JURMP Expenditures

The City of Del Mar utilized the expenditure categories detailed in the Fiscal Analysis Method for jurisdictional reporting. However, due to the implementation overlap of some of the City's municipal permit components; it is difficult to separate out individual component costs. As a result, the expenditures for residential, education, and public participation are reported as one expenditure category. Additionally, since the City does not explicitly track expenditures by municipal permit component for its budgeting purposes, in many cases estimated percentages were utilized to allocate expenditures into the appropriate municipal permit component categories.

A total of $473,311 was projected to be expended in Fiscal Year 2011 for the implementation of JURMP activities. An overview of the expenditures reflected in JURMP activity components is described below.

Administration
Activities identified in this component represent labor and non-labor expenditures for materials, supplies, equipment, or tools that are not otherwise incorporated into other expenditure categories, general administrative functions (e.g., program planning, budgeting, staff supervision), and program assessment and reporting.

Development Planning
Activities identified in this component represent labor and non-labor expenditures related to issuance or oversight of permits or of plans (e.g., permit counter support, plan checks, permit or application processing), project planning and engineering (e.g. project design specifications, capital improvement projects).

Construction
Activities identified in this component represent labor and non-labor expenditures related to construction site inspections and enforcement.

Municipal
Activities identified in this component represent labor and non-labor expenditures related to maintenance inspections of streets, roads, catch basins and inlets, open channels, and the MS4, municipal facility inspections, street and parking lot sweeping, catch basins and inlets, open channels, and MS4 cleaning, and municipal BMP implementation. Since the City of Del Mar conducts all fire-fighting training outside of the City, and no non-emergency fire-fighting flows occurred during the reporting period, the City does not currently track expenditures relating to non-emergency fire-fighting flows. Any costs associated with preparing for these flows are included in the municipal component.

Table 10-2: Fiscal Year 2011 Expenditure Summary by Program Component

Component Description	Fiscal Year 2011 Projected Expenditures
Jurisdictional Component	
Administration	59,763
Development Planning	34,483
Construction	23,025
Municipal (Including Non-Emergency Fire Flows)	130,092
Industrial and Commercial	16,131
Residential, Education, and Public Participation	45,099
IDDE	77,080
Jurisdictional Total	**385,673**
Watershed Component	
San Dieguito Watershed	35,006
Los Peñasquitos Watershed	30,500
Watershed Total	**65,506**
Regional Component	
Total Copermittee Cost Share for Del Mar	19,065
Additional Regional Costs	3,067
Regional Total	**22,132**
Total Costs	**$473,311**

Industrial and Commercial

Activities identified in this component represent labor and non-labor expenditures related to evaluation and enforcement of program requirements at industrial and commercial sites or sources (e.g. routine inspections and complaint investigations).

Residential, Education, and Public Participation

Activities identified in these components represent labor and non-labor expenditures related to investigation and enforcement of residential areas or activities, staffing outreach events, development and production of outreach materials, and any expenditures associated with waste collection and recycling (e.g. HHW, used oil).

Illicit Discharge Detection and Elimination
Activities identified in this component represent labor and non-labor expenditures related to the identification and elimination of illicit discharges or connections, enforcing the City of Del Mar's storm water ordinance, and any expenditures related to monitoring programs (e.g. Dry weather monitoring, coastal storm drain monitoring, special investigations, field or sampling equipment, materials and supplies).

10.1.5 WURMP Expenditures

The City of Del Mar utilized the expenditure categories (administration, watershed activities, cost share contribution, and other) detailed in the Fiscal Analysis Method for watershed reporting. The watershed expenditures included in this report only capture City of Del Mar expenditures and do not account for any expenditure disbursed by other Copermittees included in the watershed(s).

A total of $65,506 was projected to be expended in Fiscal Year 2011 for the implementation of WURMP activities. This also includes costs for the implementation of applicable TMDLs (Los Peñasquitos Lagoon Sediment TMDL development and Bacteria TMDL Revised Project I Twenty Beaches and Creeks in San Diego Region), which are considered Special Studies.

10.1.6 RURMP Expenditures

The City of Del Mar utilized the expenditure categories (administration, cost share contribution, regional activities, and other) detailed in the Fiscal Analysis Method for regional reporting. The regional expenditures included in this report only capture City of Del Mar expenditures and do not account for any expenditure disbursed by other Copermittees in the region. A total of $22,132 was projected to be expended in Fiscal Year 2011 for the implementation of RURMP activities.

10.1.7 Funding Sources

To ensure adequate funding for the Clean Water Program, the City uses a combination of user fees and general fund monies.

10.1.8 Clean Water Service Charge

The City of Del Mar City Council created and adopted a user fee, called the Clean Water Service Charge to offset the costs of the program. Initially, the rate was adopted to collect $100,000.00 of the estimated $300,000.00 for the program, with an escalator to achieve full cost recovery by 2009. Mid-way through the five-year schedule, on July 24, 2006, the California Supreme Court published a decision in the case of Bighorn-Desert View Water Agency v. Verjil (2006) 39 Cal. 4th 205, which held that consumption-based rates such as water and sewer rates are subject to the notice and hearing requirements of California Constitution, Article XIIID, Section 6 (commonly known as "Proposition 218"). Therefore, on January 22, 2007, and February 5, 2007, the Del Mar City Council held public hearings to receive written protests to comply with Proposition 218. No majority protest was received; and the Council ratified the previously approved five-year rate schedule, including the City's Clean Water Service Charge. However, the adopted rate increases did not account for the actual increases in the costs associated program requirements.

As an additional measure to obtain voter approval of the five-year rate schedule for the City's Clean Water Service Charge, the Council directed staff on April 2, 2007, to start the process to perform a mail ballot election procedure. During the process of researching the mail ballot

election procedures and the current rates, it became apparent that the process would immediately need to be repeated to set the Fiscal Year 2010 rates and charges, since the current five-year rate schedule was due to expire in June of 2009. Due to the additional costs incurred in complying with the new requirements of the 2007 Permit, increases to the Clean Water Service Charge were proposed, including an annual rate escalator. All monies appropriated as part of the Clean Water Service Charge are directly identified for the Clean Water Program, and pursuant to law, may not be used by the City for any other purpose.

During the Fiscal Year 2009 reporting period, in compliance with Proposition 218, both the majority protest hearing and mail ballot process were conducted for the proposed increases. Both the ratification of the existing rate structure (required by Proposition 218), and the new rates, including the rate escalator, passed by more than 62%. As a result of the passage of the Clean Water Service Charge, the City will continue to have a secure funding source for the Clean Water Program, outside of general fund monies. Based on current water allocations for the City of Del Mar, the projected revenues from the Clean Water Service Fee will be $477,731 for Fiscal Year 2012.

10.1.9 General Fund Monies

The City of Del Mar General Fund accounts for all the revenues received by the City that are not designated for a specific purpose either by the City Council, State or Federal requirements, or special requirements such as those associated with bond debt. The City monitors the General Fund dollars most closely because these revenues fund the backbone of City government. The major sources of General Fund revenues include property tax, sales tax, transient occupancy tax, and parking fees and fines.

During Fiscal Year 2011 a portion of the overall program expenditures was funded out of General Fund monies. It is the hope of the City that the Clean Water Service Fee collected is sufficient to cover all costs associated with the program, and that General Fund monies may be freed up for other services, including special projects. However, the City is committed to ensuring that the necessary funds to meet all permit requirements is available, should the Clean Water Service Fee not cover all costs of the program.

11. EFFECTIVENESS ASSESSMENT

11.1 INTRODUCTION

The Municipal Permit specifies that Copermittees assess the effectiveness of their JURMP at three levels: programmatic, component, and activity-specific. The City uses these effectiveness assessments as part of a feedback loop that incorporates planning, implementation and assessment of its overall Clean Water Program.

This section outlines an integrated effectiveness assessment process that includes compliance assessment results for Fiscal Year 2011 and program changes that reflect the City's approach to adaptive management. In addition to learning from its own program assessment, the City learns from other Copermittees' programs. The information that is shared amongst the Regional Copermittees is used by the City to evaluate its activities and make improvements.

11.2 EFFECTIVENESS ASSESSMENT RESULTS

11.2.1 Baseline BMP Assessment

The City assesses the effectiveness of its specific activities, program components and overall JURMP by evaluating at the following outcome levels.

Table 11-1: Effectiveness Assessment Outcome Levels 1-4

Outcome Level	Description	Assessment
1	Program Compliance	Measured by comparison to targeted outcomes, and the City's effectiveness at implementing the Municipal Permit
2	Changes in Attitudes, Awareness and Knowledge	Measured by pre- & post-surveys and questioning of specific regulated communities
3	Behavioral Changes and BMP Implementation	Measured by analysis of inspection findings
4	Load Reductions	Measured by direct method – how much waste material is collected and disposed

Level 1 – Compliance Assessment—Activity, Components and Program
Overall program compliance is based on the summation of the individual Municipal Permit component compliance evaluations. Municipal permit component compliance is determined by comparing data to the targeted outcomes for specific activities. For Fiscal Year 2011, the targeted outcomes for each permit activity are defined as fulfilling the baseline Municipal Permit requirements of Order R9-2007-0001. The assessment results are provided below.

Overall, the City met 100% of its targeted outcomes for Baseline BMP significant activities.

Table 11-2: Assessment of Development Component

No.	Permit Compliance Item	Outcome Level	Assessment Method	City Fiscal Year 2011 Targeted Outcome	Confirmation and/or result
1	Require all development projects to undergo the City's urban runoff approval process and meet applicable project requirements	1	Confirmation	100% of development projects undergo urban runoff approval process and meet requirements	Confirmed
2	Require all applicable SUSMP BMPs to be applied to all priority development projects	1	Confirmation	100% of PDPs to have SUSMP BMPs applied	Not Applicable for Fiscal Year 2011 - No PDP projects
3	If PDPs are allowed to implement treatment control BMPs with low removal efficiency rankings, require that a feasibility analyses is conducted to exhibit that more effective BMPs were infeasible	1	Confirmation	Allow 0% to implement TCBMPs with low efficiency ranking - unless paired with higher efficiency TCBMPs	Not Applicable for Fiscal Year 2011 - No PDP projects
4	Maintain an updated treatment control BMP inventory	1	Confirmation	Conduct 100% of updates	Confirmed - no updates
5	Inspect TCBMPs per minimum requirements in Permit	1	Confirmation	Inspect 100% of TCBMPs in City inventory	Completed
6	Conduct annual verification of operation and maintenance of TCBMPs	1	Confirmation	Verify 100% of TCBMPs in City inventory	Completed
7	Conduct BMP verification for all PDPs prior to occupancy	1	Confirmation	Perform inspections at 100% of PDPs to ensure BMPs are constructed prior to occupancy	Not Applicable for Fiscal Year 2011 - No PDP projects
8	For all qualifying HMP Projects, ensure that HMP requirements are applied	1	Confirmation	Require 100% of qualifying projects to implement HMP requirements	Not Applicable for Fiscal Year 2011 - No PDP/HMP projects
9	Enforce the development projects throughout their process including post-construction TCBMP maintenance	1	Confirmation / Tabulation	Enforce as necessary	No enforcement necessary for Fiscal Year 2011

Table 11-3: Assessment of Construction Component

No.	Permit Compliance Item	Outcome Level	Assessment Method	City Fiscal Year 2011 Targeted Outcome	Confirmation and/or result
1	Require all construction sites projects to undergo the City's urban runoff approval process and meet applicable construction requirements	1	Confirmation	100% of development projects undergo construction urban runoff approval process	Confirmed
2	Maintain a regularly updated construction site inventory	1	Confirmation	Maintain inventory on monthly basis	Confirmed
3	Require designated BMPs to be implemented for all construction sites.	1	Confirmation	Require construction BMPs at 100% of construction sites	Confirmed
4	Apply maximum disturbed area requirements for all applicable construction sites.	1	Confirmation	Require maximum disturbed area requirements at 100% of applicable sites	Not applicable during Fiscal Year 2011 - no applicable sites
5	Maintain a listing of all construction sites with conditions requiring advanced treatment, together with confirmation that advanced treatment was required at such construction sites	1	Confirmation	Require advanced treatment requirements at 100% of applicable sites	
6	Conduct construction site/activity inspections at the required frequencies	1 & 3	Confirmation / Tabulation / Inspection	Conduct 100% of required inspections at proper frequencies	Confirmed
7	Take enforcement actions against the construction community as-needed to obtain compliance with the City's Municipal Code	1	Confirmation / Tabulation	Enforce as necessary	Confirmed – 2 NOVs and Fines

Table 11-4: Assessment of Municipal Component

No.	Permit Compliance Item	Outcome Level	Assessment Method	City Fiscal Year 2011 Targeted Outcome	Confirmation and/or result
1	Update the municipal inventory and prioritization	1	Confirmation	Update inventory and prioritization as necessary	Confirmed - however, no updates during Fiscal Year 2011
2	Require designated BMPs to be implemented, for municipal areas and activities, as well as special events	1	Confirmation	Require BMPs at 100% of municipal sites and activities	Confirmed
3	Inspect and maintain municipal treatment controls.	1	Confirmation	Conduct 100% of required inspections at proper frequencies	Confirmed
4	Inspect and clean catch basins/inlets at appropriate frequencies	1 / 3	Tabulation / Inspection	Inspect basins/inlets at proper frequencies	Inventory = 284 Inspected = 284 Catch Basins/Inlets Cleaned = 284
5	Inspect and clean MS4 pipes at appropriate frequencies	1	Tabulation	Inspect MS4 at proper frequencies	Total Distance of MS4 pipes = 5.87 miles Total Distance inspected ~ 3,500 feet Total Distance cleaned ~ 2,500 feet
6	Inspect and clean open channels at appropriate frequencies	1	Tabulation	Inspect channels at proper frequencies	Open Channels = 2.85 miles Inspected = 2.85 miles Cleaned ~ 2.85 miles
7	Remove waste and litter from catch basins, inlets, the MS4, and open channels as required	4	Quantification	Clean MS4 system as required	Catch Basins/Inlets and MS4 = 55.2 tons
8	Require designated BMPs for pesticides, herbicides, and fertilizers to be implemented for municipal areas and activities.	1	Confirmation	Require BMPs for pesticides, herbicides and fertilizers at 100% of municipal sites and activities	Confirmed

No.	Permit Compliance Item	Outcome Level	Assessment Method	City Fiscal Year 2011 Targeted Outcome	Confirmation and/or result
9	Track number of miles swept	1	Tabulation	Conduct sweeping at required intervals	Confirmed - 1,131 miles
10	Sweep parking lots and streets	4	Quantification	Conduct sweeping at required intervals	Street and Parking Lot Sweeping = 94.5 tons
11	Implement efforts to prevent and eliminate infiltration from the sanitary sewer to the MS4	1	Confirmation	Conduct sanitary sewer efforts	Confirmed
12	Conduct inspections of the City's municipal areas and activities	1	Confirmation	Conduct inspections at the required frequencies	Confirmed
13	Take enforcement actions against the municipality as-needed to obtain compliance with the City's Municipal Code	1	Confirmation / Tabulation	Enforce as necessary	Confirmed - none during Fiscal Year 2011

Table 11-5: Assessment of Industrial/Commercial Component

No.	Permit Compliance Item	Outcome Level	Assessment Method	City Fiscal Year 2011 Targeted Outcome	Confirmation and/or result
1	Update the industrial and commercial inventory	1	Confirmation	Update inventory and prioritization as necessary	Confirmed
2	Require designated BMPs to be implemented, for industrial and commercial sites/sources.	1	Confirmation	Require BMPs at 100% of commercial and industrial businesses	Confirmed
3	Notify owners/operators of industrial and commercial sites/sources of BMP requirements, including mobile businesses	1	Confirmation	Notify 100% of inventoried businesses of Clean Water Program requirements	Confirmed
4	Inspect the businesses on the City's inventory at the percentages identified in the Permit (at least 25% of inventory)	1 / 3	Confirmation / Inspection / Tabulation	Inspect 100% of inventoried businesses	Confirmed
5	Take enforcement actions against the business community as-needed to obtain compliance with the City's Municipal Code	1	Confirmation / Tabulation	Enforce as necessary	NOV = 10 Citation = 3

Table 11-6: Assessment of Residential Component

No.	Permit Compliance Item	Outcome Level	Assessment Method	City Fiscal Year 2011 Targeted Outcome	Confirmation and/or result
1	Require designated BMPs to be implemented for residential areas and activities	1	Confirmation	Require BMPs at 100% of the City's residential areas and activities	Confirmed
2	Facilitate proper management and disposal of used oil and other household hazardous materials	1	Confirmation	Implement a household hazardous waste program	Confirmed
3	Take enforcement actions against the residential community as-needed to obtain compliance with the City's Municipal Code	1	Confirmation	Enforce as necessary	NOV = 15 Citation = 2
4	Collaborate with Regional Education Program	1	Confirmation	Collaborate with Regional Education Program	Confirmed

Table 11-7: Assessment of Education Component

No.	Permit Compliance Item	Outcome Level	Assessment Method	City Fiscal Year 2011 Targeted Outcome	Confirmation and/or result
1	Conduct outreach to high-risk dischargers	1	Confirmation	Conduct outreach to high-risk dischargers	Confirmed
2	Conduct training of municipal departments and personnel	1	Confirmation	Conduct training of municipal departments and personnel	Confirmed
3	Conduct outreach to the development and construction communities	1	Confirmation	Conduct outreach to the development and construction communities	Confirmed
4	Conduct outreach to the general public.	1	Confirmation	Conduct outreach to the general public	Confirmed

Table 11-8: Assessment of Miscellaneous Program Items

No.	Compliance Item	Outcome Level	Assessment Method	City Fiscal Year 2011 Targeted Outcome	Confirmation and/or result
1	Conduct public participation activities	1	Confirmation	Conduct public participation activities as-needed	Confirmed
2	Conduct a fiscal analysis of the City's urban runoff management programs.	1	Confirmation	Conduct a fiscal analysis of the program	Confirmed
3	Conduct special investigations as-needed	1	Confirmation	Conduct special investigations	Confirmed
4	Identify and make any revisions necessary to the JURMP	1	Confirmation	Revise JURMP as-needed	No revisions during Fiscal Year 2011

Level 2 – Changes in Knowledge, Awareness and Attitudes Assessment

During Fiscal Year 2011, the City continued its efforts to collect data and information regarding changes in attitude, awareness and knowledge. In general, the regulated community continued to show a greater awareness and knowledge of the Clean Water Program, its purpose and goals. The inspected businesses in particular showed a greater understanding of the program and its requirements.

Level 3 – Behavioral Changes and BMP Implementation Assessment

During the reporting period the City continued its efforts to collect data and information for assessing behavioral changes and BMP implementation. The primary method of data collection was inspections of various sites/facilities to determine BMP implementation. Based on the findings of the inspections of municipal, commercial and construction sites, it is evident that the community as a whole is exhibiting a greater rate of BMP implementation.

Level 4 – Load Reduction Assessment

During Fiscal Year 2011, the City continued its efforts to collect data and information for assessing pollutant load reductions. The primary method for determining pollutant load reductions was to collect and analyze data on specific storm water activities; such as storm drain cleanings, street sweeping, and municipal inspections. Until more data and information becomes available to accurately estimate pollutant load reductions from non-cleaning activities, the City will rely on these activities as the primary quantifiable pollutant load reduction activities.

Below is a summary of the quantifiable pollutant load reduction activities that the City conducted during the Fiscal Year 2011 reporting period:

- Collected 6.25 tons of HHW.
- Public Works conducted 284 inspections of catch basins and inlets, and cleaned 284 catch basins and inlets with accumulated waste.
- Total debris removed from catch basins, inlets, cleanouts, and the MS4 was 55.2 tons of waste and litter by the Public Works Department.
- Through the implementation of the City's street sweeping program, 1,131 curb miles were swept and 94.5 tons of debris (including parking lots) was removed within the City.

11.2.2 Integrated Program Assessment

Water quality and integrated assessments will be performed at long-term intervals (every five years), and the results will be presented in the Annual Report. The Fiscal Year 2012 report will include a comprehensive water quality and integrated assessment. The assessment will include information collected from regional, watershed, jurisdictional, and Municipal Permit-required programs (e.g., TMDL programs) and will be compiled and assessed for areas within the City's jurisdiction. In the future, MS4 and receiving water data will be analyzed separately to assist in the development of Outcome Level 5 and 6 assessments.

Integrated Program Planning

The City will continue to adapt its program based upon assessments of the baseline program and the BMP efficiencies. These two assessments and their resulting changes to the City's program are described below.

Baseline BMP Assessment

During the reporting period, the City met its targeted outcomes. Based upon this key assessment, the City does not plan to make modifications to its Baseline BMP implementation.

Adaptive Management

During Fiscal Year 2011, the City met with other Copermittees, through WURMP meetings and other forums, and learned about pilot and special studies recently conducted. During the Fiscal Year 2012 reporting period, the City of Del Mar plans to apply adaptive management to their program. The adaptive management will be based upon findings from other Copermittees' studies and activities.

The program modifications will be a part of the City's Fiscal Year 2012 WURMP Activity to assess the effectiveness of revised inspections processes. The revised processes include more frequent patrol property-based inspections. The City anticipates that it can inspect a significantly greater portion of the community on a more frequent basis. Results of this activity will be reported in the Fiscal Year 2012 WURMP Annual Reports and Fiscal Year 2012 JURMP Annual Report.

12. JURMP REVISIONS

The City did not make changes to its 2008 JURMP during the Fiscal Year 2011 reporting period.

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13. CONCLUSIONS AND RECOMMENDATIONS

During the Fiscal Year 2011 reporting period, the City of Del Mar implemented the Municipal Permit requirements and the activities described in the City's 2008 JURMP. The City continues to support a comprehensive stormwater management program, which is evident in, and reflected by, the City's efforts to implement its JURMP. This Annual Report documents the City's efforts to implement various JURMP programs such as education, inspections, inventories, monitoring, and public participation. These activities and their compliance are reflected in Program Assessment tables contained in the Effectiveness Assessment addressed in Section 11 of this Annual Report.

This section draws conclusions from the collected data contained in this Annual Report, and makes appropriate recommendations based on the review of program implementation during the Fiscal Year 2011 reporting period.

13.1 RECOMMENDATIONS AND PROGRAM MODIFICATIONS

The City's Clean Water Program continued to evolve during the Fiscal Year 2011 reporting period. As indicated in the City's 2008 JURMP, the program will require periodic revision. The City remains committed to working with its staff, other Copermittees and the Regional Board to improve and adapt its plan and make all efforts necessary to comply with the Permit requirements and to make improvements to water quality. As lessons are learned, and as a result of City staff input, modifications may be required to make sure that the City's program continues to be effective.

As described in Section 12 of this Annual Report, the City did not make modifications to its program.

Some of the key recommendations for program implementation during Fiscal Year 2012 are as follows:

- Continue implementation of the City's 2008 JURMP;
- Continue improvements to activity/document tracking systems through database revisions and implementation;
- In depth assessment of the operating procedures as related to the City's 2008 JURMP – focusing particularly on field implementation of the requirements, and whether the efficiency of implementation can be improved;
- Continue to engage and involve the community in the program implementation through increased personal contact and enhancements to the City's website; and
- Continue to coordinate with the Regional Copermittees for consistent approaches to program implementation.

13.2 CONCLUSIONS

As evidenced in the Permit Component Tables, the City has largely been successful at implementing its clean water program. With continued review and modifications of its 2008 JURMP, and ongoing input on the implementation of its program, the partnership between residents, local businesses, and City staff will continue to allow the City to work diligently in protecting its waterways, and improve water quality at its beaches and lagoons.

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Administrative Design Review Permits ***REVIEWED*** *between 7.1.10 to 6.30.11*

Parcel #	St. #	Street Name	Project Name	Project #	Comments
299-072-41	2136	Heather Lane	Rattner	ADR-10-16 MOD	minor project-no significant surface disturbance
299-136-24	2004	Coast	Huebner	ADR-10-24	minor project-no significant surface disturbance
299-136-24	411	11th Street	Entous	ADR-10-25	minor project-no significant surface disturbance
299-231-05	1709	Coast	Bloum	ADR-10-26	minor project-no significant surface disturbance
299-095-05	122	24th Street	Neely	ADR-10-27	minor project-no significant surface disturbance
300-075-06	1201	Camino del Mar	Conkwright	ADR-10-28	minor project-no significant surface disturbance
301-012-25	205	Oceanview	Nerenberg	ADR-10-29	minor project-no significant surface disturbance
300-200-03	720	Camino del Mar	Del Mar Inn	ADR-10-30	minor project-no significant surface disturbance
299-280-45	454	Zuni	Davidson	ADR-11-01	minor project-no significant surface disturbance
299-146-17	1912	Oceanfront	Hayward	ADR-11-02	minor project-no significant surface disturbance
301-021-01	108	Nob Ave	Sinnott	ADR-11-03	minor project-no significant surface disturbance
299-132-19	243	22nd Street	Schwartz	ADR-11-04	minor project-no significant surface disturbance
300-012-17	1328	Camino del Mar	Crepes and Cork	ADR-11-05	minor project-no significant surface disturbance
298-241-08	3263	Camino del Mar	Brigantine	ADR-11-06	minor project-no significant surface disturbance
299-065-06	2614	Oceanfront	Cassidy	ADR-11-07	minor project-no significant surface disturbance
300-222-09	405	9th Street	Patapoutan	ADR-11-08	minor project-no significant surface disturbance
300-072-02	123	13th Street	Jankowski	ADR-11-09	minor project-no significant surface disturbance
300-040-21	1345	Via Alta	Danola	ADR-11-10	minor project-no significant surface disturbance
300-222-31	853	Camino del Mar	Del Mar Building Corp	ADR-11-11	minor project-no significant surface disturbance
300-200-20	519	Stratford Ct	Ortman	ADR-11-12	minor project-no significant surface disturbance
300-093-02	235	11th Street	City of Del Mar - Annex	ADR-11-13	minor project-no significant surface disturbance
300-030-04	1401	Camino del Mar	Del Mar Partnership	ADR-11-14	minor project-no significant surface disturbance
300-321-46-06	269	Stratford Ct	Ipema	ADR-11-15	minor project-no significant surface disturbance
300-500-03	533	Stratford Ct	Quesnell	ADR-11-16	minor project-no significant surface disturbance
300-263-05	963	Klish Way	Demich	ADR-11-17	minor project-no significant surface disturbance
299-06-506	2614	Oceanfront	Cassidy	ADR-11-07 MOD	minor project-no significant surface disturbance
299-146-26	1929	Oceanfront	Moore	ADR-11-18	minor project-no significant surface disturbance
300-181-15	154	Little Orphan Alley	Levin	ADR-11-19	minor project-no significant surface disturbance
300-391-09	333	13th Street	Wegner	ADR-11-20	minor project-no significant surface disturbance
299-232-05	1734	Oceanfront	Kuhle	ADR-11-21	minor project-no significant surface disturbance
300-074-07	1212	Camino del Mar	Board and Brew	ADR-11-22	minor project-no significant surface disturbance

Encroachment Permits ***REVIEWED*** *between 7.1.10 and 6.30.11*

Parcel #	St. #	Street Name	Project Name	Project #	Comments
		Via de la Valle/E of Cedros	man hole	EP-10-14	construction of manhole
		Varios locations in ROW	SDG&E	EP-10-15	tree removal
		Pine Needles/Adj to 187 Oceanview	slurry with type 1	EP-10-16	slurry
300-075-06	1201	Camino del Mar	Conkwright	EP-10-17	crain in ROW
300-410-14	461	15th Street	Davis	EP-10-18	replace driveway
300-410-12	527	11th Street	Simons	EP-10-19	dumpster in ROW
300-030-83	1431	Camino del Mar	Alpha Fire (Chasan)	EP-10-20	fire service line in street
			Timewarner Cable	EP-10-21	datalog
300-017-25	100	12th Street	Public easements	EP-10-22	public easements
300-075-06	1201	Camino del Mar	Conkwright	EP-10-23	parking realignment
299-066-13	157	26th Street	Vint / Mattson	EP-10-24	new curb and gutter
300-040-33	1150	Cuchara	Chestnut / McKenna	EP-10-25	remove/replace sewer lateral
		Southbound lane 1400 Ocean	Wavecrest	EP-10-26	tree trimming
300-410-33	1155	Cuchara	Kidd / Wohlford	EP-10-27	underground utilities
298-560-24		Via de la Valle	Timewarner Cable	EP-10-28	sidewalk repair
300-390-03	431	Van Dyke	Hardke	EP-10-29	utilities
		end of 12th St on northside	Gerrity	EP-10-30	tree trimming
		29th St beach access	laydown and employee parking	EP-10-31	beach access
300-012-02	215	15th Street	Sbicca	EP-10-32	construction parking
300-321-34-02	404	Stratford Ct	Miller (Arrow Pipeline)	EP-11-01	sewer line repair
300-272-22	810	Crest Rd	Aljain (Arrow Pipeline)	EP-11-02	sewer line repair
300-030-83	1431	Camino del Mar	Chasan	EP-11-03	sidewalk repair
		Crest Rd	City of Del Mar	EP-11-04	chicanes
		San Dieguito from JD	Airv Utility Surveyors	EP-11-05	potholes
300-200-35	710	Camino del Mar	Del Mar Inn (Simplex)	EP-11-06	misc.
		WITHDRAWN		EP-11-07	
300-094-23-04	118	11th Street	O'Brien	EP-11-08	parking
300-072-05-01	145	13th Street	Whaley / Robson	EP-11-09	electrical trenching in alley
		Via de La Valle	HP Comm / AT&T	EP-11-10	utility trenching
299-173-11	420	Luzon		EP-11-11	retaining wall construction
300-012-28,29,30	201-211	15th Street	Johnson Badger Co	EP-11-12	overhang encroachment
300-072-25	100	12th Street	Handzel	EP-11-13	crane parking
		Del Mar Bluffs	NCTD	EP-11-14	bluff stabilization project

*Design Review Board Permits **REVIEWED** between the dates of 7.1.10 and 6.30.11*

Parcel #	St. #	Street Name	Project Name	Project #	Comments
300-263-25	964	Crest Rd.	Wolfson	DRB-10-15	Addition
300-390-03	431	Van Dyke	Hardke	DRB-08-43 MOD	Fence and BBQ
300-072-26	104	12th St	Loomis	DRB-10-16	Detached room and bathroom
299-200-58	1601	San Dieguito	From	DRB-10-17	Misc.
299-137-11	2112	Oceanfront	Gross	DRB-10-18	Addition/remodel
300-200-35	710	Camino del Mar	Pacifica Stratford	DRB-10-19	Addition
300-040-45	627	15th St	Jenson / DeLonge	DRB-10-20	Deck enclosure
300-072-22	119	13th St	Luddy	DRB-10-21	Remodel
300-241-07	538	Amphitheater	Rowe	DRB-10-22	Remodel
300-251-10	560	Orchid Ln	Rafferty	DRB-10-23	Remodel
301-024-03	334	Hidden Pines	Anderson / Campbell	DRB-10-24	Addition
299-072-50	2104	Christy Lane	Bacha	DRB-11-01	Additon / Remodel
299-065-08/07	2606-2610	Oceanfront	EWM Investments	DRB-11-02	Remodel
299-280-52	1563	Luneta Dr	Jordan / Schwab	DRB-11-03	Deck
300-012-28/29/30	201-211	12th St	Dorfman	DRB-11-04	Roof
300-030-86	1555	Camino del Mar	Rendezous Restaurant	DRB-11-05	Awning
299-390-09	545	Rimini Rd	Yayla	DRB-11-06	Remodel / Decks
299-230-35	1720	Zapo	Friedland	DRB-11-07	NSFR
299-290-27	1511	Forest Way	Baenziger	DRB-11-08	NSFR
300-094-15	150	10th St	Irish	DRB-11-09	NSFR
300-391-09	333	13th St	Wegner	DRB-11-10	Trellis
299-220-32	1779	Seaview	Preston	DRB-11-11	Addition
300-272-05	735	Hoska	Gans	DRB-11-12	Patio cover
299-146-17	1912	Oceanview	Hayward	DRB-11-13	Roof/balconies/closets

*Land Conservation Permits **REVIEWED** between the dates of 7.1.10 and 6.30.11*

Parcel #	St. #	Street Name	Project Name	Project #	Comments
300-072-22	119	13th St	Luddy	LC-10-06	grading
300-390-09	545	Rimini Rd	Yayla	LC-11-01	grading
299-230-35	1720	Zapo	Friedlander	LC-11-02	grading
300-094-15-01	150	10th St	Irish	LC-11-03	grading
299-220-32	1779	Seaview	Preston	LC-11-04	grading

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CITY OF DEL MAR SUSMP

Standard Urban Stormwater Mitigation Plan
Requirements for Development Applications

January 14, 2011

Visit www.delmar.ca.us for updates.

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Table of Contents

Figures

Tables

Checklists

Glossary

Best Management Practice (BMP) — Any procedure or device designed to minimize the quantity of pollutants that enter the storm drain system.

California Association of Stormwater Quality Agencies (CASQA) — Publisher of the California Stormwater Best Management Practices Handbooks, available at www.cabmphandbooks.com. Successor to the Storm Water Quality Task Force (SWQTF).

California BMP Method — A method for determining the required volume of stormwater treatment facilities. Described in Section 5.5.1 of the California Stormwater Best Management Practice Manual (New Development) (CASQA, 2003).

Conditions of Approval (COAs) — Requirements a municipality may adopt for a project in connection with a discretionary action (e.g., adoption of an EIR or negative declaration or issuance of a use permit). COAs may include features to be incorporated into the final plans for the project and may also specify uses, activities, and operational measures that must be observed over the life of the project.

Continuous Simulation Modeling — A method of hydrological analysis in which a set of rainfall data (typically hourly for 30 years or more) is used as input, and runoff rates are calculated on the same time step. The output is then analyzed statistically for the purposes of comparing runoff patterns under different conditions (for example, pre- and post-development-project).

Copermittee — See **Dischargers**.

Detention — The practice of holding stormwater runoff in ponds, vaults, within berms, or in depressed areas and letting it discharge slowly to the storm drain system. See definitions of **infiltration** and **retention**.

Directly Connected Impervious Area — Any impervious surface which drains into a catch basin, area drain, or other conveyance structure without first allowing flow across pervious areas (e.g. lawns).

Direct Infiltration — Infiltration via methods or devices, such as dry wells or infiltration trenches, designed to bypass unsaturated surface soils and transmit runoff directly to groundwater.

Dischargers — The agencies named in the **stormwater NPDES permit** (see definition): the County of San Diego; the Cities of Carlsbad, El Cajon, La Mesa, Poway, Solana Beach, Chula Vista, Encinitas, Lemon Grove, San Diego, Vista, Coronado, Escondido, National City, San Marcos, Del Mar, Imperial Beach, Oceanside, and Santee; the San Diego Unified Port District, and the San Diego County Regional Airport Authority.

Drainage Management Areas — Areas delineated on a map of the development site showing how drainage is detained, dispersed, or directed to **Integrated Management Practices**. There are four types of Drainage Management Areas, and specific criteria apply to each type of area. See Chapter 4.

Drawdown time	The time required for a stormwater detention or infiltration facility to drain and return to the dry-weather condition. For detention facilities, drawdown time is a function of basin volume and outlet orifice size. For infiltration facilities, drawdown time is a function of basin volume and infiltration rate.
Environmentally Sensitive Areas	Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or their equivalent under the Multi Species Conservation Program within the Cities and County of San Diego; and any other equivalent environmentally sensitive areas which have been identified by the City of Del Mar.
Flow Control	Control of runoff rates and durations as required by the Hydromodification Management Plan.
Head	In hydraulics, energy represented as a difference in elevation. In slow-flowing open systems, the difference in water surface elevation, e.g., between an inlet and outlet.
Higher-Rate Biofilter	A biofilter with a design surface loading rate higher than the 5 inches per hour rate specified in this document for bioretention facilities and planter boxes.
Hydrograph	Runoff flow rate plotted as a function of time.
Hydromodification Management Plan (HMP)	A Regional Plan implemented by the City so that post-project runoff shall not exceed estimated pre-project rates and/or durations, where increased runoff would result in increased potential for erosion or other adverse impacts to beneficial uses. Also see definition for **flow control.**
Hydrologic Soil Group	Classification of soils by the Natural Resources Conservation Service (NRCS) into A, B, C, and D groups according to infiltration capacity.
Impervious surface	Any material that prevents or substantially reduces infiltration of water into the soil. See discussion of imperviousness in Chapter Two.
Infeasible	As applied to best management practices, impossible to implement because of technical constraints specific to the site.

Infiltration — Seepage of runoff into soils underlying the site. See definition of **retention.**

Infiltration Device — Any structure, such as a dry well, that is designed to infiltrate stormwater into the subsurface and, as designed, bypasses the natural groundwater protection afforded by surface or near-surface soil. See definition for **direct infiltration**.

Integrated Management Practice (IMP) — A facility **(BMP)** that provides small-scale treatment, retention, and/or detention and is integrated into site layout, landscaping and drainage design. See **Low Impact Development.**

Integrated Pest Management (IPM) — An approach to pest management that relies on information about the life cycles of pests and their interaction with the environment. Pest control methods are applied with the most economical means and with the least possible hazard to people, property, and the environment.

Interim Hydromodification Criteria — Pursuant to NPDES permit Provision D.1.d.g.(6), the Copermittees prepared Interim Hydromodification Management criteria, which apply to projects disturbing 50 acres or more. The criteria are described in Chapter 2 and in memoranda on the Project Clean Water website.

Jurisdictional Urban Runoff Management Plan (JURMP) — A written description of the specific jurisdictional urban runoff management measures and programs that the City implements to comply with the **stormwater NPDES permit** and ensure pollutant discharges are reduced to the MEP and do not cause or contribute to a violation of water quality standards. See **Stormwater Pollution Prevention Program.**

Lead Agency — The public agency that has the principal responsibility for carrying out or approving a project. (CEQA Guidelines §15367).

Low Impact Development — An integrated site design methodology that uses small-scale detention and retention (Integrated Management Practices, or **IMPs**) to mimic pre-existing site hydrological conditions.

Maximum Extent Practicable (MEP) — Standard, established by the 1987 amendments to the Clean Water Act, for the implementation of municipal **stormwater pollution prevention programs** (see definition). According to the Act, municipal stormwater NPDES permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

National Pollutant Discharge Elimination System (NPDES) — As part of the 1972 Clean Water Act, Congress established the NPDES permitting system to regulate the discharge of pollutants from municipal sanitary sewers and industries. The NPDES was expanded in 1987 to incorporate permits for stormwater discharges as well.

Numeric Criteria — Sizing requirements for stormwater treatment facilities established in Provision D.1.d.(6)(c) of the San Diego RWQCB's stormwater NPDES permit.

Operation and Maintenance (O&M)	Refers to requirements in the **Stormwater NPDES Permit** to inspect treatment BMPs and implement preventative and corrective maintenance in perpetuity. See Chapter Five.
Parking Lot	A land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
Permeable Pavements	Pavements for roadways, sidewalks, or plazas that are designed to infiltrate a portion of rainfall, including pervious concrete, pervious asphalt, unit-pavers-on-sand, and crushed gravel.
Priority Development Project	A project subject to SUSMP requirements. Defined in **Stormwater NPDES Permit** Provision D.1.d.(1). See Chapter One.
Project Area	The entire project area comprises all areas to be altered or developed by the project, plus any additional areas that drain on to areas to be altered or developed.
Project Submittal	Documents submitted to a municipality in connection with an application for development approval and demonstrating compliance with Stormwater NPDES Permit requirements for the project. Specific requirements vary from municipality to municipality.
Proprietary	A proprietary device is one marketed under legal right of the manufacturer.
Redevelopment	The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing and reconfiguring surface parking lots and existing roadways; new sidewalk construction, pedestrian ramps, or bikelane on existing roads; and routine replacement of damaged pavement, such as pothole repair.
Rational Method	A method of calculating runoff flows based on rainfall intensity, tributary area, and a factor representing the proportion of rainfall that runs off.
Regional (or Watershed) Stormwater Treatment Facility	A facility that treats runoff from more than one project or parcel.
Regional Water Quality Control Board (Regional Water Board or RWQCB)	California RWQCBs are responsible for implementing pollution control provisions of the Clean Water Act and California Water Code within their jurisdiction. There are nine California RWQCBs.
Retention	The practice of holding stormwater in ponds or basins, or within berms or depressed areas, and allowing it to slowly infiltrate into underlying soils. Some portion will evaporate. See definitions for **infiltration** and **detention**.

Self-retaining area	An area designed to retain runoff. Self-retaining areas may include graded depressions with landscaping or pervious pavements and may also include tributary impervious areas up to a 2:1 impervious-to-pervious ratio.
Self-treating area	A natural, landscaped, or turf area drains directly off site or to the public storm drain system.
Source Control	Land use or site planning practices, or structural or nonstructural measures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.
Standard Industrial Classification (SIC)	A Federal government system for classifying industries by 4-digit code. It is being supplanted by the North American Industrial Classification System but SIC codes are still referenced by the Regional Water Board in identifying development sites subject to regulation under the NPDES permit. Information and an SIC search function are available at http://www.bls.gov/bls/NAICS.htm
Stormwater NPDES Permit	A permit issued by a **Regional Water Quality Control Board** (see definition) to local government agencies (**Dischargers**) placing provisions on allowable discharges of municipal stormwater to waters of the state.
Storm Water Pollution Prevention Plan (SWPPP)	A plan providing for temporary measures to control sediment and other pollutants during construction as required by the statewide stormwater NPDES permit for construction activities.
Stormwater Pollution Prevention Program	A comprehensive program of activities designed to minimize the quantity of pollutants entering storm drains. See **Jurisdictional Urban Runoff Management Plan.**
Standard Urban Stormwater Mitigation Plan (SUSMP)	Refers to various documents prepared in connection with implementation of the stormwater **NPDES permit** mandate to control pollutants from new development and redevelopment. Each **discharger** will adapt this **model countywide SUSMP** to create a **local SUSMP** for their respective jurisdiction. Applicants for development project approvals will use the local SUSMP to prepare a submittal for each **Priority Development Project** they propose.
Treatment	Removal of pollutants from runoff, typically by filtration or settling.
Water Board	See **Regional Water Quality Control Board.**
Water Quality Volume (WQV)	For stormwater treatment facilities that depend on detention to work, the volume of water that must be detained to achieve maximum extent practicable pollutant removal. This volume of water must be detained for a specified **drawdown time**.

How to Use the SUSMP

Review Chapters 1 and 2 to get a general understanding of the requirements. Then follow step-by-step instructions in Chapter 3 to prepare your Project Submittal.

This *Standard Urban Stormwater Mitigation Plan (SUSMP)* will help you ensure your project complies with the City's requirements. Most applicants will require the assistance of a qualified civil engineer, architect, and/or landscape architect. Because every project is different, you should begin by checking specific requirements with City staff.

To use the *SUSMP,* start by reviewing **Chapter One** to find out whether and how stormwater quality requirements apply to your project. Chapter One also provides an overview of the process of planning, design, construction, operation, and maintenance leading to compliance.

If there are terms and issues you find puzzling, try finding answers in the glossary or in **Chapter Two**. Chapter Two provides background on key stormwater concepts and water quality regulations, including design criteria.

Then proceed to **Chapter Three** and follow the step-by-step guidance to prepare a Project Submittal for your site.

Chapter Four, the Low Impact Development Design Guide, includes design procedures, calculation procedures, and instructions for presenting your design and calculations in your Project Submittal.

In **Chapter Five** you'll find a detailed description of the process for ensuring operation and maintenance of your stormwater facilities over the life of the project. The chapter includes step-by-step instructions for preparing a Stormwater Facilities Operation and Maintenance Plan.

Throughout each Chapter, you'll find references and resources to help you understand the regulations, complete your Project Submittal, and design stormwater control measures for your project.

► PLAN AHEAD TO AVOID THE THREE MOST COMMON MISTAKES

Construction-Phase Controls

Your Project Submittal for SUSMP compliance is a separate document from the Storm Water Pollution Prevention Plan (SWPPP). A SWPPP provides for temporary measures to control sediment and other pollutants during construction at sites that disturb one acre or more. See the Construction Handbook at www.cabmphandbooks.org for more information on SWPPPs.

The most common (and costly) errors made by applicants for development approvals with respect to stormwater quality compliance are:

1. Not planning for compliance early enough. You should think about your strategy for stormwater quality compliance before completing a conceptual site design or sketching a layout of subdivision lots (Chapter 3).

2. Assuming proprietary stormwater treatment facilities will be adequate for compliance. Most aren't (Chapter 2).

3. Not planning for periodic inspections and maintenance of treatment and flow-control facilities. Consider who will own and who will maintain the facilities in perpetuity and how they will obtain access, and identify which arrangements are acceptable to your municipality (Chapter 5).

Chapter

1

Policies and Procedures

Determine if your development project must comply with stormwater quality requirements, and review the steps to compliance.

A Low Impact Development Design Procedure

The San Diego Regional Water Board reissued a municipal stormwater NPDES permit to the municipal **Copermittees** in January 2007. The permit updates and expands stormwater requirements for new developments and redevelopments. Stormwater treatment requirements have been made more stringent, minimum standards for **Low Impact Development** (LID) have been added, and the Copermittees are required to develop and implement criteria for the control of runoff peaks and durations from development sites.

To assist the land development community, streamline project reviews, and maximize cost-effective environmental benefits, the Copermittees have developed a unified LID design procedure. This design procedure integrates site planning and design measures with engineered, small-scale **Integrated Management Practices** (IMPs) such as bioretention. By following the procedure, applicants can develop a single integrated design which complies with the complex and overlapping NPDES permit LID requirements, stormwater treatment requirements, and flow-control (**hydromodification management**) requirements.

The design approach is detailed in Chapter 4. General instructions for preparing a complete Project Submittal are in Chapter 3, and specific submittal requirements are available from municipal staff.

Applicants may choose not to use this design procedure, in which case they will need to demonstrate, in their submittal, compliance with applicable LID criteria, stormwater treatment criteria, and flow-control criteria. These criteria are described in Chapter 2 and in the NPDES permit.

Requirements for All Development Projects

All development projects must include control measures to reduce the discharge of stormwater pollutants to the maximum extent practicable.

In general, for projects that are not "Priority Development Projects," this will include:

- Implementation of source control BMPs as listed in the Appendix.
- Inclusion of some LID features that conserve natural features, set back development from natural water bodies, minimize imperviousness, maximize infiltration, and retain and slow runoff.
- Compliance with requirements for construction-phase controls on sediment and other pollutants.

Municipal staff may also require additional controls appropriate to the project, which may include stormwater treatment controls. LID treatment controls such as infiltration or bioretention are preferred. See "Selection of Stormwater Treatment Facilities" on page 31. If treatment facilities are included, provisions must be made to ensure their long-term maintenance.

Priority Development Projects

The NPDES permit requires that more specific runoff treatment controls be incorporated into Priority Development Projects.

► NEW DEVELOPMENT

Projects on previously undeveloped land are Priority Development Projects if they are in one or more of the categories listed in Table 1-1. If a project feature such as a parking lot falls into a Priority Development Project category, then the entire project footprint is subject to Priority Project requirements. To use the table, review each definition A through J. If any of the definitions match, the project is a **Priority Development Project**. Note some thresholds are defined by square footage of impervious area created; others by the total area of the development.

► PREVIOUSLY DEVELOPED SITES

Projects on previously developed sites ("**redevelopment** projects") are Priority Development Projects if they create, add, or replace 5,000 square feet or more of impervious surface and also are in one of the categories listed in Table 1-1.

TABLE 1-1. Priority Development Projects.

			Is the project or any element of the project in any of these categories?
Yes ❑	No ❑	**A**	**Housing subdivisions of 10 or more dwelling units.** Examples: single-family homes, multi-family homes, condominiums, and apartments.
Yes ❑	No ❑	**B**	**Commercial—greater than one acre.** Any development other than heavy industry or residential. Examples: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.
Yes ❑	No ❑	**C**	**Heavy industry—greater than one acre.** Examples: manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).
Yes ❑	No ❑	**D**	**Automotive repair shops.** A facility categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.
Yes ❑	No ❑	**E**	**Restaurants.** Any facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development [project footprint] is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirements and hydromodification requirements.
Yes ❑	No ❑	**F**	**Hillside development greater than 5,000 square feet.** Any development that creates 5,000 square feet of impervious surface and is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
Yes ❑	No ❑	**G**	**Environmentally Sensitive Areas (ESAs).** All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
Yes ❑	No ❑	**H**	**Parking lots 5,000 square feet or more** or with 15 or more parking spaces and potentially exposed to urban runoff.
Yes ❑	No ❑	**I**	**Street, roads, highways, and freeways.** Any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
Yes ❑	No ❑	**J**	**Retail Gasoline Outlets (RGOs)** that are: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

The "50% Rule" for previously developed projects. Projects on previously developed sites may also need to retrofit drainage of ALL impervious areas of the ENTIRE project site. For projects creating or replacing more than 5,000 square feet of impervious area:

- If the new project results in an increase of, or replacement of, 50% or more of the previously existing impervious surface, and the existing development was not subject to SUSMP requirements, then the entire project must be included in the treatment measure design.
- If less than 50% of the previously impervious surface is to be affected, only that portion must be included in the treatment measure design.

If a Redevelopment project feature such as a parking lot falls into a Priority Development Project category, then the entire project footprint is subject to Priority Project requirements.

Redevelopment projects limited to interior remodels, routine maintenance or repair, roof or exterior surface replacement, resurfacing and reconfiguring surface parking lots and existing roadways, new sidewalk construction, pedestrian ramps, or bike lanes on existing roads, and routine replacement of damaged pavement such as pothole repair are not subject to treatment requirements. However, other requirements, including incorporation of appropriate source controls, still apply. If your project is exempt, the project is still obligated to meet the Requirements for All Development Projects outlined in the previous section.

► POLLUTANT GENERATING PROJECTS WHICH DISTRUB ONE ACRE OR MORE OF LAND

Projects that generate pollutants at levels greater than background levels and disturb one acre or more of land are considered Priority Development Projects. In most cases linear pathway projects that are for infrequent vehicle use (such as emergency or maintenance access) or for pedestrian or bicycle use are not considered pollutant generating above background levels if they are built with pervious surfaces or if they allow runoff to sheet flow to surrounding pervious surfaces.

Compliance Process at a Glance

For development project approval, stormwater compliance follows these general steps:

1. Discuss requirements during a pre-application meeting with municipal staff.
2. Review the instructions in this SUSMP before you prepare your tentative map, preliminary site plan, drainage plan, and landscaping plan.
3. Prepare your **Project Submittal**, which is made with your application for development approvals (entitlements).
4. Create your detailed project design, incorporating the features described in your Project Submittal.
5. In a table on your construction plans, list each stormwater compliance feature and facility and the plan sheet where it appears.

6. Prepare and submit a draft Stormwater Facility Operation and Maintenance (O + M) Plan for approval.

7. Maintain stormwater facilities during construction and following construction in accordance with required warranties.

8. When applicable, following construction, formally transfer responsibility for maintenance to the owner.

9. The owner must maintain the facilities in accordance with the O + M Plan.

10. The owner must periodically verify stormwater facilities are properly maintained.

Preparation of a complete and detailed Project Submittal is the key to cost-effective stormwater compliance and expeditious review of your project. Instructions for preparing your Project Submittal are in Chapter 3.

Phased Projects

When determining whether SUSMP requirements apply, a "project" should be defined consistent with California Environmental Quality Act (CEQA) definitions of "project." That is, the "project" is the whole of an action which has the potential for adding or replacing or resulting in the addition or replacement of roofs, pavement, or other impervious surfaces and thereby resulting in increased flows and stormwater pollutants. "Whole of an action" means the project may not be segmented or piecemealed into small parts if the effect is to reduce the quantity of impervious area for any part to below the SUSMP thresholds.

CEQA

Preparers of CEQA documents may wish to visit the Project Clean Water website for guidanSketch conceptuBegin with general project requirements and program studies and Environmental Impact Reports.

Municipal staff may require, as part of an application for approval of a phased development project, a conceptual or master Project Submittal which describes and illustrates, in broad outline, how the drainage for the project will comply with the SUSMP requirements. The level of detail in the conceptual or master Project Submittal should be consistent with the scope and level of detail of the development approval being considered. The conceptual or master Project Submittal should specify that a more detailed Project Submittal for each later phase or portion of the project will be submitted with subsequent applications for discretionary approvals.

New Subdivisions

If a tentative map approval would potentially entitle future owners to construct new or replaced impervious area which, in aggregate, could exceed one of the SUSMP thresholds (Table 1-1), then the applicant must take steps to ensure SUSMP requirements can and will be implemented as the subdivision is built out.

If the tentative map application does not include plans for site improvements, the applicant should nevertheless identify the type, size, location, and final ownership of stormwater treatment and flow-control facilities adequate to serve common private roadways and any other common areas, and to also manage runoff from an expected reasonable estimate of the square footage of future roofs, driveways, and other impervious surfaces on each individual lot. The City may condition approval of the map on implementation of stormwater treatment and other SUSMP measures when construction occurs on the individual lots. At the City's discretion, this condition may be enforced by a grant deed of development rights or by a development agreement.

If the City deems it necessary, the future impervious area of one or more lots may be limited by a deed restriction. This might be necessary when a project is exempted from one or all SUSMP provisions because the total impervious area is below a threshold, or to ensure runoff from impervious areas added after the project is approved does not overload a stormwater treatment and flow-control facility.

The City may require subdivision maps to dedicate an "open space easement, as defined by Government Code Section 51075," to suitably restrict the future building of structures at each stormwater facility location if necessary.

In general, in new subdivisions **stormwater treatment, infiltration, or flow-control facilities should not be located on individual single-family residential lots**, particularly when those facilities manage runoff from other lots, from streets, or from common areas. A better alternative is to locate stormwater facilities on one or more separate, jointly owned parcels.

After consulting with the Planning Department, applicants for subdivision approvals will propose one of the following four options, depending on project characteristics:

1. Show the number of parcels and the total impervious area to be created on all parcels could not, in the future, exceed any of the thresholds in Table 1-1.

2. Show that, for each and every lot, the intended use can be achieved with a design which disperses runoff from roofs, driveways, streets, and other impervious areas to self-retaining pervious areas, using the criteria in Chapter 4.

3. Prepare improvement plans showing drainage to treatment and/or flow-control facilities designed in accordance with this SUSMP, and commit to constructing the facilities prior to transferring the lots.

4. Prepare improvement plans showing drainage to treatment and/or flow-control facilities designed in accordance with this SUSMP, and provide appropriate legal instruments to ensure the proposed facilities will be constructed and maintained by subsequent owners.

For the option selected, municipal staff will determine the appropriate conditions of approval, easements, deed restrictions, or other legal instruments necessary to assure future compliance.

Compliance with Flow-Control Requirements

Priority Development Projects (Table 1-1) must be designed so that runoff rates and durations are controlled to maintain or reduce downstream erosion conditions and protect stream habitat.

► HMP APPLICABILITY REQUIREMENTS

To determine if a proposed project must implement hydromodification controls, refer to the HMP Decision Matrix in Figure 1-1. The HMP Decision Matrix can be used for all projects. For redevelopment projects, flow controls would only be required if the redevelopment project increases impervious area or peak flow rates as compared to pre-project conditions.

It should be noted that all Priority Development Projects will be subject to the Permit's LID and water quality treatment requirements even if hydromodification flow controls are not required.

As noted in Figure 1-1, projects may be exempt from HMP criteria under the following conditions.

- If the project is not a Priority Development Project
- If the proposed project does not increase the impervious area or peak flows to any discharge location.
- If the proposed project discharges runoff directly to an exempt receiving water such as the Pacific Ocean, an exempt river reach, or a tidally-influenced area.
- If the proposed project discharges to a stabilized conveyance system that extends to the Pacific Ocean, a tidally-influenced area, or an exempt river reach.
- If the contributing watershed area to which the project discharges has an impervious area percentage greater than 70 percent
- If an urban infill project discharges to an existing hardened or rehabilitated conveyance system that extends beyond the "domain of analysis," the potential for cumulative impacts in the watershed are low, and the ultimate receiving channel has a Low susceptibility to erosion as defined in the SCCWRP channel assessment tool.

If the proposed project decreases the pre-project impervious area and peak flows to each discharge location, then a flow-duration analysis is implicitly not required. If continuous simulation flow-frequency and flow duration curves were developed for such a scenario, the unmitigated post-project flows and durations would be less as compared to pre-project curves.

Proposed exemptions for projects discharging runoff directly to the Pacific Ocean or to hardened conveyance systems which transport runoff directly to the Pacific Ocean are referred to the 2007 Municipal Permit. Per the Permit, hardened conveyance systems can include existing concrete channels, storm drain systems, etc.

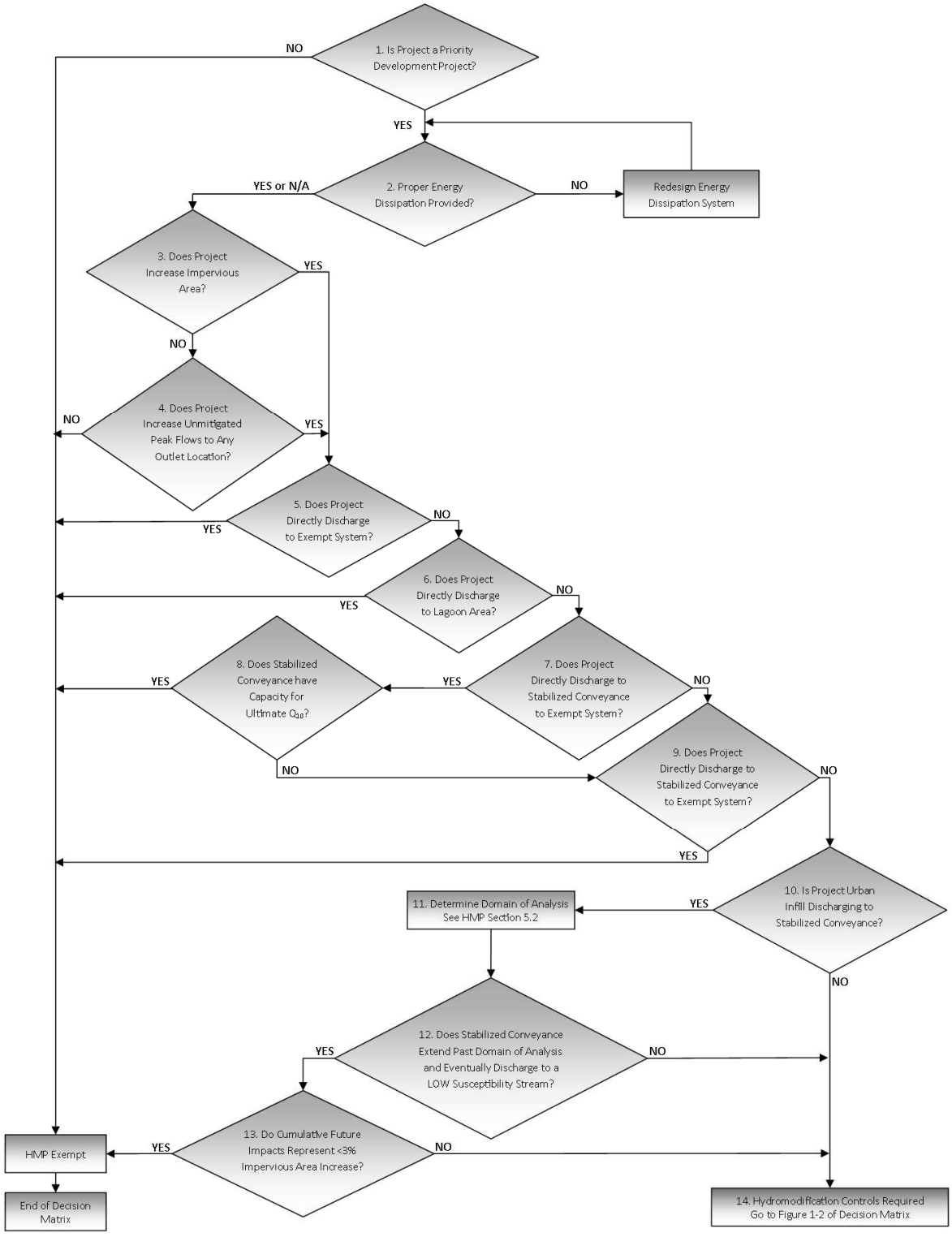


FIGURE 1-1. HMP Applicability Determination

The Municipal Permit also contains language to support exemptions for projects located in highly urbanized areas where the impervious percentage exceeds 70 percent (as calculated for the sub-watershed between the project outfall downstream to the exempt receiving water).

The following are descriptions of the flow diagram nodes in Figure 1-1:

- Figure 1-1, Node 1 – Hydromodification mitigation measures are only required if the proposed project is a Priority Development Project.

- Figure 1-1, Node 2 – Properly designed energy dissipation systems are required for all project outfalls to unlined channels. Such systems should be designed in accordance with the County of San Diego's Drainage Design Manual to ensure downstream channel protection from concentrated outfalls.

- Figure 1-1, Nodes 3 and 4 – Projects may be exempt from hydromodification criteria if the proposed project reduces the pre-project impervious area and if unmitigated post-project outflows (outflows without detention routing) to each outlet location are less as compared to the pre-project condition. The pre and post-project hydrologic analysis should be conducted for the 2 and 10-year design storms and follow single-event methodology set forth in the San Diego County Hydrology Manual. This scenario may apply to redevelopment projects in particular.

- Figure 1-1, Node 5 – Potential exemptions may be granted for projects discharging runoff directly to the Pacific Ocean or the San Dieguito River.

- Figure 1-1, Node 6 – For projects discharging runoff directly to a tidally-influenced lagoon, potential exemptions may also be granted. Regarding the potential exemption, additional analysis would be required to assess the effects of the freshwater / saltwater balance and the resultant effects on lagoon-system biology. This assessment, which would be required by other permitting processes such as the Army Corps of Engineers, California Department of Fish and Game, etc., must be provided by a certified biologist or other specialist as approved by the City of Del Mar. Such discharges would include an energy dissipation system (riprap, etc.) designed to mitigate 100-year outlet velocities based upon a free outfall condition. Such a design would be protective of the channel bed and bank from an erosion standpoint.

- Figure 1-1, Nodes 7 and 8 – For projects discharging runoff directly to a hardened conveyance or rehabilitated stream system that extends to exempt receiving waters detailed in Node 5, potential exemptions from hydromodification criteria may be granted. Such hardened or rehabilitated systems could include existing storm drain systems, existing concrete channels, or stable engineered unlined channels. To qualify for this exemption, the existing hardened or rehabilitated conveyance system must continue uninterrupted to the exempt system. In other words, the hardened or rehabilitated conveyance system cannot discharge to an unlined, non-engineered channel segment prior to discharge to the exempt system. Additionally, the project proponent must demonstrate that the hardened or rehabilitated conveyance system has

capacity to convey the 10-year ultimate condition flow through the conveyance system. The 10-year flow should be calculated based upon single-event hydrologic criteria as detailed in the San Diego County Hydrology Manual.

- Figure 1-1, Node 9 – Projects discharging runoff to a highly urbanized watershed (defined as an existing, pre-project impervious percentage greater than 70 percent) may be eligible for an exemption from hydromodification criteria.

  Watershed impervious area calculations for this potential exemption will be measured between the project site discharge location and the connection to the Pacific Ocean or San Dieguito River. If a tributary area connects with the main line drainage path between the project site and the Pacific Ocean or San Dieguito River, then the entire watershed area contributing to the tributary shall be included in the calculation.

  Percent imperviousness will be calculated based on an area-weighted average of impervious areas associated with commercial, industrial, single-family residential, multi-family residential, open space, and other miscellaneous areas (schools, churches, etc.) representative for the watershed. Representative percent imperviousness values for each land use type may correspond to values recommended in Table 3-1 of the San Diego County Hydrology Manual and detailed below or by more specific representative percent impervious calculations (using GIS, etc.), which are often required to represent impervious area percentages for park, school and church sites.

- Figure 1-1, Nodes 10 through 13 – For urban infill projects discharging runoff to an existing hardened or rehabilitated conveyance system, potential limited exemptions from hydromodification criteria may apply where the existing impervious area percentage in the watershed exceeds 40 percent. For the potential exemption application, the domain of analysis must be determined and the existing hardened or rehabilitated conveyance system must extend beyond the downstream terminus of the domain of analysis. The hardened or rehabilitated conveyance system must discharge to a receiving channel with a Low susceptibility to erosion for this exemption to be granted (channel susceptibility determined using SCCWRP channel assessment tool). Finally, continuous simulation sensitivity analysis shows that an exemption could only be granted if the potential future development impacts in the watershed would increase the watershed's impervious area percentage by less than 3 percent (as compared to the existing condition in the year 2010). If the potential future cumulative impacts in the watershed could increase the impervious area percentage by more than 3 percent (as compared to existing condition), then no exemption could be granted based on this item. Watershed impervious area calculations for this potential exemption, in which a project discharges to a watershed with an existing impervious areas greater than 40 percent, will be measured upstream from the outfall of the urban conveyance system (to a non-crete, non-riprap-lined or non-engineered channel) to the contributing watershed boundary (the entire watershed contributing to the discharge outfall).

  Percent imperviousness will be calculated based on an area-weighted average of impervious areas associated with commercial, industrial, single-family residential, multi-

family residential, open space, and other miscellaneous areas (schools, churches, etc.) representative for the watershed. Representative percent imperviousness values for each land use type may correspond to values recommended in Table 3-1 of the San Diego County Hydrology Manual and detailed below or by more specific representative percent impervious calculations (using GIS, etc.), which are often required to represent impervious area percentages for park, school and church sites.

The final exemption category focuses on small urban infill projects where the potential for future cumulative watershed impacts is minimal.

Urban infill projects may be exempt from HMP criteria if:

1. The potential future development impacts within the sub-watershed, as measured from the entire sub-watershed area draining to the existing conveyance system outfall, would not increase the composite impervious area percentage of the sub-watershed by more than 3 percent

11. The project discharges runoff to an existing hardened or rehabilitated conveyance system (storm drain, concrete channel, or engineered vegetated channel) that extends beyond the Domain of Analysis determined for the project site, and

12. The stabilized conveyance system eventually discharges to a channel with a Low susceptibility to erosion, as designed by the SCCWRP channel assessment tool.

► FLOW CONTROL PERFORMANCE CRITERIA

Figures 1-2 and 1-3, which are part of the HMP Decision Matrix and are presented on the following pages, detail how lower flow thresholds would be determined for a project site. Figures 1-4 and 1-5, which detail the SCCWRP lateral and vertical channel susceptibility requirements, complete the HMP Decision Matrix.

The project applicant must first determine whether field investigations will be conducted pursuant to the SCCWRP channel screening tools. If the screening tools are not completed for a proposed project, then the site must mitigate peak flows and durations based on a pre-project condition lower flow threshold of $0.1Q_2$. While a project applicant would be held to the $0.1Q_2$ standard if channel screening tools and assessments are not conducted, less restrictive standards are possible for more erosion-resistant receiving channel sections if the screening tools are completed and the SCCWRP method indicates either a Medium or Low susceptibility to channel erosion .

In such a scenario, the project applicant would also use the critical shear stress calculator to assist in determination of the predicted lower flow threshold. The SCCWRP screening tools and critical shear stress calculator work in concert to determine the lower flow threshold for a given site. Lower flow limits determined by the calculator have been grouped into one of three thresholds – $0.1Q_2$, $0.3Q_2$ or $0.5Q_2$. "Low" susceptibilities from the SCCWRP tool generally correspond to the $0.5Q_2$ threshold, "Medium" susceptibilities generally correspond to the $0.3Q_2$ threshold, and "High" susceptibilities generally correspond to the $0.1Q_2$ threshold. The

SCCWRP channel screening tools are required to identify channel conditions not considered by the critical shear stress calculator, which focuses on channel material and cross section. Conversely, the SCCWRP channel screening tools considers other channel conditions including channel braiding, mass wasting, and proximity to the erosion threshold. In cases where the critical shear stress calculator and the SCCWRP screening tools return divergent values, then the most conservative value shall be used as the lower flow threshold for the analysis.

Low-Impact Development (LID) and extended detention facilities are required to meet peak flow and duration controls as follows:

1. For flow rates ranging from 10 percent, 30 percent or 50 percent of the pre-project 2-year runoff event ($0.1Q_2$, $0.3Q_2$, or $0.5Q_2$) to the pre-project 10-year runoff event (Q10), the post-project discharge rates and durations shall not deviate above the pre-project rates and durations by more than 10 percent over and more than 10 percent of the length of the flow duration curve. The specific lower flow threshold will depend on results from the SCCWRP channel screening study and the critical flow calculator.

13. For flow rates ranging from the lower flow threshold to Q_5, the post-project peak flows shall not exceed pre-project peak flows. For flow rates from Q_5 to Q_{10}, post-project peak flows may exceed pre-project flows by up to 10 percent for a 1-year frequency interval. For example, post-project flows could exceed pre-project flows by up to 10 percent for the interval from Q_9 to Q_{10} or from $Q_{5.5}$ to $Q_{6.5}$, but not from Q_8 to Q_{10}.

The HMP recommends the use of LID facilities to satisfy both 85th percentile water quality treatment as well as HMP flow control criteria. Detailed standards for LID implementation have been developed and are provided in Chapter 4 of this SUSMP.

The following methods may be used to meet mitigation requirements.

- Install BMPs that meet design requirements to control runoff from new impervious areas. BMPs including bioretention basins, vegetated swales, planter boxes, extended detention basins, etc. shall be designed pursuant to standard sizing and specification criteria detailed in the Chapter 4 and the HMP/LID Sizing Calculator to ensure compliance with hydromodification criteria.

- Use of the automated sizing calculator (San Diego Sizing Calculator) that will allow project applicants to select and size LID treatment devices or flow control basins. The tool uses pre-calculated sizing factors to determine required footprint sizes for flow control BMPs. The Sizing Calculator also includes an automated pond sizing tool to assist in the design of extended detention facilities for mitigation of hydromodification effects. Because of the Sizing Calculator's ease of implementation, and since hydromodification BMPs can also serve as treatment BMPs, project applicants may choose this option instead of seeking compliance through site-specific continuous simulation model preparation.

- Prepare continuous simulation hydrologic models and compare the pre-project and mitigated post-project runoff peaks and durations (with hydromodification flow controls) until compliance to flow control standards can be demonstrated. The project applicant will be required to quantify the long-term pre- and post-project runoff response from the site and establish runoff routing and stage-storage-discharge relationships for the planned flow control devices. Public domain software such as HSPF, HEC-HMS and SWMM can be used for preparation of a continuous simulation hydrologic analysis.

- Points of compliance must be selected to conduct the comparisons of pre-project and post-project flows and durations. Generally, points of compliance are selected at locations along the project boundary where concentrated flows discharge from the project site. If a point of compliance is selected downstream of the project boundary, then the governing municipality should be consulted in advance of the hydromodification analysis. For projects which convey offsite runoff through the site, it is assumed that the offsite runoff would be separated from site runoff. If this is not the case, then the governing municipality should be consulted to further refine the points of compliance for the site (an interior project site point of compliance could be required in such a scenario).

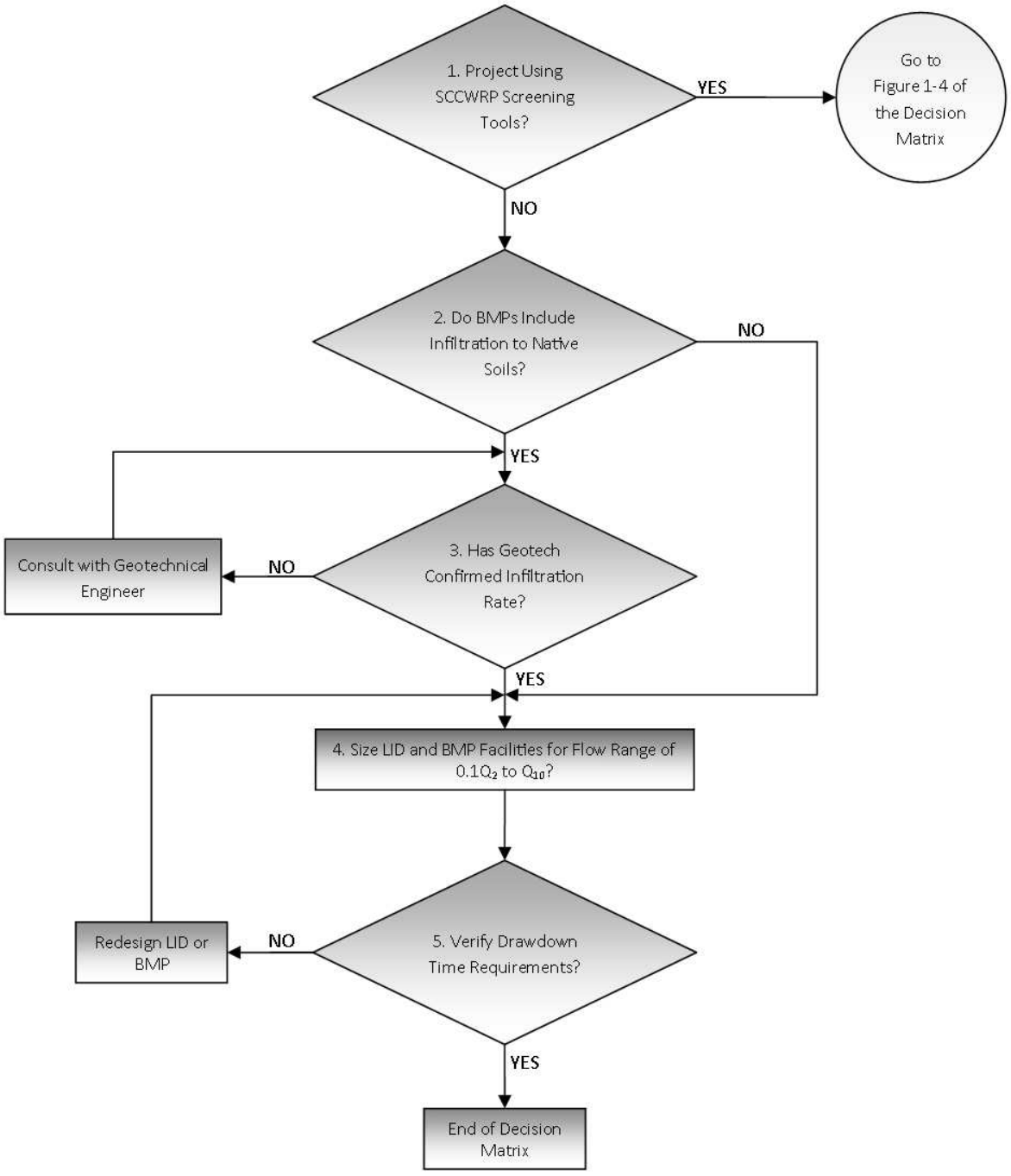


FIGURE 1-2. Mitigation Criteria and Implementation

The following are descriptions of the flow diagram nodes in Figure 1-2:

- Figure 1-2, Node 1 – If the project applicant chooses to complete SCCWRP channel screening tools, then the applicant moves to Figures 1-4 and 1-5 to assess the vertical and lateral susceptibility of the receiving channel systems. Depending on the results of the SCCWRP screening tools and critical flow calculator, it is possible that lower flow thresholds in excess of $0.1Q_2$ may be used. If the project applicant chooses not to complete the SCCWRP channel assessment, then the applicant proceeds with Figure 1-2 of the Decision Matrix.

- Figure 1-2, Node 2 – If the project's LID or BMP approach accounts for the infiltration of runoff to native surrounding soils (below amended soil layers), then consultation with a geotechnical engineer or engineering geologist is required (Node 3). If the project mitigation approach does not account for infiltration of runoff, then the applicant would proceed to Node 4.

- Figure 1-2, Node 3 – A geotechnical engineer should determine the allowable infiltration rates to be used for the design of each LID or BMP facility. The geotechnical assessment should also identify potential portions of the project which are feasible for infiltration of runoff.

- Figure 1-2, Node 4 – In this scenario, the SCCWRP channel assessment was not conducted. Therefore, the project applicant would be held to the $0.1Q_2$ lower flow threshold. LID and extended detention facilities must be sized so that the mitigated post project flows and durations do not exceed pre-project flows and durations for the geomorphically-significant flow range of $0.1Q_2$ to Q_{10}.

- Figure 1-2, Node 5 - The Decision Matrix includes language regarding a drawdown time requirements so that standards set forth by the County's Department of Environmental Health are met. The County's Department of Environmental Health has stated that the drawdown requirement would be applied to underground vaults in addition to extended detention basins and the surface ponding areas of LID facilities. Proper maintenance of hydromodification mitigation facilities is essential to guard against potential vector issues as well potential safety issues resulting from long-term standing water. If mitigation facility outlets clog, then runoff will bypass the system and potentially result in additional erosion problems downstream of a site. The County Department of Environmental Health recently amended its drawdown time requirement to 96 hours.

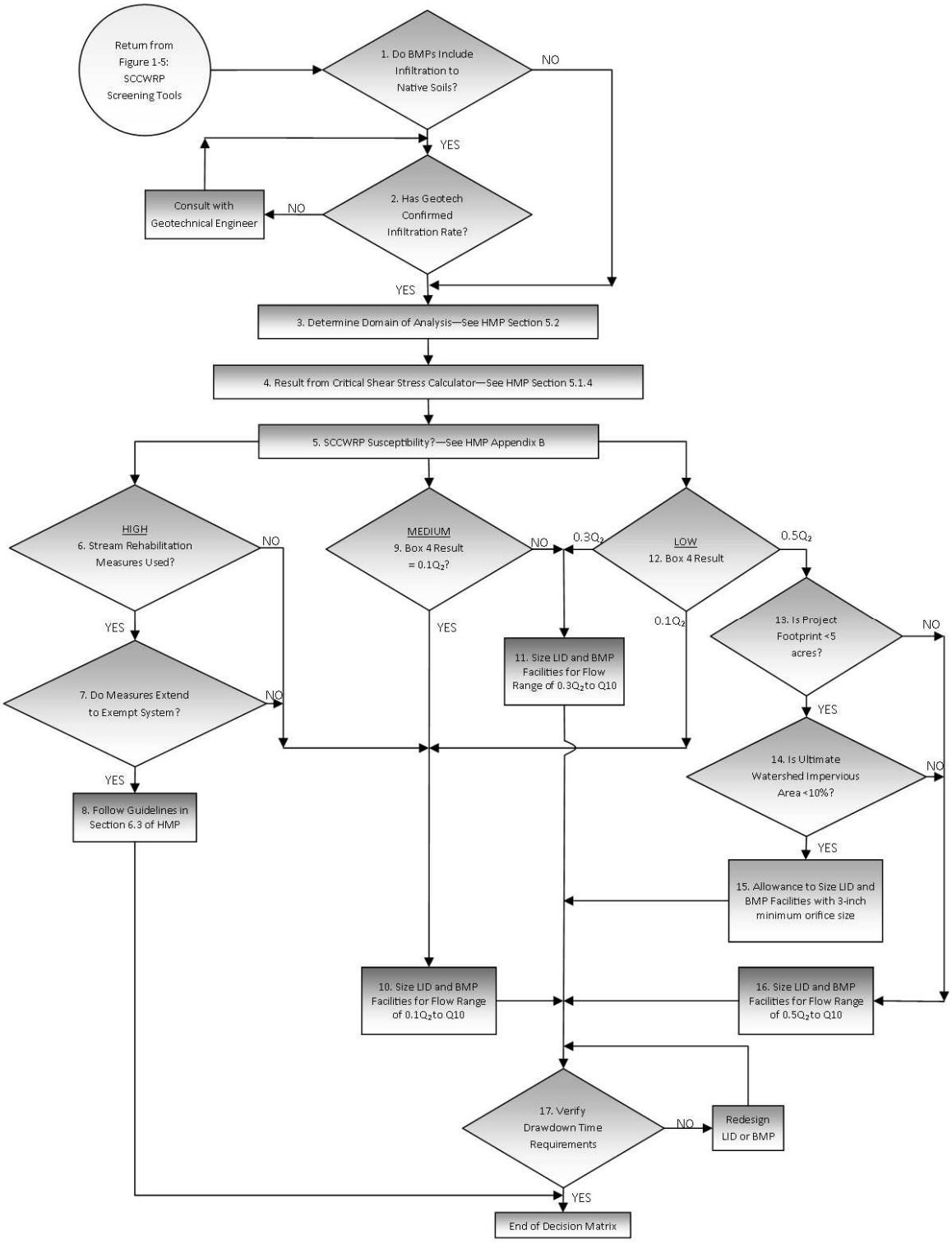


FIGURE 1-3. Mitigation Criteria and Implementation

The following are descriptions of the flow diagram nodes in Figure 1-3:

- Figure 1-3, Node 1 – Use of Figure 1-3 assumes that the project applicant conducted the SCCWRP channel assessment. Node 1 would begin following completion of both the lateral and vertical susceptibility flow charts depicted in Figures 1-4 and 1-5. Node 1 is a decision box asking if the project's LID or BMP approach accounts for the infiltration of runoff to native surrounding soils (below amended soil layers). If the answer is Yes, then consultation with a geotechnical engineer or engineering geologist is required (Node 2). If the project mitigation approach does not account for infiltration of runoff, then the applicant would proceed to Node 3.

- Figure 1-3, Node 2 – A geotechnical engineer or engineering geologist should determine the allowable infiltration rates to be used for the design of each LID or BMP facility. The geotechnical assessment should also identify potential portions of the project which are feasible for infiltration of runoff.

- Figure 1-3, Node 3 – Pursuant to criteria detailed in HMP Section 5.2, the Domain of Analysis is determined downstream and upstream of the project site. This determination is used to ascertain the required reach length for data collection (channel bed and bank material, channel cross section data, etc.) required for the critical flow calculator (see Node 4),

- Figure 1-3, Node 4 – Pursuant to criteria detailed in HMP Section 5.1.4, the project applicant would run the critical shear stress calculator to determine if the recommended critical flow threshold should be $0.1Q_2$, $0.3Q_2$, or $0.5Q_2$. This result will be compared to the result from the SCCWRP screening analysis (Node 5) to determine the final lower flow threshold for the project.

- Figure 1-3, Node 5 – Pursuant to criteria detailed in HMP Appendix B, the project applicant would determine both the lateral and vertical channel susceptibility rating per guidelines set forth by SCCWRP. If the lateral and vertical tools returned divergent results, then the more conservative result would be used. SCCWRP susceptibility ratings include "High," "Medium" and "Low."

- Figure 1-3, Node 6 – A project applicant would arrive at Node 6 if the SCCWRP channel susceptibility rating was determined to be "High." This decision box inquires as to whether stream rehabilitation measures such as grade control and channel widening will be used as a mitigation measure instead of flow control. It should be noted that stream rehabilitation options are only allowed if the existing receiving channel susceptibility is considered to be "High."

- Figure 1-3, Node 7 – Stream rehabilitation measures are only allowed if the proposed mitigation project extends to a downstream exempt system (such as an exempt river system). If the mitigation measure did not extend to an exempt system, then the potential for cumulative watershed impacts would be more pronounced.

- Figure 1-3, Node 8 – If stream rehabilitation measures are allowed, then guidelines outlined in Section 6.3 of the HMP should be followed to design the in-stream mitigation approach.

- Figure 1-3, Node 9 - A project applicant would arrive at Node 9 if the SCCWRP channel susceptibility rating was determined to be "Medium." If the result from the critical shear stress calculator is also "Medium" (or $0.3Q_2$), then the lower flow threshold would be $0.3Q_2$ (Node 11). If the result from the critical shear stress calculator is "High" (or $0.1Q_2$), then the more conservative value would be used and the lower flow threshold would be $0.1Q_2$ (Node 10).

- Figure 1-3, Node 10 – For stream reaches determined by either the critical flow calculator or the SCCWRP screening tools to have a "High" susceptibility to erosion, LID and extended detention flow control facilities should be sized so that the mitigated post project flows and durations do not exceed pre-project flows and durations for the geomorphically-significant flow range of $0.1Q_2$ to Q_{10}.

- Figure 1-3, Node 11 - For stream reaches determined by either the critical flow calculator or the SCCWRP screening tools to have a "Medium" susceptibility to erosion, LID and extended detention flow control facilities should be sized so that the mitigated post project flows and durations do not exceed pre-project flows and durations for the geomorphically-significant flow range of $0.3Q_2$ to Q_{10}.

- Figure 1-3, Node 12 - A project applicant would arrive at Node 12 if the SCCWRP channel susceptibility rating was determined to be "Low." If the result from the critical shear stress calculator is also "Low" (or $0.5Q_2$), then the lower flow threshold would be $0.5Q_2$ (Node 16 – note potential waiver in Node 13). If the result from the critical shear stress calculator is "High" (or $0.1Q_2$), then the more conservative value would be used and the lower flow threshold would be $0.1Q_2$ (Node 10). If the result from the critical flow calculator is "Medium" (or $0.3Q_2$), then the more conservative value would be used and the lower flow threshold would be $0.3Q_2$ (Node 11).

- Figure 1-3, Node 13 – In some limited situations, namely small developments in rural or lightly developed areas, an allowance for a minimum outlet orifice size may be granted when the receiving channel susceptibility is "Low." This criteria may potentially be used for project footprints less than 5 acres. If the project footprint is greater than 5 acres, then the allowance may not be granted and the applicant would proceed to Node 16.

- Figure 1-3, Node 14 – The potential allowance discussed in Node 13 could only be granted if the ultimate potential impervious area in the sub-watershed is less than 10 percent. If there is potential for the sub-watershed impervious area to exceed 10 percent, then the minimum orifice size criteria may not be granted.

- Figure 1-3, Node 15 – If Nodes 12, 13, and 14 are satisfied, then mitigation facilities may be designed using a 3-inch minimum outlet orifice size.

- Figure 1-3, Node 16 - For stream reaches determined by either the critical flow calculator or the SCCWRP screening tools to have a "Low" susceptibility to erosion – and for projects where the minimum outlet orifice criteria does not apply - LID and extended detention flow control facilities should be sized so that the mitigated post project flows and durations do not exceed pre-project flows and durations for the geomorphically-significant flow range of $0.5Q_2$ to Q_{10}.

- Figure 1-3, Node 17 – For all hydromodification mitigation designs, the Decision Matrix includes language regarding drawdown time requirements so that standards set forth by the County's Department of Environmental Health are met. The County's Department of Environmental Health has stated that the drawdown requirement would be applied to underground vaults in addition to extended detention basins and the surface ponding areas of LID facilities. Proper maintenance of hydromodification mitigation facilities is essential to guard against potential vector issues as well potential safety issues resulting from long-term standing water. If mitigation facility outlets clog, then runoff will bypass the system and potentially result in additional erosion problems downstream of a site. The County Department of Environmental Health recently amended its drawdown time requirement to 96 hours.

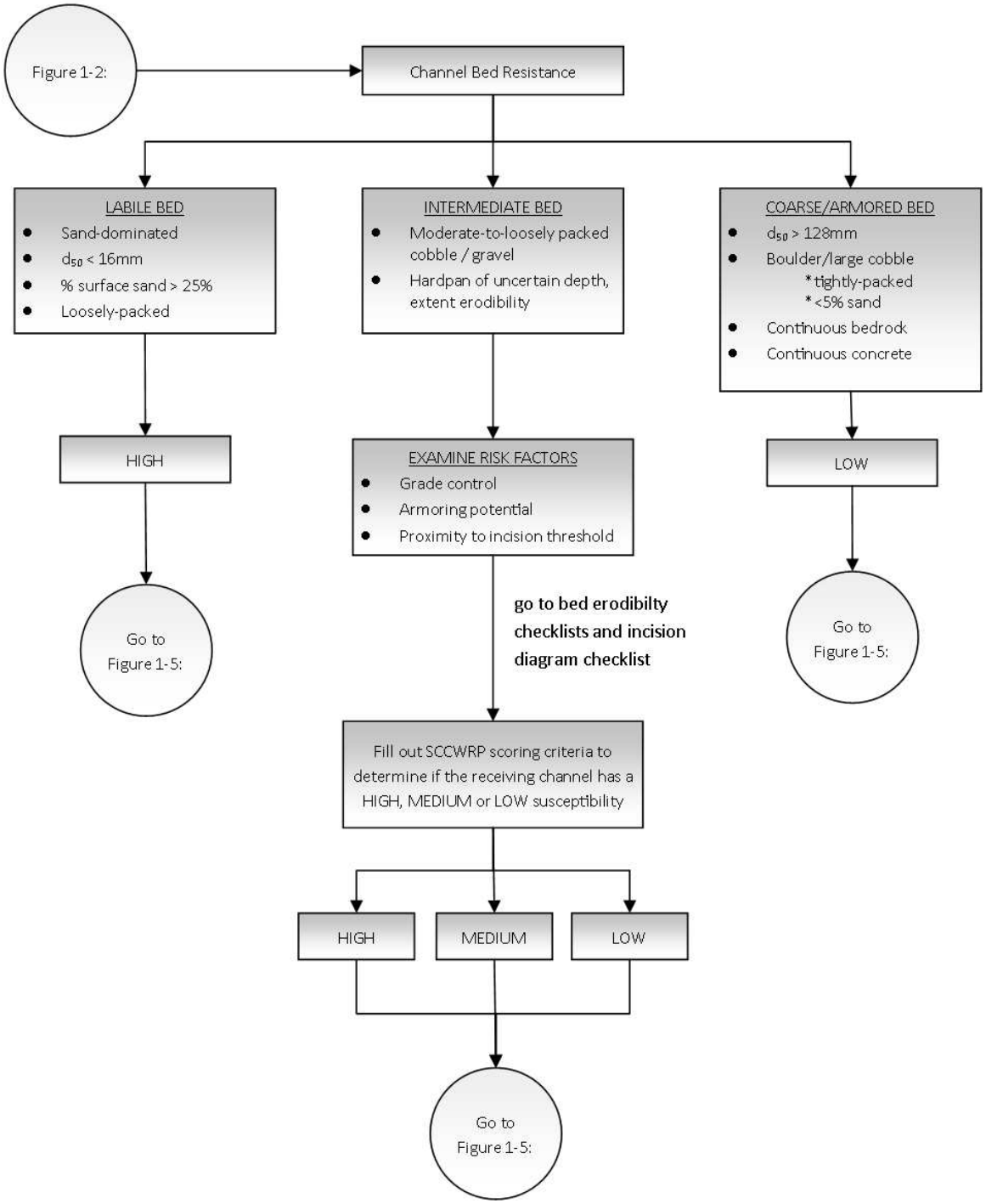


FIGURE 1-4. SCCWRP Vertical Susceptibility

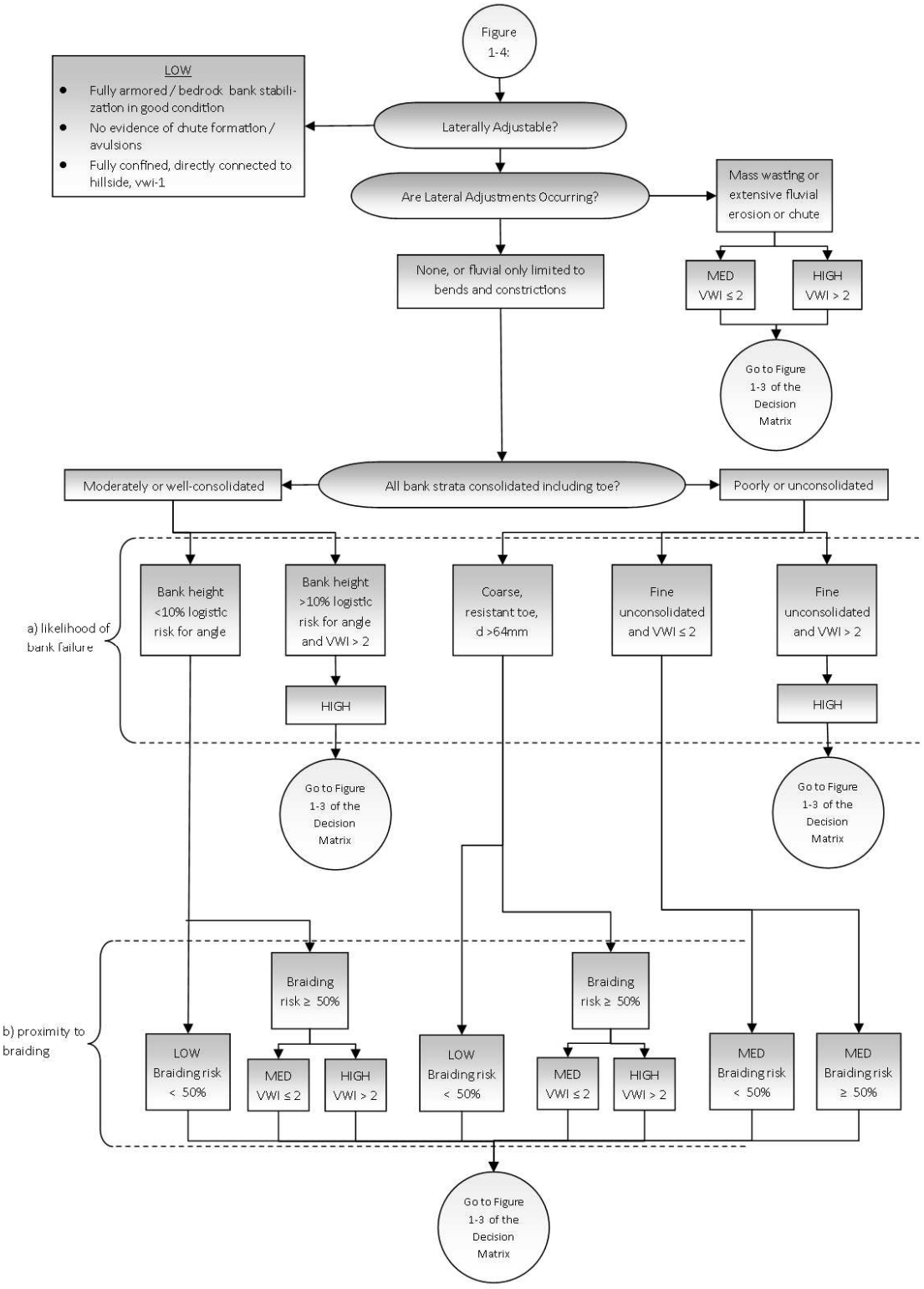


FIGURE 1-5. Lateral Channel Susceptibility

Grandfathering. Projects with prior lawful approval (such as a development agreement, vested tentative map, or a building or grading permit) before January 14, 2010, may not have to meet the hydromodification management requirements. Verify with City staff.

References and Resources:

- RWQCB Order R9-2007-0001 (Stormwater NPDES Permit)
- Project Clean Water web page

Chapter

2

Concepts and Criteria

Technical background and explanations of policies and design requirements

The Regional Water Board reissued a municipal stormwater NPDES permit to San Diego County, its 18 cities, the San Diego Unified Port District, and the San Diego Regional Airport Authority in January 2007. The permit mandates a comprehensive program to prevent stormwater pollution. That program now includes street sweeping, maintenance of storm drains, business inspections, public outreach, construction site inspections, monitoring and studies of stream and ocean health, and control of runoff pollutants from new developments and redevelopments.

Permit Provision D.1.d. requires Copermittees to regulate projects in specific categories (Table 1-1) to:

1. Reduce discharges of pollutants to the maximum extent practicable.

2. Prevent runoff discharges from causing or contributing to a violation of water quality standards.

The Copermittees have created a Low Impact Development (LID) design procedure (Chapter 4) that ensures consistent and thorough implementation of the Regional Water Board's requirements. This chapter explains the technical background of the LID approach and how it was derived.

The previous permit, issued in 2001, included a requirement to control the post-development peak storm water runoff rates and velocities to maintain or reduce pre-development downstream erosion and protect stream habitat. The 2007 permit includes, in addition to this ongoing requirement, a new requirement to develop a hydromodification management plan (HMP) to identify and define a methodology and performance criteria to ensure flow rates and durations do not exceed pre-project runoff where increased runoff could cause erosion or other significant adverse impacts to beneficial uses.

As required by the NPDES permit, the Copermittees have adopted final hydromodification criteria. See Chapter One.

Water-Quality Regulations

Provision D.1 requires the Copermittees to condition development approvals on incorporation of specified stormwater controls.

Provision D.1 requires applicable new developments and redevelopments to:

- Design the site to conserve natural areas, existing trees and vegetation and soils, to maintain natural drainage patterns, to minimize imperviousness, to detain runoff, and to infiltrate runoff where feasible
- Cover or control sources of stormwater pollutants
- Treat runoff prior to discharge. Provision E.10 states: "Urban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff to receiving waters. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S."
- Ensure runoff does not exceed pre-project peaks and durations where increases could affect downstream habitat or other beneficial uses
- Maintain treatment and flow-control facilities

The municipalities each maintain a database to track approved installations of treatment facilities and to verify facilities are maintained. The Copermittees' annual report to the Regional Water Board includes a list of development projects subject to SUSMP conditions and descriptions of those projects that:

- Received a waiver from SUSMP criteria;
- Used hydrologic controls used to meet HMP requirements, including a description of the controls

The Copermittees must also report the number of violations and enforcement actions taken upon development projects. The Copermittees' programs are subject to audit by the Regional Water Board.

The municipalities—not the Regional Water Board or its staff—are charged with ensuring development projects comply with the D.1 requirements. Regional Water Board staff sometimes review stormwater controls and hydromodification impacts in connection with applications for Clean Water Act Section 401 water-quality certification, which is required for projects that involve work, such as dredging or placement of fill, within streams, creeks, or other waters of the US.

► MAXIMUM EXTENT PRACTICABLE

Clean Water Act Section 402(p)(3)(iii) sets the standard for stormwater controls as "maximum extent practicable," but doesn't define that term. As implemented, "maximum extent practicable" is ever-changing and varies with conditions.

Many stormwater controls, including LID facilities, have proven to be practicable in most site development projects. To achieve fair and effective implementation, criteria and guidance, requirements for controls must be detailed and specific—while also offering the right amount of flexibility or exceptions for special cases. The NPDES permit includes various standards, including hydrologic criteria, which have been found to comprise "maximum extent practicable." This SUSMP is to be continuously improved and refined based on the experience of municipal planners and engineers, with input from land developers and development professionals. By following the SUSMP, applicants can ensure their project design meets "maximum extent practicable."

► BEST MANAGEMENT PRACTICES

Clean Water Act Section 402(p) and USEPA regulations (40 CFR 122.26) specify a municipal program of "management practices" to control stormwater pollutants. **Best Management Practice (BMP)** refers to any kind of procedure, activity or device designed to minimize the quantity of pollutants that enter the storm drain system. BMPs are typically used in place of assigning numeric effluent limits. The criteria for source control BMPs and treatment and flow-control facilities are crafted to fulfill "maximum extent practicable."

To minimize confusion, this guidebook refers to "facilities," "features," or "controls" to be incorporated into development projects. All of these are BMPs.

Pollutants of Concern

NPDES Permit Provision D.1.d.(3) requires each Copermittee to develop and implement a procedure for pollutants of concern to be identified for each Priority Development Project. The Copermittees have considered this requirement jointly and have determined the LID design procedures in Chapters 3 and 4 of this model SUSMP fully address the need to identify pollutants of concern insofar as that identification may affect the selection of source control BMPs and treatment facilities.

Documentation of the approach to identifying pollutants of concern and selecting BMPs and facilities follows.

► GROUPING OF POTENTIAL POLLUTANTS OF CONCERN

Urban runoff from a developed site has the potential to contribute pollutants, including oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the storm water conveyance system and receiving waters. For the purposes of identifying pollutants of concern and associated storm water BMPs, pollutants are grouped in nine general categories as follows:

- **Sediments** are soils or other surficial 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.

- **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.

- **Metals** are raw material components in non-metal products such as fuels, adhesives, paints, and other coatings. 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.

- **Organic compounds** are carbon-based. Commercially available or naturally occurring organic compounds are 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.

- **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 & 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.

- **Oxygen-Demanding Substances** 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.

- 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.

- **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.

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

► IDENTIFYING POLLUTANTS OF CONCERN BASED ON LAND USES

Table 2-1 associates pollutants with the categories of Priority Development Projects. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern.

► WATERSHEDS WITH SPECIAL POLLUTANT CONCERNS

Local receiving water conditions may require specialized attention. The three local conditions to consider include:

- 303(d) listed waters;
- Waters with established TMDLs; and
- Environmentally Sensitive Areas.

TABLE 2-1. Anticipated and Potential Pollutants Generated by Land Use Type.

	General Pollutant Categories								
Priority Project Categories	Sediment	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P(1)	P(2)	P	X
Commercial Development >one acre	P(1)	P(1)	X	P(2)	X	P(5)	X	P(3)	P(5)
Heavy Industry	X		X	X	X	X	X		
Automotive Repair Shops			X	X(4)(5)	X		X		
Restaurants					X	X	X	X	P(1)
Hillside Development >5,000 ft2	X	X			X	X	X		X
Parking Lots	P(1)	P(1)	X		X	P(1)	X		P(1)
Retail Gasoline Outlets			X	X	X	X	X		
Streets, Highways & Freeways	X	P(1)	X	X(4)	X	P(5)	X	X	P(1)

X = anticipated
P = potential
(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 involves food or animal waste products.
(4) Including petroleum hydrocarbons.
(5) Including solvents.

The NPDES Permit identifies several receiving waters as impaired for constituents or water quality effects pursuant to **Section 303(d)** of the Clean Water Act. Placement of a water onto the list requires the Regional Board to make further analysis of the impairment and development of total maximum daily loads (TMDLs) for addressing the impairment. The 303(d) listing in itself does not demand that a project proponent select BMPs on the basis of the impairment; however, the project proponent should be cognizant of the impairment and the future implications a TMDL might have upon the proposed land use.

Once a TMDL is established it may impose conditions on development either through an implementation plan and schedule for the listed water, or through special conditions required of the municipality affected by the numeric criteria of the TMDL. Currently, the only adopted TMDL for the City is the Indicator Bacteria for beaches and creeks in the San Diego region.

The applicant should meet with City staff to determine if any project characteristics or watershed characteristics affect selection and design of BMPs. Except in rare circumstances, the use of the LID Design Guide (Chapter 4) and the Stormwater Pollutant Sources/Source Control Checklist (Appendix) will ensure your project complies with all stormwater requirements.

Selection of Permanent Source Control BMPs

Based on identification of potential pollutants of concern associated with various types of facilities, the applicant shall utilize the Stormwater Pollutant Sources/Source Control Checklist (Appendix) of "maximum extent practicable" source controls associated with each facility type. This approach ensures appropriate BMPs are applied to potential sources of each pollutant of concern.

Selection of Stormwater Treatment Facilities

The SUSMP process groups pollutants of concern by how easily they are removed by various treatment processes (Table 2-2).

Table 2-3 provides a general comparison of how various types of treatment facilities perform for each group of pollutants (Table 2-3).

TABLE 2-2. Grouping of Potential Pollutants of Concern by Fate During Stormwater Treatment.

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	

TABLE 2-3. Groups of Pollutants and Relative Effectiveness of Treatment Facilities.

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

Based on this analysis, the following types of facilities are appropriate for treatment of runoff potentially containing most pollutants of concern. These types of facilities can be used for stormwater treatment and hydromodification flow control for all land uses in all watersheds, except where site-specific constraints make them infeasible.

- Infiltration facilities or practices, including dry wells, infiltration trenches, infiltration basins, and other facilities that infiltrate runoff to native soils (sized to detain and infiltrate a volume equivalent to the 85th percentile 24-hour event water quality runoff event – greater capacity required to provide hydromodification flow control).

- Bioretention facilities and media filters that detain stormwater and filter it slowly through soil or sand (sized with a surface area at least 0.04 times the effectively impervious tributary area for water quality treatment – a larger sizing factor is required to provide hydromodification flow control).

- Extended detention basins, wet ponds, and wetlands or other facilities using settling (sized to detain a volume equivalent to runoff from the tributary area generated by the

85th percentile 24-hour event water quality runoff event – greater capacity required to provide hydromodification flow control).

The recommended design procedure in Chapter 4 integrates LID practices—optimizing the site design, using pervious surfaces, and dispersing of runoff to adjacent pervious areas—with the use of infiltration facilities, detention basins, and bioretention facilities to meet NPDES permit LID requirements, treatment requirements, and flow-control requirements in a cost-effective, unified design.

Oil/water separators ("water quality inlets"), storm drain inlet filters, and hydrodynamic separators, including vortex separators and continuous deflection separators ("CDS units"), are less effective means of stormwater treatment, although they may be used in series with more effective facilities.

Underground vaults typically lack the detention time required for settling of fine particles associated with stormwater pollutants. They also require frequent maintenance and may retain stagnant water, potentially providing harborage for mosquitoes. Because vaults may be "out of sight, out of mind," experience shows that the required maintenance may not occur.

Lack of space, in itself, is not a suitable justification for using a less-effective treatment on a development site, because the uses of the site and the site design can be altered as needed to accommodate bioretention facilities or planter boxes. In most cases, these effective facilities can be fit into required landscaping setbacks, easements, or other unbuildable areas.

Where possible, drainage to inlets, and drainage away from overflows and underdrains, should be by gravity. Where site topography makes it infeasible to accommodate gravity-fed facilities in the project design, the design flow may be captured in a vault or sump and pumped via force main to an effective facility.

The following situations sometimes present special challenges:

- Portions of sites which are not being developed or redeveloped, but which must be retrofit to meet treatment requirements in accordance with Provision D.1.d.(1)(a) which states in part: "Where redevelopment results in an increase of, or replacement of, more than fifty percent of the impervious surface of a previously existing development, the numeric sizing criteria applies to the entire development."

- Sites smaller than one acre approved for development or redevelopment as part of a municipality's stated objective to preserve or enhance a pedestrian-oriented "smart-growth" type of urban design. Municipalities are encouraged to identify areas where this objective applies, based on General Plans or zoning.

- Roadway widening projects.

In these special situations, the following types of facilities should each be evaluated in priority order (depending on the specific characteristics of the site and as determined by the municipal stormwater coordinator) until a feasible design is found.

1. Bioretention areas or planter boxes fed by gravity.

2. Capture of the design flow in a vault or sump and pumping to bioretention areas or planter boxes.

3. A subsurface sand or media filter with a maximum design surface loading rate of 5 inches per hour and a minimum media depth of 18 inches. The sand surface must be made accessible for periodic inspection and maintenance (for example, via a removable grating).

4. A higher-rate surface biofilter, such as a tree-pit-style unit. The grading and drainage design should minimize the area draining to each unit and maximize the number of discrete drainage areas and units.

5. A higher-rate vault-based filtration unit (for example, vaults with replaceable cartridge filters filled with inorganic media).

Proprietary Devices
Many currently available proprietary devices do not meet municipalities' requirements when used alone for stormwater treatment. Consult with municipal staff before proposing these devices.

Many proprietary stormwater treatment devices are currently marketed, and new brands will be introduced. Applicants and applicants' engineers and design professionals should review with City staff any proposals for using proprietary devices for stormwater treatment before they commence work on preliminary site layout, drainage plans, grading plans, or landscape plans.

Hydrology for NPDES Compliance

► IMPERVIOUSNESS

Schueler (1995) proposed **imperviousness** as a "unifying theme" for the efforts of planners, engineers, landscape architects, scientists, and local officials concerned with urban watershed protection. Schueler argued (1) that imperviousness is a useful indicator linking urban land development to the degradation of aquatic ecosystems, and (2) imperviousness can be quantified, managed, and controlled during land development.

Imperviousness has long been understood as the key variable in urban hydrology. Peak runoff flow and total runoff volume from small urban catchments is usually calculated as a function of the ratio of impervious area to total area **(rational method)**. The ratio correlates to the runoff factor, usually designated "C". Increased flows resulting from urban development tend to increase the frequency of small-scale flooding downstream.

Imperviousness links urban land development to degradation of aquatic ecosystems in two ways.

First, the combination of paved surfaces and piped runoff efficiently collects urban pollutants and transports them, in suspended or dissolved form, to surface waters. These pollutants may originate as airborne dust, be washed from the atmosphere during rains, or may be generated by automobiles and outdoor work activities.

Second, increased peak flows and runoff durations typically cause erosion of stream banks and beds, transport of fine sediments, and disruption of aquatic habitat. Measures taken to control stream erosion, such as hardening banks with riprap or concrete, may permanently eliminate habitat. By reducing infiltration to groundwater, imperviousness may also reduce dry-weather stream flows.

Imperviousness has two major components: rooftops and transportation (including streets, highways, and parking areas). The transportation component is usually larger and is more likely to be **directly connected** to the storm drain system.

The effects of imperviousness can be mitigated by disconnecting impervious areas from the drainage system and by encouraging detention and retention of runoff near the point where it is generated. Detention and retention reduce peak flows and volumes and allow pollutants to settle out or adhere to soils before they can be transported downstream.

► LOW IMPACT DEVELOPMENT REQUIREMENTS

The NPDES permit requires LID be used on all projects to minimize directly connected impervious area and promote infiltration. For Priority Development Projects, the minimum standards are:

- Drain a portion of impervious areas into pervious areas, if any.
- Design and construct pervious areas, if any, to effectively receive and infiltrate runoff from impervious areas, taking into account soil conditions, slope, and other pertinent factors.
- Construct a portion of paved areas with low traffic and appropriate soil conditions with permeable surfaces.

The LID design procedure in Chapter 4 incorporates these requirements into an integrated design which meets sizing requirements for stormwater treatment facilities and flow-control (hydromodification management) requirements.

► SIZING REQUIREMENTS FOR STORMWATER TREATMENT FACILITIES

The guidance in Chapter 4 was crafted to ensure LID facilities comply with the NPDES permit's hydraulic sizing requirements for stormwater treatment facilities and flow-control facilities. The technical background follows.

Most runoff is produced by frequent storms of small or moderate intensity and duration. Treatment facilities are designed to treat smaller storms and the first flush of larger storms—approximately 80% of average annual runoff.

The NPDES permit identifies two types of treatment facilities—volume-based and flow-based.

Volume-based facilities must be designed to infiltrate, filter, or treat the volume of runoff produced from a 24-hour 85th percentile storm event as determined from the County of San

Diego's 85th Percentile Precipitation Isopluvial Map. As shown on the map, rainfall depths vary from about 0.55" to 1.55".

For **flow-based** facilities, the NPDES permit specifies the rational method be used to determine flow. The rational method uses the equation

Q = CiA, where

Q = flow

C = weighted runoff factor between 0 and 1

i = rainfall intensity

A = area

The permit identifies two alternatives for calculating rainfall intensity:

1. the 85th percentile rainfall intensity times two, or
2. 0.2 inches per hour.

It is typically found that both methods yield similar results. The 0.2 inches per hour rainfall intensity should be used for sizing flow-based treatment facilities within the Copermittees' jurisdiction.

The 0.2 inches per hour criterion is the basis for a **consistent countywide sizing factor** for bioretention facilities when used for stormwater treatment only (i.e., not for flow control). The factor is based on maintaining a minimum percolation rate of 5 inches per hour through the engineered soil mix. The sizing factor is the ratio of the design intensity of rainfall on tributary impervious surfaces (0.2 inches/hour) to the design percolation rate in the facility (5 inches/hour), or **0.04** (dimensionless).

► FLOW-CONTROL (HYDROMODIFICATION MANAGEMENT)

The NPDES permit specifies for applicable projects:

> … post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in flow rates and durations.

Refer to Appendix B to review the final Hydromodification Management Plan (HMP) developed by the San Diego Copermittees and approved by the RWQCB in July 2010. A summary of the HMP document is provided in Chapter 1 of this SUSMP.

Criteria for Infiltration Devices

The NPDES permit restricts the design and location of "infiltration devices" that, as designed, may bypass filtration through surface soils before reaching groundwater. These devices include:

- Infiltration basins.
- Infiltration trenches (includes French drains).
- Unlined retention basins (i.e., basins with no outlets).
- Unlined or open-bottomed vaults or boxes installed below grade (dry wells).

Infiltration devices may not be used in:

- Areas west of Camino del Mar and south of 15th Street without geotechnical analysis to determine potential impacts to bluff stability. Infiltration within these areas are subject to approval of the City;
- Areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway);
- Automotive repair shops;
- Car washes;
- Fleet storage areas (bus, truck, etc.);
- Nurseries;
- Other areas with pollutant sources that could pose a threat to groundwater, as designated by each City.

The vertical distance from the base of any infiltration device to the seasonal high groundwater mark shall be at least 10 feet. Infiltration devices shall be located a minimum of 100 feet horizontally from any known water supply wells.

In addition, infiltration devices are not recommended where:

- The infiltration device would receive drainage from areas where chemicals are used or stored, where vehicles or equipment are washed, or where refuse or wastes are handled.
- Surface soils or groundwater are polluted.
- The facility could receive sediment-laden runoff from disturbed areas or unstable slopes.

- Increased soil moisture could affect the stability of slopes of foundations.
- Soils are insufficiently permeable to allow the device to drain within 72 hours.

► MOST LID FEATURES AND FACILITIES ARE NOT INFILTRATION DEVICES

Self-treating and self-retaining areas, pervious pavements, bioretention facilities, and planter boxes are not considered to be infiltration devices.

Bioretention facilities work by percolating runoff through 18 inches or more of engineered soil. This removes most pollutants before the runoff is allowed to seep into native soils below. Further pollutant removal typically occurs in the unsaturated (vadose) zone before moisture reaches groundwater.

Where there is concern about the effects of increased soil moisture on slopes or foundations, an impermeable barrier may be added so the facility is "flow through" and all treated runoff is underdrained away from the facility. See the design sheets for Bioretention Facilities and Flow-Through Planters in Chapter 4.

References and Resources:

- RWQCB Order R9-2007-0001 (Stormwater NPDES Permit)
- *County of San Diego Low Impact Development Handbook*
- Clean Water Act Section 402(p)
- 40 CFR 122.26
- San Diego Regional Water Quality Control Board—TMDLs
- State Water Resources Control Board—Ocean Standards
- *Site Planning for Urban Stream Protection* (Scheuler, 1995).
- "Application of Water-Quality Engineering Fundamentals to the Assessment of Stormwater Treatment Devices" (Salvia, 2000).

Chapter

3

Preparing Your Project Submittal

Step-by-step assistance to demonstrate compliance.

Your Project Submittal will demonstrate your project complies with all applicable requirements in the stormwater NPDES permit—to minimize imperviousness, retain or detain stormwater, slow runoff rates, incorporate required source controls, treat stormwater prior to discharge, control runoff rates and durations, and provide for operation and maintenance of treatment and flow-control facilities.

Typically, your Project Submittal must be coordinated with your application for discretionary approvals and must have sufficient detail to ensure the stormwater design, site plan, and landscaping plan are congruent. A complete and thorough Project Submittal will facilitate quicker review and fewer cycles of review.

Be sure to obtain specific submittal requirements from the jurisdiction in which your project is located. Your Project Submittal consists of a report and an exhibit. **City staff uses the following checklist** to evaluate your Project Submittal:

PROJECT SUBMITTAL CHECKLIST

CONTENTS OF EXHIBIT

Show all of the following on drawings:

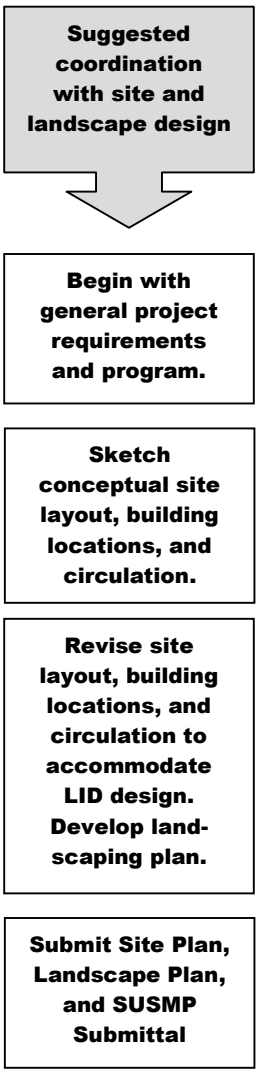
- ❒ Existing natural hydrologic features (depressions, watercourses, floodplains, relatively undisturbed areas) and significant natural resources. (Step 1 in the following step-by-step instructions)
- ❒ Soil types and depth to groundwater. (Step 1)
- ❒ Existing and proposed site drainage network and connections to drainage off-site. (Step 3)
- ❒ Proposed design features and surface treatments used to minimize imperviousness. (Step 3)
- ❒ Entire site divided into separate drainage areas, with each area identified as self-treating, self-retaining (zero-discharge), draining to a self-retaining area, or draining to an IMP. (Step 3)
- ❒ For each drainage area, types of impervious area proposed (roof, plaza/sidewalk, and streets/parking) and area of each. (Step 3)
- ❒ Proposed locations and sizes of treatment or flow-control facilities. (Step 3)
- ❒ Potential pollutant source areas, including refuse areas, outdoor work and storage areas, etc. listed in Appendix A and corresponding required source controls. (Step 4)

CONTENTS OF REPORT

Include all of the following in a report:

- ❒ Narrative analysis or description of site features and conditions that constrain, or provide opportunities for, stormwater control. (Step 2)
- ❒ Narrative description of site design characteristics that protect natural resources. (Step 3)
- ❒ Narrative description and/or tabulation of site design characteristics, building features, and pavement selections that reduce imperviousness of the site. (Step 3)
- ❒ Tabulation of proposed pervious and impervious area, showing self-treating areas, self-retaining areas, and areas tributary to each treatment or flow-control facility. (Step 3)
- ❒ Preliminary designs, including calculations, for each infiltration, treatment, or flow-control facility. Elevations should show sufficient hydraulic head for each. (Step 3)
- ❒ A table of identified pollutant sources and for each source, the source control measure(s) used to reduce pollutants to the maximum extent practicable. See worksheet in Appendix A. (Step 4)
- ❒ General maintenance requirements for infiltration, treatment, and flow-control facilities (Step 5)
- ❒ Means by which facility maintenance will be financed and implemented in perpetuity. (Step 5)
- ❒ Statement accepting responsibility for interim operation & maintenance of facilities (Step 5).
- ❒ Identification of any conflicts with codes or requirements or other anticipated obstacles to implementing the proposed facilities in the submittal (Step 6).
- ❒ Construction Plan SUSMP Checklist (Step 6).
- ❒ Certification by a civil engineer, architect, and landscape architect (Step 6).

Step by Step



Plan and design your stormwater controls integrally with the site planning and landscaping for your project. It's best to start with general project requirements and preliminary site design concepts, then prepare the detailed site design, landscape design, and stormwater control design simultaneously. **This will help ensure that your site plan, landscape plan, and Project Submittal are congruent.**

The following step-by-step procedure should optimize your design by identifying the best opportunities for stormwater controls **early in the design process.**

The recommended steps are:

1. Assemble needed information.
2. Identify site opportunities and constraints.
3. Follow the LID design guidance in Chapter 4 to analyze your project for LID and to develop and document your drainage design.
4. Specify source controls using the sources/source control checklist in the Appendix.
5. Plan for ongoing maintenance of treatment and flow-control facilities.
6. Complete the Project Submittal.

City staff may recommend you prepare and submit a preliminary site design prior to formally applying for planning and zoning approvals. Your preliminary site design should incorporate a conceptual plan for site drainage, including self-treating and self-retaining areas and the location and approximate sizes of any treatment facilities. This additional up-front design effort will save time and avoid potential delays later in the review process.

Step 1: Assemble Needed Information

To select types and locations of treatment facilities, the designer needs to know the following site characteristics:

- **Existing natural hydrologic features** and natural resources, including any contiguous natural areas, wetlands, watercourses, seeps, or springs.

- **Existing site topography**, including contours of any slopes of 4% or steeper, general direction of surface drainage, local high or low points or depressions, any outcrops or other significant geologic features.

- **Zoning**, including requirements for **setbacks** and **open space**.

- **Public Works Standards** or other local codes governing minimum street widths, sidewalk construction, allowable pavement types, and drainage. These codes may conflict with Low Impact Development objectives to minimize imperviousness and to maintain or restore natural site hydrology. Municipalities are encouraged to review and revise codes to resolve these conflicts where it is possible to do so.

- Soil types (including **hydrologic soil groups**) and depth to groundwater, which may determine whether infiltration is a feasible option for managing site runoff. Depending on site location and characteristics, and on the selection of treatment and flow-control facilities, site-specific information (e.g. from boring logs or geotechnical studies) may be required.

- **Existing site drainage.** For undeveloped sites, this should be obtained by inspecting the site and examining topographic maps and survey data. For previously developed sites, site drainage and connection to the municipal storm drain system can be located from site inspection, municipal storm drain maps, and plans for previous development.

- Existing **vegetative cover** and **impervious areas**, if any.

References and Resources
- *Site Planning for Urban Stream Protection* (Scheuler 1995).
- *Start at the Source* (BASMAA 1999), p. 36

Step 2: Identify Constraints & Opportunities

Review the information collected in Step 1. Identify the principal constraints on site design and selection of treatment and flow-control facilities as well as opportunities to reduce imperviousness and incorporate facilities into the site and landscape design. For example, **constraints** might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, restricted right-of-way, or safety concerns. **Opportunities** might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for bioretention facilities), and differences in elevation (which can provide hydraulic head). Note stormwater treatment facilities should not be located within protected riparian areas.

Prepare a brief **narrative** describing site opportunities and constraints. This narrative will help you as you proceed with LID design and explain your design decisions to others.

Step 3: Prepare and Document Your LID Design

Use the Low Impact Development Design Guide (Chapter 4) to analyze your project for LID, design and document drainage, and specify preliminary design details for integrated management practices. **Follow the detailed instructions in Chapter 4 to ensure your project complies with NPDES permit LID requirements (Provision D.1.d.(4)) and stormwater treatment requirements in Provision D.1.d.(6)).** The LID Design Guide has been developed so that hydromodification management requirements are also met via this unified design procedure. Chapter 4 includes calculation procedures and formats for presenting your calculations.

As shown in the example checklist above, your Project Submittal may need to include a drawing showing:

- The entire site divided into separate drainage management areas (DMAs), with each area identified as one of the following: self-treating, self-retaining, draining to a self-retaining area, or draining to an IMP. Each area should be clearly marked with a unique identifier.

Compliance
The design criteria for DMAs in Chapter 4 ensure the required volume of flow from all developed portions of the project, including landscaped areas, is infiltrated, filtered, or treated (Provision D.1.d.(6)(a).

- For each drainage area, the types of impervious area proposed, and the area of each.
- Proposed locations and sizes of treatment facilities. Each facility should be clearly marked with a unique identifier.

Your Project Submittal may need to include:

- Tabulation of proposed self-treating areas, self-retaining areas, areas draining to self-retaining areas, and areas draining to IMPs, and the corresponding IMPs identified on the Exhibit.
- Calculations, in the format shown in Chapter 4, showing the minimum square footage required and proposed square footage for each IMP.
- Preliminary designs for each IMP. The design sheets and accompanying drawings in Chapter 4 may be used or adapted for this purpose.

The following may also be required, or may be advisable to assist the reviewer to understand your design:

- A narrative overview of your design and how your design decisions optimize the site layout, use pervious surfaces, disperse runoff from impervious surfaces, and drain impervious surfaces to engineered IMPs. See Chapter 4.
- A narrative briefly describing each **drainage management area** (DMA), its drainage, and where drainage will be directed.

- A narrative briefly describing each IMP. Include any special characteristics or features distinct from the design sheets in Chapter 4.

References and Resources

- Chapter 4
- *County of San Diego Low Impact Development Handbook*
- Your municipality's *General Plan*
- Your municipality's Zoning Ordinance and Development Codes
- *Low Impact Development Manual* (Prince George's County, Maryland, 1999).
- *Bioretention Manual* (Prince George's County, Maryland, rev. 2002)
- *Site Planning for Urban Stream Protection* (Schueler, 1995b).
  Low Impact Development Technical Guidance Manual for Puget Sound (Puget Sound Action Team, 2005)
- *LID for Big Box Retailers* (Low Impact Development Center, 2006)

Step 4. Specify Source Control BMPs

Some everyday activities – such as trash recycling/disposal and washing vehicles and equipment – generate pollutants that tend to find their way into storm drains. These pollutants can be minimized by applying **source control BMPs**.

Source control BMPs include **permanent**, structural features that must be incorporated into your project plans and **operational** BMPs, such as regular sweeping and "housekeeping," that must be implemented by the site's occupant or user. The maximum extent practicable standard typically requires both types of BMPs. In general, operational BMPs cannot be substituted for a feasible and effective permanent BMP.

Use the following procedure to specify source control BMPs for your site:

► IDENTIFY POLLUTANT SOURCES

Review the first column in the **Pollutant Sources/Source Control Checklist** (Appendix). Check off the potential sources of pollutants that apply to your site.

► NOTE LOCATIONS ON SUBMITTAL DRAWING

Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist (Appendix). Show the location of each pollutant source and each permanent source control BMP in your submittal drawing.

► PREPARE A TABLE AND NARRATIVE

Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist (Appendix). Now, create a table using the format in Table 3-1. In the left column, list each potential source on your site (from Appendix, Column 1). In the middle column, list the corresponding **permanent, structural BMPs** (from Columns 2 and 3, Appendix) used to prevent pollutants from entering runoff. Accompany this table with a narrative that explains any special features, materials, or methods of construction that will be used to implement these permanent, structural BMPs.

► IDENTIFY OPERATIONAL SOURCE CONTROL BMPS

TABLE 3-1. Format for Table of Permanent and Operational Source Control Measures.

Potential source of runoff pollutants	*Permanent source control BMPs*	*Operational source control BMPs*

To complete your table, refer once again to the Pollutant Sources/Source Control Checklist (Appendix, Column 4). List in the right column of your table the operational BMPs that should be implemented as long as the anticipated activities continue at the site. The same BMPs may also be required as a condition of a use permit or other revocable discretionary approval for use of the site.

References and Resources

- Appendix: Stormwater Pollutant Sources/Source Control Checklist
- RWQCB Order R9-2007-0001, Provision D.1.d.(5)
- *Start at the Source*, Section 6.7: Details, Outdoor Work Areas
- *California Stormwater Industrial/Commercial Best Management Practice Handbook*
- *Urban Runoff Quality Management* (WEF/ASCE, 1998) Chapter 4: Source Controls

Step 5: Stormwater Facility Maintenance

As required by NPDES Permit Provision D.1.c.(5), the City requires submittal of proof of a mechanism under which ongoing long-term maintenance of stormwater treatment and flow-control facilities will be conducted. The City requires the following items be included in your Project Submittal:

1. A means to finance and implement facility maintenance in perpetuity.

2. Acceptance of responsibility for maintenance from the time the facilities are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.

3. An outline of general maintenance requirements for the treatment and flow-control facilities you have selected.

The City also requires that you prepare and submit a detailed plan that sets forth a maintenance schedule for each of the treatment and flow-control facilities built on your site.

Details of these requirements, and instructions for preparing a detailed operation and maintenance plan, are in Chapter 5.

References and Resources

- *Chapter 5*
- Operation, Maintenance, and Management of Stormwater Management Systems (Watershed Management Institute, 1997)

Step 6: Complete Your Project Submittal

Local City staff will provide specific instructions for the content and format of your Project Submittal. Your Project Submittal should document the information gathered and decisions made in Steps 1-5. A clear, complete, well-organized Project Submittal will make it possible to confirm your design meets the minimum requirements of the NPDES permit, the municipal stormwater pollution prevention ordinance, and this *SUSMP*.

► COORDINATION WITH SITE, ARCHITECTURAL, AND LANDSCAPING PLANS

Before completing your Project Submittal, ensure your stormwater control design is fully coordinated with the site plan, grading plan, and landscaping plan being proposed for the site.

Submittals must incorporate relevant aspects of the stormwater design. In particular, ensure:

- Curb elevations, elevations, grade breaks, and other features of the drainage design are consistent with the delineation of DMAs.
- The top edge (overflow) of each bioretention facility is level all around its perimeter—this is particularly important in parking lot medians.
- The resulting grading and drainage design is consistent with the design for parking and circulation.
- Bioretention facilities and other IMPs do not create conflicts with pedestrian access between parking and building entrances.
- Vaults and utility boxes can be accommodated outside bioretention facilities and will not be placed within bioretention facilities.
- The visual impact of stormwater facilities, including planter boxes at building foundations and any terracing or retaining walls required for the stormwater control design, is shown in renderings and other architectural drawings.
- Landscaping plans, including planting plans, show locations of bioretention facilities, and the plant requirements are consistent with the engineered soils and conditions in the bioretention facilities.
- Renderings and representation of street views incorporate any stormwater facilities located in street-side buffers and setbacks

► CONSTRUCTION PLAN SUSMP CHECKLIST

When you submit construction plans for City review and approval, the reviewer will compare that submittal with your earlier Project Submittal. By creating a Construction Plan SUSMP Checklist for your project, you can facilitate the reviewer's comparison and speed review of your project.

TABLE 3-2. Format for Construction Plan SUSMP Checklist.

SUSMP Page #	*BMP Description*	*See Plan Sheet #s*

Here's how:

1. Create a table similar to Table 3-2. Number and list each measure or BMP you have specified in your Project Submittal in Columns 1 and 2 of the table. Leave Column 3 blank. Incorporate the table into your Project Submittal.

2. When you submit construction plans, **duplicate the table** (by photocopy or electronically). Now fill in Column 3, identifying the plan sheets where the BMPs are shown. List all plan sheets on which the BMP appears. Submit the updated table with your construction plans.

Note that the updated table—or Construction Plan SUSMP Checklist—is **only a reference tool** to facilitate comparison of the construction plans to your Project Submittal. Planning Department staff can advise you regarding the process required to propose changes to your approved Project Submittal.

► CERTIFICATION

The City requires that your Final Project Submittal be certified by a registered civil engineer.

The certification should state: "The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan meet the requirements of Regional Water Quality Control Board Order R9-2007-0001 and subsequent amendments."

► EXAMPLE PROJECT SUBMITTALS

Example Project Submittals and templates will be available from City staff. Your submittal will reflect the unique character of your own project and should meet the requirements identified in this *SUSMP*. City staff can assist you to determine how specific requirements apply to your project.

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Chapter

4

Low Impact Development Design Guide

Guidance for designing and documenting your LID site drainage, stormwater treatment facilities, and flow-control facilities

Follow the Low Impact Development (LID) design in this SUSMP to achieve compliance with the stormwater treatment requirements as well as the LID requirements in the stormwater NPDES permit.

This will require careful documentation of:

- Pervious and impervious areas in the planned project.
- Drainage from each of these areas.
- Locations, sizes, and types of proposed treatment facilities.

Your Project Submittal must include calculations showing the site drainage and proposed LID treatment facilities meet the criteria in this *SUSMP*.

This Low Impact Development Design Guide will help you:

- **Analyze your project** and identify and select options for implementing LID techniques to meet runoff treatment requirements—and flow-control requirements, if they apply.
- **Design and document drainage** for the whole site and document how that design meets this *SUSMP's* stormwater treatment criteria.
- **Specify preliminary design details** and integrate your LID drainage design with your paving and landscaping design.

Alternatives to LID design are discussed in the final section of this chapter.

Analyze Your Project for LID

Conceptually, there are four LID strategies for managing runoff from buildings and paving:

1. **Optimize the site layout** by preserving natural drainage features and designing buildings and circulation to minimize the amount of roofs and paving.

3. **Use pervious surfaces** such as turf, gravel, or pervious pavement—or use surfaces that retain rainfall, such as vegetated roofs. All drainage from these surfaces is considered to be "self-retained" (a detailed definition corresponding to this concept is on page 56). No further management of runoff is necessary. An emergency overflow should be provided for extreme events.

4. **Disperse runoff** from impervious surfaces on to adjacent pervious surfaces (e.g., direct a roof downspout to disperse runoff onto a lawn).

5. Drain impervious surfaces to engineered **Integrated Management Practices** (IMPs), such as bioretention facilities, planter boxes, cisterns, or dry wells. IMPs infiltrate runoff to groundwater and/or percolate runoff through engineered soil and allow it to drain away slowly. Depending on site conditions and local regulations, it may be possible to harvest and reuse rainwater in conjunction with IMPs.

A combination of two or more strategies may work best for your project. With forethought in design, the four strategies can provide multiple, complementary benefits to your development. Pervious surfaces reduce heat island effects and temperature extremes. Landscaping improves air quality, creates a better place to live or work, and upgrades value for rental or sale. Retaining natural hydrology helps preserve and enhance the natural character of the area. LID drainage design can also conserve water and reduce the need for drainage infrastructure.

Table 4-1 includes ideas for applying LID strategies to site conditions and types of development.

TABLE 4-1. Ideas for Runoff Management.

Site Features and Design Objectives	*Vegetated Roof*	*Self-retaining Areas*	*Pervious Pavement*	*Bioretention Facility*	*Flow-through Planter*	*Dry Well*	*Cistern with bioretention*
Clayey native soils	✓			✓	✓		✓
Permeable native soils	✓		✓	✓	✓	✓	
Very steep slopes	✓				✓		
Shallow groundwater	✓				✓		
Avoid saturating subsurface soils	✓		✓		✓		
Connect to roof downspouts		✓		✓	✓	✓	✓
Parking lots/islands and medians			✓	✓		✓	
Sites with extensive landscaping		✓	✓	✓			
Densely developed sites with limited space/landscape	✓		✓		✓	✓	✓
Fit IMPs into landscape and setback areas				✓			✓
Make drainage a design feature		✓		✓			✓
Convey as well as treat stormwater				✓			

► OPTIMIZE THE SITE LAYOUT

To minimize stormwater-related impacts, apply the following design principles to the layout of newly developed and redeveloped sites.

Conserve natural areas, soils, and vegetation. Define the development envelope and protected areas, identifying areas that are most suitable for development and areas that should be left undisturbed. Use the following guideline to determine the least sensitive areas of the site, in order of increasing sensitivity:

1. Areas devoid of vegetation, including previously graded areas and agricultural fields.
2. Areas of non-native vegetation, disturbed habitats and eucalyptus woodlands where receiving waters are not present.
3. Areas of chamise or mixed chaparral, and non-native grasslands.
4. Areas containing coastal scrub communities.
5. All other upland communities.
6. Occupied habitat of sensitive species and all wetlands (as both are defined by the local jurisdiction).

Within each of the previous categories, hillside areas should be considered more sensitive than flatter areas.

Coordination
Chapter One includes a presentation of how review of your project's site design and landscape design is coordinated with review for compliance with stormwater NPDES requirements.

Where possible, conform the site layout along natural landforms, avoid excessive grading and disturbance of vegetation and soils, and replicate the site's natural drainage patterns. Set back development from creeks, wetlands, and riparian habitats. Preserve significant trees, especially native trees and shrubs, and identify locations for planting additional native or drought tolerant trees and large shrubs. Concentrate development on portions of the site with less permeable soils, and preserve areas that can promote infiltration.

For all types of development, **limit overall coverage** of paving and roofs. Where allowed by local zoning and design standards—and provided public safety and a walkable environment are not compromised—this can be accomplished by designing compact, taller structures, narrower and shorter streets and sidewalks, smaller parking lots (fewer stalls, smaller stalls, and more efficient lanes), and indoor or underground parking. Examine site layout and circulation patterns and identify areas where landscaping can be substituted for pavement.

Detain and retain runoff throughout the site. On flatter sites, it typically works best to intersperse landscaped areas and IMPs among the buildings and paving. On hillside sites, drainage from upper areas may be collected in conventional catch basins and piped to landscaped areas and IMPs in lower areas.

Use drainage as a design element. Use depressed landscape areas, vegetated buffers, and bioretention areas as amenities and focal points within the site and landscape design. Bioretention areas can be almost any shape and should be located at low points. Bioretention areas shaped as swales can detain and treat low runoff flows and also convey higher flows.

► USE PERVIOUS SURFACES

Consider a vegetated roof. Although not yet widely used in California, vegetated or "green" roofs are growing in popularity. Potential benefits include longer roof life, lower heating and cooling costs, and better sound insulation, in addition to air quality and water quality benefits. For SUSMP compliance purposes, vegetated roofs are considered not to produce increased runoff or runoff pollutants (i.e., any runoff from a vegetated roof requires no further treatment or detention). For more information on vegetated roofs, see www.greenroofs.org.

Consider permeable pavements and surface treatments. Inventory paved areas on your preliminary site plan. Identify where permeable pavements, such as crushed aggregate, turf block, unit pavers, pervious concrete, or pervious asphalt could be substituted for impervious concrete or asphalt paving.

► DISPERSE RUNOFF TO ADJACENT PERVIOUS AREAS

Look for opportunities to direct runoff from impervious areas to adjacent landscaping. The design, including slopes and soils, must reflect a reasonable expectation that an inch of rainfall will soak into the soil and produce no runoff. For example, a lawn or garden depressed 3-4" below surrounding walkways or driveways provides a simple but functional landscape design element.

For sites subject to stormwater treatment requirements only, a 2:1 maximum ratio of impervious to pervious area is acceptable. Be sure soils will drain adequately.

Under some circumstances, it may be allowable to direct runoff from impervious areas to pervious pavement (for example, from roof downspouts to a parking lot paved with crushed aggregate or turf block). The pore volume of pavement and base course must be sufficient to retain an inch of rainfall, including runoff from the tributary area. The slopes and soils must be compatible with infiltrating that volume without producing runoff.

► DIRECT RUNOFF TO INTEGRATED MANAGEMENT PRACTICES

Project Clean Water has developed design criteria for the following IMPs:

- **Bioretention facilities**, which can be configured as swales, free-form areas, or planters to integrate with your landscape design.
- **Flow-through planters**, which can be used near building foundations and other locations where infiltration to native soils is not desired.
- **Dry wells** and other infiltration facilities, which can be used only where soils are permeable.

- **Cisterns or valuts**, in combination with a bioretention facility.

See the design sheets at the end of this chapter.

It may be possible to create a site-specific design that uses cisterns to achieve stormwater flow control, stormwater treatment, and rainwater reuse for irrigation or indoor uses (**water harvesting**). Such a design could expand the multiple benefits of LID to include water conservation. Keep in mind:

- Facilities must meet criteria for capturing and treating the volume specified by Equation 4-8 below. This volume must be allowed to empty within 24 hours so runoff from additional storms, which may follow, is also captured and treated. Additional volume may be required if the system also stores runoff for longer periods for reuse.

- Storage of water for longer than minimum standards set forth by the City (96 hours) creates the potential for mosquito harborage. Cisterns and vaults must be designed to prevent entry by mosquitoes.

- Indoor uses of non-potable water may be restricted or prohibited. Check with municipal staff.

Some references and resources for water harvesting appear at the end of this chapter.

Finding the right location for treatment facilities on your site involves a careful and creative integration of several factors:

- To make the most efficient use of the site and to maximize aesthetic value, **integrate IMPs with site landscaping**. Many local zoning codes may require landscape setbacks or buffers, or may specify that a minimum portion of the site be landscaped. It may be possible to locate some or all of your site's treatment and flow-control facilities within this same area, or within utility easements or other non-buildable areas.

- Planter boxes and bioretention areas must be **level or nearly level** all the way around. Bioretention areas configured as swales may be gently sloped in the linear direction, but opposite sides must be at the same elevation.

- For effective, low-maintenance operation, **locate facilities so drainage into and out of the device is by gravity flow.** Pumped systems are feasible, but are expensive, require more maintenance, are prone to untimely failure, and can cause mosquito control problems. Most IMPs require 3 feet or more of head.

- If the property is being subdivided now or in the future, the facility should be in a **common, accessible area.** In particular, avoid locating facilities on private residential lots. Even if the facility will serve only one site owner or operator, make

sure the facility is located for ready access by inspectors from the local municipality and local mosquito control agency.

- The facility must be accessible to equipment needed for its maintenance. **Access requirements for maintenance** will vary with the type of facility selected. Planter boxes and bioretention areas will typically need access for the same types of equipment used for landscape maintenance.

To complete your analysis, include in your Project Submittal a brief **narrative** documenting the site layout and site design decisions you made. This will provide background and context for how your design meets the quantitative LID design criteria.

Develop and Document Your Drainage Design

The **design documentation procedure** begins with careful delineation of pervious areas and impervious areas (including roofs) throughout the site. The procedure accounts for how runoff from each delineated area is managed. For areas draining to IMPs, the procedure ensures each IMP is appropriately sized.

The procedure results in a space-efficient, cost-efficient LID design for meeting SUSMP requirements on most residential and commercial/industrial developments. The procedure arranges documentation of drainage design and IMP sizing in a consistent format for presentation and review.

This procedure is intended to facilitate, not substitute for, creative interplay among site design, landscape design, and drainage design. **Several iterations may be needed** to optimize your drainage design as well as aesthetics, circulation, and use of available area for your site.

You should be able to complete the needed calculations using only the project's site development plan.

► STEP 1: DELINEATE DRAINAGE MANAGEMENT AREAS

This is the key first step. You must divide the **entire project area** into individual, discrete Drainage Management Areas (DMAs). Typically, lines delineating DMAs follow grade breaks and roof ridge lines. The Exhibit, tables, text, and calculations in your Project Submittal will illustrate, describe, and account for runoff from each of these areas.

Use separate DMAs for each surface type (e.g., landscaping, pervious paving, or roofs). Each DMA must be assigned a single hydrologic soil group. Assign each DMA an identification number and determine its size in square feet.

► STEP 2: CLASSIFY DMAS AND DETERMINE RUNOFF FACTORS

Next, determine how drainage from each DMA will be handled. Each DMA will be one of the following four types:

1. Self-treating areas.
2. Self-retaining areas (also called "zero-discharge" areas).
3. Areas that drain to self-retaining areas.
4. Areas that drain to IMPs.

Self-treating areas are landscaped or turf areas that do not drain to IMPs, but rather drain directly off site or to the storm drain system. Examples include upslope undeveloped areas which are ditched and drained around a development and grassed slopes which drain off-site to a street or storm drain. In general, self-treating areas include no impervious areas, unless the impervious area is very small (5 percent or less) in relationship to the receiving pervious area and slopes are gentle enough to ensure runoff will be absorbed into the vegetation and soil. Criteria for self-treating areas are in the design sheet "Self Treating and Self-Retaining Areas" at the end of this chapter.

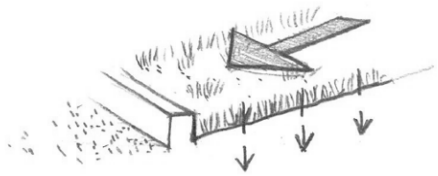


FIGURE 4-1. Self-treating areas are entirely pervious and drain directly off-site or to the storm drain system.

Self-retaining areas are designed to retain the first one inch of rainfall without producing any runoff. The technique works best on flat, heavily landscaped sites. It may be used on mild slopes if there is a reasonable expectation that a one-inch rainfall event would produce no runoff.

To create self-retaining turf and landscape areas in flat areas or on terraced slopes, berm the area or depress the grade into a concave cross-section so that these areas will retain the first inch of rainfall. Specify slopes, if any, toward the center of the pervious area. Inlets of area drains, if any, should be set 3 inches above the low point to allow ponding.

Criteria for self-retaining areas are in the design sheet "Self Treating and Self-Retaining Areas" following this chapter.

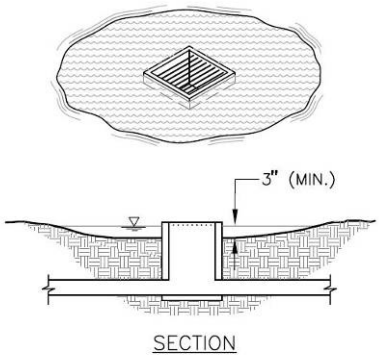


FIGURE 4-2. Self-retaining areas. Berm or depress the grade to retain at least an inch of rainfall and set inlets of any area drains at least 3 inches above low point to allow ponding.

Areas draining to self-retaining areas. Runoff from impervious or partially pervious areas can be managed by routing it to self-retaining pervious areas. For example, roof downspouts can be directed to lawns, and driveways can be sloped toward landscaped areas. The maximum ratio is 2 parts impervious area for every 1 part pervious area.

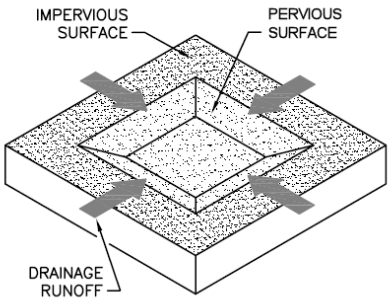


FIGURE 4-3. Relationship of impervious to pervious area for self-retaining areas. Ratio: ***pervious ≥ ½ impervious***

The drainage from the impervious area must be directed to and dispersed within the pervious area, and the entire area must be designed to retain an inch of rainfall without flowing off-site. For example, if the maximum ratio of 2 parts impervious area into 1 part pervious area is used, then the pervious area must absorb 3 inches of water over its surface before overflowing to an off-site drain.

A partially pervious area may be drained to a self-retaining area. For example, a driveway composed of unit pavers may drain to an adjacent lawn. In this case, the maximum ratios are:

(Runoff factor) x (tributary area) ≤ 2 x (self-retaining area) *Equation 4-1*

Use the runoff factors in Table 4-2.

Prolonged ponding is a potential problem at higher impervious/pervious ratios. In your design, ensure that the pervious area soils can handle the additional run-on and are sufficiently well-drained.

Under some circumstances, pervious pavement (e.g., crushed stone, pervious asphalt, or pervious concrete) can be self-retaining. Adjacent roofs or impervious pavement may drain on to the pervious pavement in the same maximum ratios as described above.

To design a pervious pavement to be a self-treating area, ensure:

- The gravel base course is a minimum of four or more inches deep.
- The base course is not to be underdrained.
- A qualified engineer has been consulted regarding infiltration rates, pavement stability, and suitability for the intended traffic.

Runoff from self-treating and self-retaining areas does not require any further treatment or flow control.

TABLE 4-2. Runoff Factors for Surfaces Draining to IMPs.

Surface	Factor
Roofs	1.0
Concrete	1.0
Pervious Concrete	0.1
Porous Asphalt	0.1
Grouted Unit Pavers	1.0
Solid Unit Pavers on granular base, min. 3/16 inch joint space	0.2
Crushed Aggregate	0.1
Turfblock	0.1
Amended, mulched soil	0.1
Landscape	0.1

Areas draining to IMPs are multiplied by a sizing factor to calculate the required size of the IMP. On most densely developed sites—such as commercial and mixed-use developments and small-lot residential subdivisions—most DMAs will drain to IMPs.

More than one drainage area can drain to the same IMP. However, because the minimum IMP sizes are determined by ratio to drainage area size, a drainage area may not drain to more than one IMP. See Figures 4-4 and 4-5.

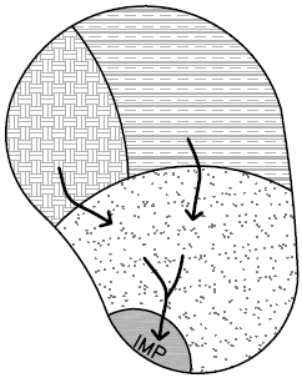


FIGURE 4-4. MORE THAN ONE
Drainage Management Area can drain to a single IMP.

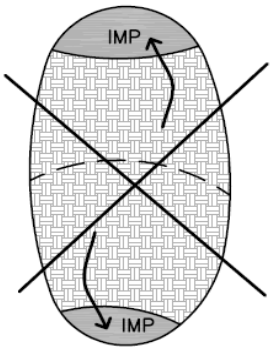


FIGURE 4-5. ONE DRAINAGE
Management Area cannot drain to more than one IMP. Use a grade break to divide the DMA.

Where possible, design site drainage so **only impervious areas** drain to IMPs. This yields a simpler, more efficient design and also helps protect IMPs from becoming clogged by sediment.

If it is necessary to include turf, landscaping, or pervious pavements within the area draining to an IMP, list each surface as a separate DMA. A runoff factor (similar to a "C" factor used in the rational method) is applied to account for the reduction in the quantity of runoff. For example, when a turf or landscaped drainage management area drains to an IMP, the resulting increment in IMP size is:

$$\Delta \text{ (Area)} = \text{(pervious area)} \times \text{(runoff factor)} \times \text{(sizing factor)}.$$

Use the runoff factors in Table 4-2.

► STEP 3: TABULATE DRAINAGE MANAGEMENT AREAS

- Tabulate self-treating areas in the format shown in Table 4-3.
- Tabulate self-retaining areas in the format shown in Table 4-4.
- Tabulate areas draining to self-retaining areas in the format shown in Table 4-5. Check to be sure the total product of (square feet of tributary area × runoff factor) for all DMAs draining to a receiving self-retaining area is no greater than a 2:1 ratio to the square footage of the receiving self-retaining area itself.
- Compile a list of DMAs draining to IMPs. Proceed to Step 4 to check the sizing of the IMPs.

TABLE 4-3. Format for Tabulating Self-Treating Areas.

DMA Name	*Area (square feet)*

TABLE 4-4. Format for Tabulating Self-Retaining Areas.

DMA Name	*Area (square feet)*

TABLE 4-5. Format for Tabulating Areas Draining to Self-Retaining Areas.

DMA Name	*Area (square feet)*	*Post-project surface type*	*Runoff factor*	*Receiving self-retaining DMA*	*Receiving self-retaining DMA Area (square feet)*

► STEP 4: SELECT AND LAY OUT IMPS ON SITE PLAN

Select from the list of IMPs in Table 4-6. Illustrations, designs, and design criteria for the IMPs are in the "IMP Design Details and Criteria" at the end of this chapter.

Once you have laid out the IMPs, calculate the square footage you have set aside on your site plan for each IMP.

► STEP 5: REVIEW SIZING FOR EACH IMP

For each of the IMPs, use the appropriate "water quality only" sizing factor from Table 4-6. *Sizing factors for integrated facilities that provide both water quality treatment and hydromodification flow control are currently under development and will be included in this document at a later time – please check the City's website at www.delmar.ca.us for updates.*

TABLE 4-6. Sizing Factors (Water Quality Only)

Bioretention Facilities	Sizing Factor for Area = 0.04
Flow-through Planters	Sizing Factor for Area = 0.04
Dry Well or Infiltration Basin	See Step 6 to Calculate Min. Volume
Cistern and Vaults with Bioretention	See Step 6 to Calculate Min. Volume of Cistern or Vault; then use 0.04 to calculate minimum size of bioretention area

► STEP 6: CALCULATE MINIMUM AREA AND VOLUME OF EACH IMP

The minimum area of bioretention facilities and flow-through planters is found by summing up the contributions of each tributary DMA and multiplying by the adjusted sizing factor for the IMP. *Note that if the IMP is designed to provide hydromodification flow control, then hydromodification sizing factors should be used in lieu of the "water quality only" sizing factors presented in Table 4-6. These sizing factors are currently under development and will be included at a later time – please check the City's website at www.delmar.ca.us for updates.*

Equation 4-7

$$Min.\ IMP\ Area = \sum \begin{pmatrix} DMA \\ Square \\ Footage \end{pmatrix} \times \begin{pmatrix} DMA \\ Runoff \\ Factor \end{pmatrix} \times \begin{pmatrix} IMP \\ Sizing \\ Factor \end{pmatrix}$$

Use the format of Table 4-7 to present the calculations of the required minimum area and volumes for **bioretention areas** and **planter boxes**:

TABLE 4-7. Format for Presenting Calculations of Minimum IMP Areas for Bioretention Areas and Planter Boxes.

DMA Name	*DMA Area (square feet)*	*Post-project surface type*	*DMA Runoff factor*	*DMA Area × runoff factor*	*Soil Type:*	*IMP Name*			
					IMP Sizing factor (WQ Only)		*Minimum Area*	*Proposed Area*	
			Total		***0.04***				***IMP Area***

To size **dry wells**, **infiltration basins**, or **infiltration trenches for the "water quality treatment option**, use the following procedure:

1. Use the County of San Diego's 85th Percentile Isopluvial Map to determine the minimum unit volume.

2. Determine the weighted runoff factor ("C" factor) for the area tributary to the facility. The factors in Table 4-2 may be used.

3. Multiply the weighted runoff factor times the tributary area times the minimum unit volume.

Equation 4-8

$$Volume = [Tributary\ Area] \times [weighted\ runoff\ \ factor] \times [unit\ volume]$$

4. Select a facility depth.

5. Determine the required facility area. Dry wells may be designed as an open vault or with rock fill. If rock fill is used, assume a porosity of 40%.

6. Ensure the facility can infiltrate the entire volume within the minimum drawdown time as determined by the governing jurisdiction..

To size a **cistern or vault in series with a bioretention facility (criteria below for "water quality treatment: only option)**:

1. Use Equation 4-8 to calculate the required cistern or vaults volume.

2. Design a discharge orifice for a drawdown time of 24 hours.

3. Determine the maximum discharge from the orifice.

4. The minimum area of the bioretention facility must treat this flow based on a percolation rate of 5" per hour through the engineered soil.

► STEP 7: DETERMINE IF AVAILABLE SPACE FOR IMP IS ADEQUATE

Sizing and configuring IMPs may be an iterative process. After computing the minimum IMP area using Steps 1 – 6, review the site plan to determine if the reserved IMP area is sufficient. If so, the planned IMPs will meet the SUSMP sizing requirements. If not, revise the plan accordingly. Revisions may include:

- Reducing the overall imperviousness of the project site.
- Changing the grading and drainage to redirect some runoff toward other IMPs which may have excess capacity.
- Making tributary landscaped DMAs self-treating or self-retaining.
- Expanding IMP surface area.

► STEP 8: COMPLETE YOUR SUMMARY REPORT

Present your IMP sizing calculations in tabular form. Adapt the following format as appropriate to your project. Coordinate your presentation of DMAs and calculation of minimum IMP sizes with the Project Submittal drawing (labeled to show delineation of DMAs and locations of IMPs). It is also helpful to incorporate a brief description of each DMA and each IMP.

Sum the total area of all DMAs and IMPs listed and show it is equal to the total project area. This step may include adjusting the square footage of some DMAs to account for area used for IMPs.

Format:

Project Name:

Project Location:

APN or Subdivision Number:

Total Project Area (square feet):

Mean Annual Precipitation at Project Site:

I. Self-treating areas:

DMA Name	*Area (square feet)*

II. Self-retaining areas:

DMA Name	*Area (square feet)*

III. Areas draining to self-retaining areas:

DMA Name	*Post-project surface type*	*Runoff factor*	*Area (square feet)*	*Receiving self-retaining DMA*	*Receiving self-retaining DMA Area (square feet)*

IV. Areas draining to IMPs (repeat for each IMP):

DMA Name	*DMA Area (square feet)*	*Post-project surface type*	*DMA Runoff factor*	*DMA Area × runoff factor*	*Soil Type:*	*IMP Name*			
					IMP Sizing factor		*Minimum Area or Volume*	*Proposed Area or Volume*	
			Total						***IMP Area***

Specify Preliminary Design Details

In your Project Submittal, describe your IMPs in sufficient detail to demonstrate the area, volume, and other criteria of each can be met within the constraints of the site.

Ensure these details are consistent with preliminary site plans, landscaping plans, and architectural plans submitted with your application for planning and zoning approvals.

Following are design sheets for:

- Self-treating and self-retaining areas
- Pervious pavements
- Bioretention facilities
- Flow-through planter
- Dry wells and infiltration basins
- Cistern with bioretention facility

These design sheets include recommended configurations and details, and example applications, for these IMPs. **The information in these design sheets must be adapted and applied to the conditions specific to the development project such as unstable slopes or the lack of available head.**

Keep in mind that proper and functional design of the IMP is the responsibility of the applicant. Effective operation of the IMP throughout the project's lifetime will be the responsibility of the property owner.

Alternatives to Integrated LID Design

If you believe design of features and facilities as described above is infeasible for your development site, consult with City staff before preparing an alternative design for stormwater treatment, flow control, and LID compliance.

Local Requirements

Cities or the County may have requirements that differ from, or are in addition to, this countywide model SUSMP. Check with local planning and community development staff.

For all alternative designs, the applicant must prepare a complete Project Submittal, including a drawing showing the entire site divided into discrete Drainage Management Areas, text and tables showing how drainage is routed from each DMA to a treatment facility, and calculations demonstrating that the design achieves the applicable design criteria for each stormwater treatment facility. Alternative treatment facilities are limited to the circumstances and selection criteria identified. The Project Submittal must also show how the project meets the minimum LID criteria (page 35) and ensures runoff rates, durations,

and velocities are controlled to maintain or reduce downstream erosion conditions and protect stream habitat (NPDES Permit Provision D.1.d.(10)).

► DESIGN OF ALTERNATIVE TREATMENT FACILITIES

Here are criteria and design considerations for some alternative treatment facilities:

Sand Filters. To ensure effectiveness is not compromised by compacting or clogging of the filter surface, sand filters must be maintained frequently.

The following criteria apply to sand filters:

- Calculate the design flow using the rational method with an intensity of 0.2"/hour and the "C" factors for "treatment only" from Table 4-2.
- To determine the required filter surface area, divide the design flow by an allowable design surface loading rate of 5"/hour.
- The minimum depth of filter media is 18". The media should be washed sand, with gradation similar to that specified for fine aggregate in ASTM C-33.
- The entire filter area must be accessible for easy maintenance without the need to enter a confined space.

A typical filter design includes a gravel drain layer and a perforated pipe underdrain. Filter fabric may be used to prevent the filter media from entering the gravel layer.

The design should not include any permanent pool or other standing water. Instead of including a pretreatment basin, consider the following features in the area tributary to the filter to reduce the potential for filter clogging:

- Limit the size of the Drainage Management Area.
- Include only impervious areas in the DMA.
- Stabilize slopes and eliminate sources of sediment in the DMA.
- Provide screens for trash and leaves at storm drain inlets (if allowed by municipality).

For additional design considerations and details, see *Design of Stormwater Filtering Systems* by Richard A. Claytor and Thomas R. Schueler, The Center for Watershed Protection, 1996, and *California Stormwater BMP Handbooks* Fact Sheet TC-40, Media Filter.

Sand filters do not provide adequate hydromodification flow controls.

Extended ("Dry") Detention Basins. The required detention volume for water quality treatment based on the 85th percentile 24-hour storm depth. The steps to calculate the required detention volume are:

1. Use the County of San Diego's 85th Percentile Isopluvial Map to determine the unit basin volume.

2. Determine the weighted runoff factor ("C" factor) for the area tributary to the basin. The factors in Table 4-2 may be used.

3. Multiply the weighted runoff factor times the tributary area times the unit basin volume.

For maximum effectiveness the basin should not be sized substantially larger than this volume. If the basin is to be used for hydromodification flow control, then the BMP Sizing Calculator pond sizer or a continuous simulation model must be used to prove the basin meets peak flow and flow duration criteria

For design considerations and details, see the *California Stormwater Best Management Practice Handbooks*, Fact Sheet TC-22, "Extended Detention Basins." The basin outlet should be designed for a 24-hour drawdown time.

As noted in Fact Sheet TC-22, "dry" detention basins may not be practicable for drainage areas less than 5 acres. The potential for mosquito harborage is a concern. In the design, do not create any areas that will hold standing water for time periods in excess of the maximum vector control detention hours.

"Wet" Detention Ponds and Constructed Wetlands. The required water quality detention volume is determined as with a "dry" detention basin. Before proceeding with design, contact the local mosquito control agency to coordinate the design and plan ongoing inspection and maintenance of the facility for mosquito control. For design considerations and details, see the *California Stormwater Best Management Practices Handbooks,* Fact Sheet TC-20, "Wet Ponds," and Fact Sheet TC-21, "Constructed Wetlands."

Vegetated Swales. Design recommendations for conventional vegetated swales are in the *California Stormwater Best Management Practices Handbooks*. The conventional swale design uses available on-site soils and does not include an underdrain system. Where soils are clayey, there is little infiltration. Treatment occurs as runoff flows through grass or other vegetation before exiting at the downstream end. Recommended detention times are on the order of 10 minutes. It should be noted that such designs would not provide the required hydromodification flow control benefit.

Conventional vegetated swales may be used to meet NPDES permit treatment requirements and LID requirements (see page 21). The following should be incorporated in the design:

- Determine the weighted runoff factor ("C" factor) for the area tributary to the swale. The factors in Table 4-2 may be used.

- Calculate the design flow by multiplying the weighted runoff factor times the tributary area times either (1) 0.2 inches of rainfall per hour, or (2) twice the 85th percentile hourly rainfall intensity.

- When sizing the swale, use a value of 0.25 for Manning's "n".

- Ensure that all flow enters the swale near its highest point and that no flow short-circuits treatment by entering the swale along its length.
- The swale should be a minimum 100 feet in length.
- Longitudinal slopes should not exceed 2.5%; on flatter slopes, incorporate measures to avoid prolonged surface ponding.

Consider using linear-shaped bioretention areas (see page 60) in place of conventional vegetated swales because:

- Conventional swale design has resulted in standing water and associated nuisances.
- Conventional swales often don't obtain even the design residence time because of the length required and because proper design requires runoff enter the swale at the upstream end rather than at various locations along its length, and
- Bioretention areas provide a more flexible drainage design, more effective practicable treatment, and more effective flow control within the same footprint.

► TREATMENT FACILITIES FOR SPECIAL CIRCUMSTANCES

Higher-rate surface filters and vault-based proprietary filters can only be used in the circumstances described beginning on page 31 and when sand filters, extended "dry" detention basins, and "wet" detention ponds or constructed wetlands have been found infeasible.

For surface filters, the grading and drainage design should minimize the area draining to each unit and maximize the number of discrete drainage areas and units. Proprietary facilities should be installed consistent with the manufacturer's instructions.

Such facilities do not provide hydromodification flow control benefit.

References and Resources:

- RWQCB Order R9-2007-0001 (Stormwater NPDES Permit)
- Low Impact Development Center
- *County of San Diego Low Impact Development Handbook*
- *California Best Management Practices Handbooks*
- *Design of Stormwater Filtering Systems* (Claytor and Scheuler, 1996)
- American Rainwater Catchment Systems Association
- Water Conservation Alliance of Southern Arizona
- *Rainwater Harvesting for Drylands and Beyond*
- *The Texas Manual on Rainwater Harvesting*
- *Managing Wet Weather With Green Infrastructure: Municipal Handbook, Rainwater Harvesting Policies* (Low Impact Development Center, 2008)

Self-Treating and Self-Retaining Areas

Best Uses

- Heavily landscaped sites

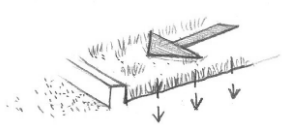
Advantages

- No maintenance verification requirement
- Complements site landscaping

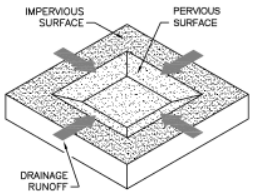
Limitations

- Requires substantial square footage
- Grading requirements must be coordinated with landscape design

► CRITERIA



Rainfall on self-treating areas infiltrates or—during intense storms— drains directly off-site or to the storm drain system.



Self-retaining areas are designed to retain the first one inch of rainfall without producing any runoff. During intense storms, runoff may drain off-site, to the storm drain system, or to IMPs.

LID design seeks to manage runoff from roofs and paving so effects on water quality and hydrology are minimized. Runoff from landscaping, however, does not need to be managed the same way.

Runoff from landscaping can be managed by creating self-treating and self-retaining areas.

Self-treating areas are natural, landscaped, or turf areas that drain directly off site or to the storm drain system. Examples include upslope undeveloped areas that are ditched and drained around a development and grassed slopes that drain offsite to a street or storm drain. Self-treating areas may not drain on to adjacent paved areas.

Where a landscaped area is upslope from or surrounded by paved areas, a **self-retaining area** (also called a zero-discharge area) may be created. Self-retaining areas are designed to retain the first one inch of rainfall without producing any runoff. The technique works best on flat, heavily landscaped sites. It may be used on mild slopes if there is a reasonable expectation that the first inch of rainfall would produce no runoff.

To create self-retaining turf and landscape areas in flat areas or on terraced slopes, berm the area or depress the grade into a concave cross-section so that these areas will retain the first inch of rainfall. Inlets of area drains, if any, should be set 3 inches above the low point to allow ponding.

Areas draining to self retaining areas. Drainage from roofs and paving can be directed to self-retaining areas and allowed to infiltrate into the soil. The maximum allowable ratio is 2 parts impervious: 1 part pervious.

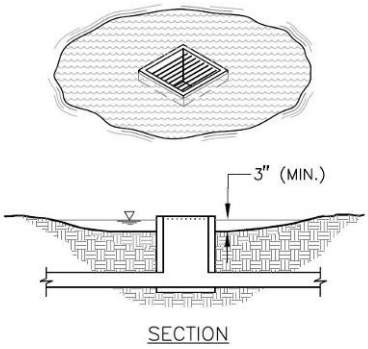
The self-retaining area must be bermed or depressed to retain an inch of rainfall including the flow from the tributary impervious area.

► DETAILS

Drainage from self-treating areas must flow to off-site streets or storm drains without flowing on to paved areas.

Pavement within a self-treating area cannot exceed 5% of the total area.

In self-retaining areas, overflows and area drain inlets should be set high enough to ensure ponding over the entire surface of the self-retaining area.



Set overflows and area drain inlets high enough to ensure ponding (3" deep) over the surface of the self-retaining area.

Self–retaining areas should be designed to promote even distribution of ponded runoff over the area.

Leave enough reveal (from pavement down to landscaped surface) to accommodate buildup of turf or mulch.

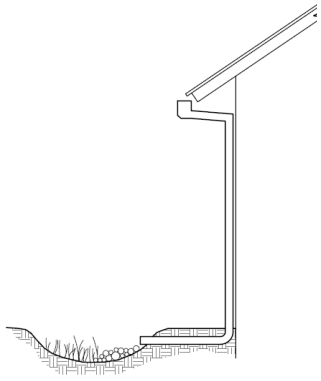
► APPLICATIONS

Lawn or landscaped areas adjacent to streets can be considered self-treating areas.

Self-retaining areas can be created by depressing lawn and landscape below surrounding sidewalks and plazas.

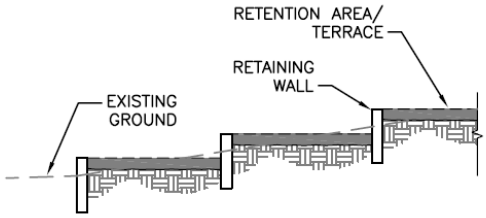
Runoff from walkways or driveways in parks and park-like areas can sheet-flow to self-retaining areas.

Roof leaders can be connected to self-retaining areas by piping beneath plazas and walkways. If necessary, a "bubble-up" can be used.



Connecting a roof leader to a self-retaining area. The head from the eave height makes it possible to route roof drainage some distance away from the building.

Self-retaining areas can be create[illegible] ne elevation difference promotes subsurface drainage.



Mild slopes can be terraced to create self-retaining areas.

► DESIGN CHECKLIST FOR SELF-TREATING AREAS

- ❒ The self-treating area is at least 95% lawn or landscaping (not more than 5% impervious).
- ❒ Re-graded or re-landscaped areas have amended soils, vegetation, and irrigation as may be required to maintain soil stability and permeability.
- ❒ Runoff from the self-treating area does not enter an IMP or another drainage management area, but goes directly to the storm drain system.

► DESIGN CHECKLIST FOR SELF-RETAINING AREAS

- ❒ Area is bermed all the way around or graded concave.
- ❒ Slopes do not exceed 4%.
- ❒ Entire area is lawn, landscaping, or pervious pavement (see criteria in Chapter 4).
- ❒ Area has amended soils, vegetation, and irrigation as may be required to maintain soil stability and permeability.
- ❒ Any area drain inlets are at least 3 inches above surrounding grade.

► DESIGN CHECKLIST FOR AREAS DRAINING TO SELF-RETAINING AREAS

- ❒ Ratio of tributary impervious area to self-retaining area is not greater than 2:1.
- ❒ Roof leaders collect runoff and route it to the self-retaining area.
- ❒ Paved areas are sloped so drainage is routed to the self-retaining area.
- ❒ Inlets are designed to protect against erosion and distribute runoff across the area.

Pervious Pavements

► CRITERIA

Impervious roadways, driveways, and parking lots account for much of the hydrologic impact of land development. In contrast, pervious pavements allow rainfall to collect in a gravel or sand base course and infiltrate into native soil.

Pervious pavements are designed to transmit rainfall through the surface to storage in a base course. For example, a 4-inch-deep base course provides approximately 1.6 inches of storage. Runoff stored in the base course infiltrates to native soils over time. Except in the case of solid pavers, the surface course provides additional storage.

Areas with the following pervious pavements may be regarded as "self-treating" and require no additional treatment or flow control if they drain off-site (not to an IMP).

- Pervious concrete
- Porous asphalt
- Crushed aggregate (gravel)
- Open pavers with grass or plantings
- Open pavers with gravel
- Artificial turf

Areas with these pervious pavements can also be **self-retaining areas** and may receive runoff from impervious areas if they are bermed or depressed to retain the first one inch of rainfall, including runoff from the tributary impervious area.

Solid unit pavers—such as bricks, stone blocks, or precast concrete shapes—are considered to reduce runoff compared to impervious pavement, when the unit pavers are set in sand or gravel with d" gaps between the pavers. Joints must be filled with an open-graded aggregate free of fines.

Best Uses

- Areas with permeable native soils
- Low-traffic areas
- Where aesthetic quality can justify higher cost

Advantages

- No maintenance verification requirement
- Variety of surface treatments can complement landscape design

Limitations

- Initial cost
- Placement requires specially trained crews
- Geotechnical concerns, especially in clay soils
- Concerns about pavement strength and surface integrity
- Some municipalities do not allow in public right of way

When draining pervious pavements to an IMP, use the runoff factors in Table 4-2.

► DETAILS

Permeable pavements can be used in clay soils; however, special design considerations, including an increased depth of base course, typically apply and will increase the cost of this option. Geotechnical fabric between the base course and underlying clay soil is recommended.

Pavement strength and durability typically determines the required depth of base course. If underdrains are used, the outlet elevation must be a minimum of 3 inches above the bottom elevation of the base course.

Pervious concrete and porous asphalt must be installed by crews with special training and tools. Industry associations maintain lists of qualified contractors.

Parking lots with crushed aggregate or unit pavers may require signs or bollards to organize parking.

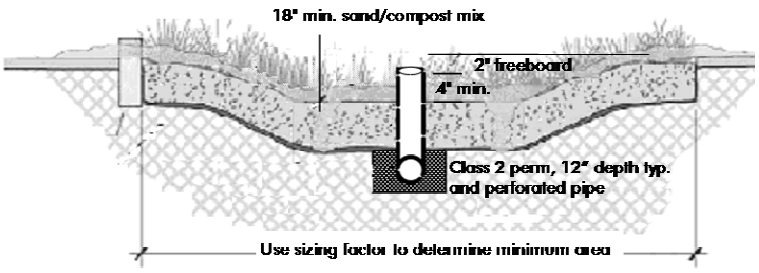
► DESIGN CHECKLIST FOR PERVIOUS PAVEMENTS

- ❒ No erodible areas drain on to pavement.
- ❒ Subgrade is uniform. Compaction is minimal.
- ❒ Reservoir base course is of open-graded crushed stone. Base depth is adequate to retain rainfall and support design loads.
- ❒ If a subdrain is provided, outlet elevation is a minimum of 3 inches above bottom of base course.
- ❒ Subgrade is uniform and slopes are not so steep that subgrade is prone to erosion.
- ❒ Rigid edge is provided to retain granular pavements and unit pavers.
- ❒ Solid unit pavers are installed with open gaps filled with open-graded aggregate free of fines.
- ❒ Permeable pavements are installed by industry-certified professionals according to vendor's recommendations.
- ❒ Selection and location of pavements incorporates Americans with Disabilities Act requirements, site aesthetics, and uses.

Resources

- Southern California Concrete Producers www.concreteresources.net.
- California Asphalt Pavement Association http://www.californiapavements.org/stormwater.html
- Interlocking Concrete Pavement Institute http://www.icpi.org/
- *Start at the Source Design Manual for Water Quality Protection,* pp. 47-53. www.basmaa.org
- *Porous Pavements,* by Bruce K. Ferguson. 2005. ISBN 0-8493-2670-2.

Bioretention Facilities



Bioretention facility configured for treatment-only requirements. Bioretention facilities can be rectangular, linear, or nearly any shape.

Bioretention detains runoff in a surface reservoir, filters it through plant roots and a biologically active soil mix, and then infiltrates it into the ground. Where native soils are less permeable, an underdrain conveys treated runoff to storm drain or surface drainage.

Bioretention facilities can be configured in nearly any shape. When configured as linear **swales**, they can convey high flows while percolating and treating lower flows.

Bioretention facilities can be configured as in-ground or above-ground planter boxes, with the bottom open to allow infiltration to native soils underneath. If infiltration cannot be allowed, use the sizing factors and criteria for the Flow-Through Planter.

► CRITERIA

For development projects subject only to runoff treatment requirements, the following criteria apply:

Parameter	Criterion
Soil mix depth	18 inches minimum
Soil mix minimum percolation rate	5 inches per hour minimum sustained (10 inches per hour initial rate recommended)
Soil mix surface area	0.04 times tributary impervious area (or equivalent)

Best Uses

- Commercial areas
- Residential subdivisions
- Industrial developments
- Roadways
- Parking lots
- Fit in setbacks, medians, and other landscaped areas

Advantages

- Can be any shape
- Low maintenance
- Can be landscaped

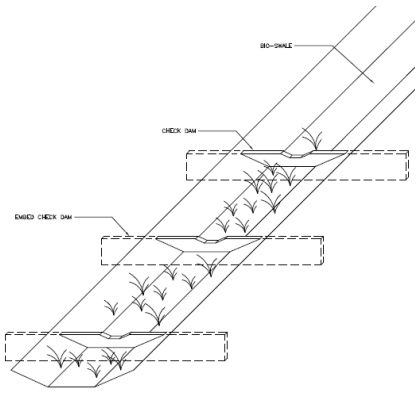
Limitations

- Require 4% of tributary impervious square footage
- Typically requires 3-4 feet of head
- Irrigation typically required

Parameter	Criterion
Surface reservoir depth	6 inches minimum; may be sloped to 4 inches where adjoining walkways.
Underdrain	Required in Group "C" and "D" soils. Perforated pipe embedded in gravel ("Class 2 permeable" recommended), connected to storm drain or other accepted discharge point.

► **DETAILS**

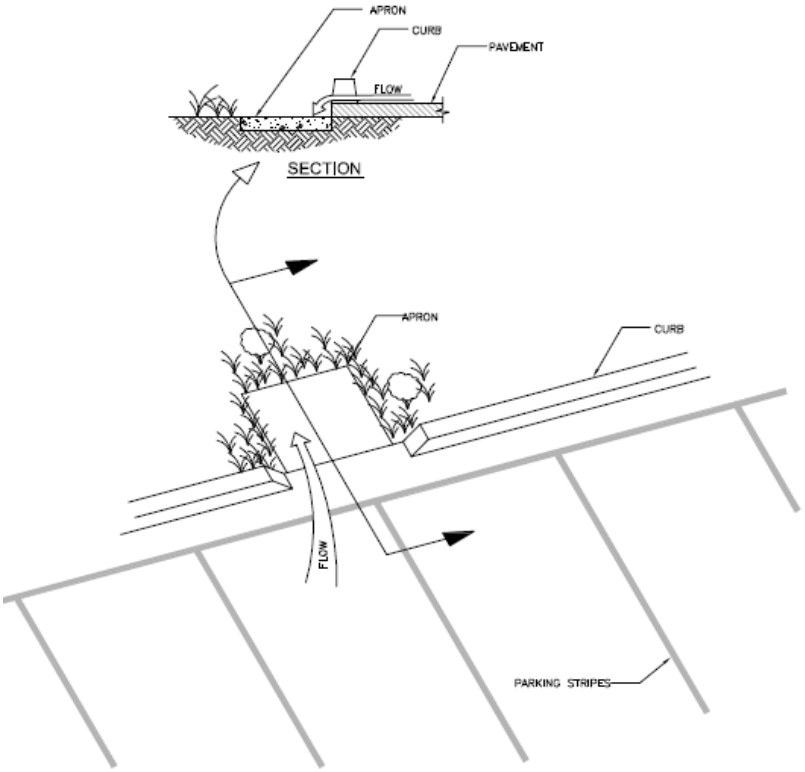
Plan. On the surface, a bioretention facility should be one level, shallow basin—or a series of basins. As runoff enters each basin, it should flood and fill throughout before runoff overflows to the outlet or to the next downstream basin. This will help prevent movement of surface mulch and soil mix.



Use check dams for linear bioretention facilities (swales) on a slope.

In a linear swale, check dams should be placed so that the lip of each dam is at least as high as the toe of the next upstream dam. A similar principle applies to bioretention facilities built as terraced roadway shoulders.

Inlets. Paved areas draining to the facility should be graded, and inlets should be placed, so that runoff remains as sheet flow or as dispersed as possible. Curb cuts should be wide (12" is recommended) to avoid clogging with leaves or debris. Allow for a minimum reveal of 4"-6" between the inlet and soil mix elevations to ensure turf or mulch buildup does not block the inlet. In addition, place an apron of stone or concrete, a foot square or larger, inside each inlet to prevent vegetation from growing up and blocking the inlet.



Recommended design details for bioretention facility inlets (see text).

Where runoff [illegible] landscaping from high-velocity flows with energy-dissipating rocks. In larger installations, provide cobble-lined channels to better distribute flows throughout the facility.

Upturned pipe outlets can be used to dissipate energy when runoff is piped from roofs and upgradient paved areas.

Soil mix. The required soil mix is similar to a loamy sand. It must maintain a minimum percolation rate of 5" per hour throughout the life of the facility, and it must be suitable for maintaining plant life. Typically, on-site soils will not be suitable due to clay content.

Storage and drainage layer. "Class 2 permeable," Caltrans specification 68-1.025, is recommended. Open-graded crushed rock, washed, may be used, but requires 4"-6" washed pea gravel be substituted at the top of the crushed rock gravel layers. **Do not use filter fabric** to separate the soil mix from the gravel drainage layer or the gravel drainage layer from the native soil.

Underdrains. No underdrain is required where native soils beneath the facility are Hydrologic Soil Group A or B. For treatment-only facilities where native soils are Group C or D, a

perforated pipe must be bedded in the gravel layer and must terminate at a storm drain or other approved discharge point.

Outlets. In treatment-only facilities, outlets must be set high enough to ensure the surface reservoir fills and the entire surface area of soil mix is flooded before the outlet elevation is reached. In swales, this can be achieved with appropriately placed check dams.

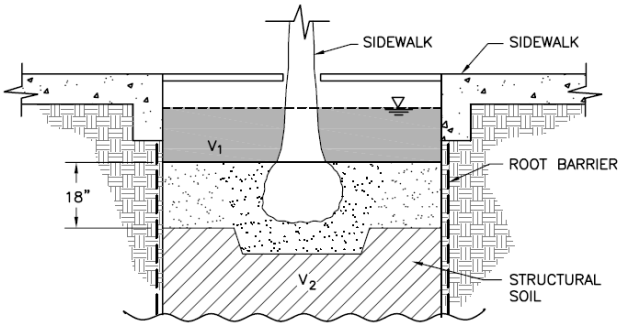
The outlet should be designed to exclude floating mulch and debris.

Vaults, utility boxes and light standards. It is best to locate utilities outside the bioretention facility—in adjacent walkways or in a separate area set aside for this purpose. If utility structures are to be placed within the facility, the locations should be anticipated and adjustments made to ensure the minimum bioretention surface area and volumes are achieved. Leaving the final locations to each individual utility can produce a haphazard, unaesthetic appearance and make the bioretention facility more difficult to maintain.

Emergency overflow. The site grading plan should anticipate extreme events and potential clogging of the overflow and route emergency overflows safely.

Trees. Bioretention areas can accommodate small or large trees. There is no need to subtract the area taken up by roots from the effective area of the facility. Extensive tree roots maintain soil permeability and help retain runoff. Normal maintenance of a bioretention facility should not affect tree lifespan.

The bioretention facility can be integrated with a tree pit of the required depth and filled with structural soil. If a root barrier is used, it can be located to allow tree roots to spread throughout the bioretention facility while protecting adjacent pavement. Locations and planting elevations should be selected to avoid blocking the facility's inlets and outlets.



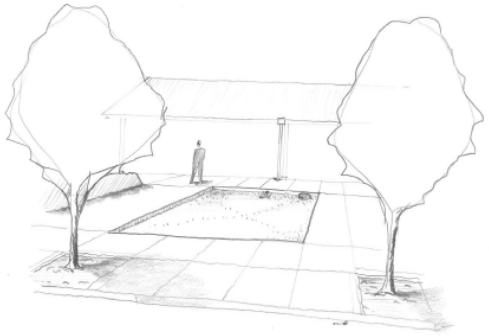
Bioretention facility configured as a tree well.
The root barrier is optional.

► APPLICATIONS

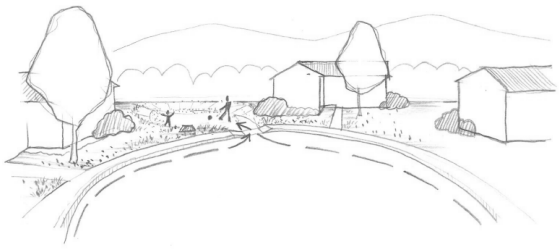
Multi-purpose landscaped areas. Bioretention facilities are easily adapted to serve multiple purposes. The loamy sand soil mix will support turf or a plant palette suitable to the location and a well-drained soil.

Example landscape treatments:

- Lawn with sloped transition to adjacent landscaping.
- Swale in setback area
- Swale in parking median
- Lawn with hardscaped edge treatment
- Decorative garden with formal or informal plantings
- Traffic island with low-maintenance landscaping
- Raised planter with seating
- Bioretention on a terraced slope



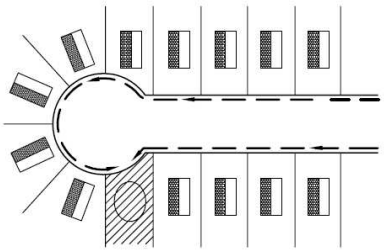
Bioretention facility configured as a recessed decorative lawn with hardscaped edge.



Bioretention facility configured and planted as a lawn/ play area.

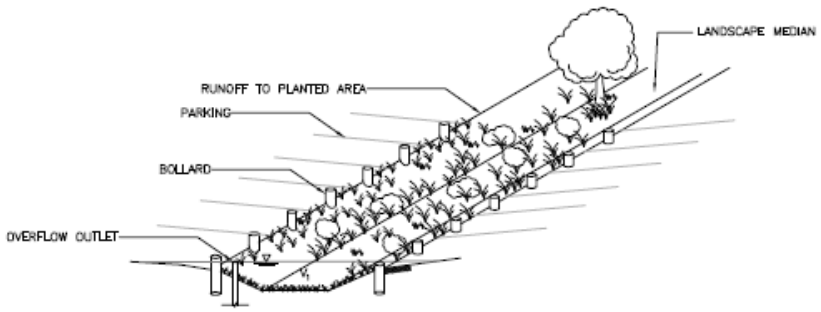
Residential subdivisions. Some subdivisions are designed to drain roofs and driveways to the streets (in the conventional manner) and then drain the streets to bioretention areas, with one bioretention area for each 1 to 6 lots, depending on subdivision layout and topography.

If allowed by the local jurisdiction, bioretention areas can be placed on a separate, dedicated parcel with joint ownership.



Bioretention facility receiving drainage from individual lots and the street in a residential subdivision.

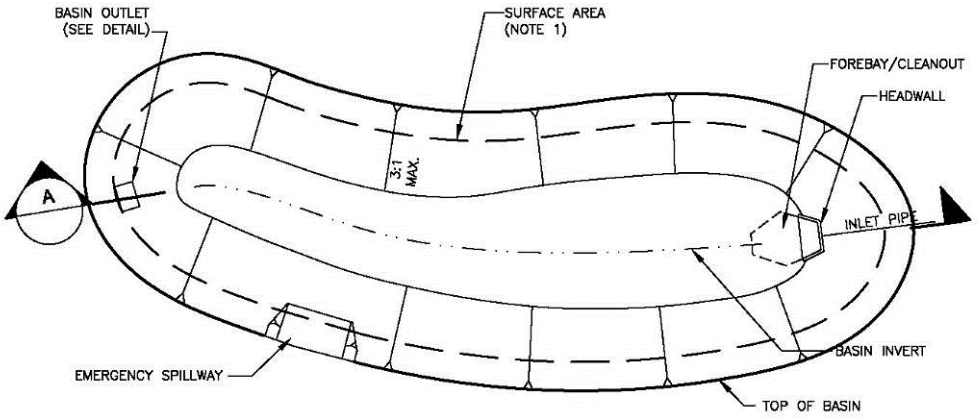
Sloped sites. Bioretention facilities must be constructed as a basin, or series of basins, with the circumference of each basin set level. It may be necessary to add curbs or low retaining walls.



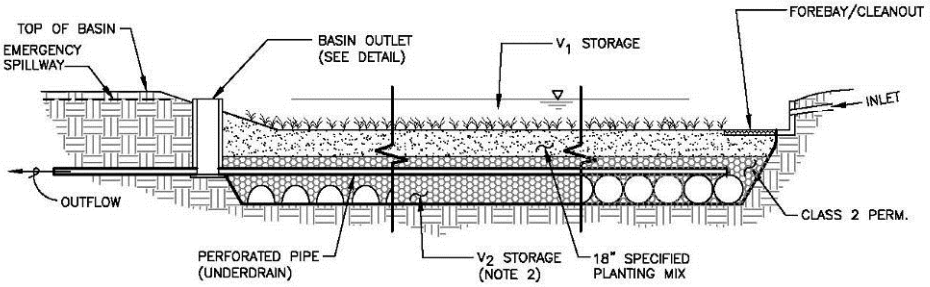
Bioretention facility configured as a parking median.
Note use of bollards in place of curbs, eliminating the need for curb cuts.

Design Checklist for Bioretention

- ❒ Volume or depth of surface reservoir meets or exceeds minimum.
- ❒ 18" depth "loamy sand" soil mix with minimum long-term percolation rate of 5"/hour.
- ❒ Area of soil mix meets or exceeds minimum.
- ❒ Perforated pipe underdrain bedded in "Class 2 perm" with connection and sufficient head to storm drain or discharge point (except in "A" or "B" soils).
- ❒ No filter fabric.
- ❒ Underdrain has a clean-out port consisting of a vertical, rigid, non-perforated PVC pipe, with a minimum diameter of 6 inches and a watertight cap.
- ❒ Location and footprint of facility are shown on site plan and landscaping plan.
- ❒ Bioretention area is designed as a basin (level edges) or a series of basins, and grading plan is consistent with these elevations. If facility is designed as a swale, check dams are set so the lip of each dam is at least as high as the toe of the next upstream dam.
- ❒ Inlets are 12" wide, have 4"-6" reveal and an apron or other provision to prevent blockage when vegetation grows in, and energy dissipation as needed.
- ❒ Overflow connected to a downstream storm drain or approved discharge point.
- ❒ Emergency spillage will be safely conveyed overland.
- ❒ Plantings are suitable to the climate and a well-drained soil.
- ❒ Irrigation system with connection to water supply.
- ❒ Vaults, utility boxes, and light standards are located outside the minimum soil mix surface area.
- ❒ When excavating, avoid smearing of the soils on bottom and side slopes. Minimize compaction of native soils and "rip" soils if clayey and/or compacted. Protect the area from construction site runoff.



PLAN VIEW
NOT TO SCALE



A SECTION
NOT TO SCALE

NOTE

1. SURFACE AREA LIMIT DETERMINED BY EXTENT OF SPECIFIED PLANTING MIX, WHICH IS GOVERNED BY THE OUTLET SPILL ELEVATION. FOR REQUIRED SURFACE AREA REFER TO THE FACTORS AND EQUATIONS IN THE STORMWATER C.3 GUIDEBOOK.
2. V_2 STORAGE ACCOMPLISHED WITH INFILTRATION ARCHES, PERFORATED PIPES, CLASS 2 PERM OR OTHER AT THE DESIGNERS DISCRETION.

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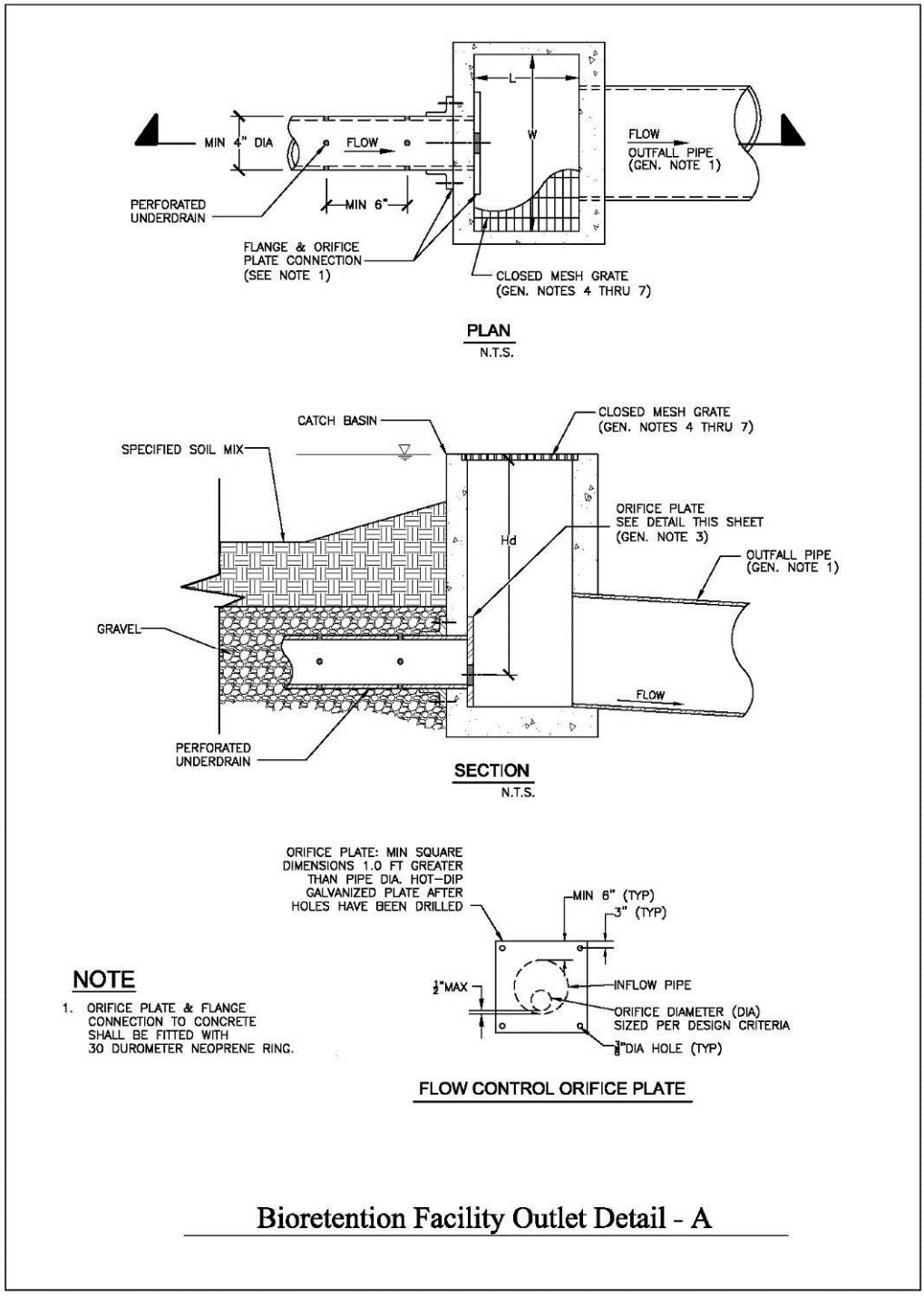
Bioretention Facility



Bioretention Facility Outlet Detail - A

Flow-through Planter

Portland 2004 Stormwater Manual

Best Uses

- Management of roof runoff
- Next to buildings
- Dense urban areas
- Where infiltration is not desired

Advantages

- Can be used next to structures
- Versatile
- Can be any shape
- Low maintenance

Limitations

- Can be used for flow-control only on sites with "C" and "D" soils
- Requires underdrain
- Requires 3-4 feet of head

Flow-through planters treat and detain runoff without allowing seepage into the underlying soil. They can be used next to buildings and on slopes where stability might be affected by adding soil moisture.

Flow-through planters typically receive runoff via downspouts leading from the roofs of adjacent buildings. However, they can also be set in-ground and receive sheet flow from adjacent paved areas.

Pollutants are removed as runoff passes through the soil layer and is collected in an underlying layer of gravel or drain rock. A perforated-pipe underdrain is typically connected to a storm drain or other discharge point. An overflow inlet conveys flows which exceed the capacity of the planter.

► CRITERIA

Treatment only. For development projects subject only to runoff treatment requirements, the following criteria apply:

Parameter	Criterion
Soil mix depth	18 inches minimum
Soil mix minimum percolation rate	5 inches per hour minimum sustained (10 inches per hour initial rate recommended)
Soil mix surface area	0.04 times tributary impervious area (or equivalent)
Surface reservoir depth	6" minimum; may be sloped to 4" where adjoining walkways.
Underdrain	Typically used. Perforated pipe embedded in gravel ("Class 2 permeable" recommended), connected to storm drain or other accepted discharge point.

► DETAILS

Configuration. The planter must be level. To avoid standing water in the subsurface layer, set the perforated pipe underdrain and orifice as nearly flush with the planter bottom as possible.

Inlets. Protect plantings from high-velocity flows by adding rocks or other energy-dissipating structures at downspouts and other inlets.

Soil mix. The required soil mix is similar to a loamy sand. It must maintain a minimum percolation rate of 5" per hour throughout the life of the facility, and it must be suitable for maintaining plant life. Typically, on-site soils will not be suitable due to clay content.

Gravel storage and drainage layer. "Class 2 permeable," Caltrans specification 68-1.025, is recommended. Open-graded crushed rock, washed, may be used, but requires 4"-6" of washed pea gravel be substituted at the top of the crushed rock layer. **Do not use filter fabric** to separate the soil mix from the gravel drainage layer.

Emergency overflow. The planter design and installation should anticipate extreme events and potential clogging of the overflow and route emergency overflows safely.

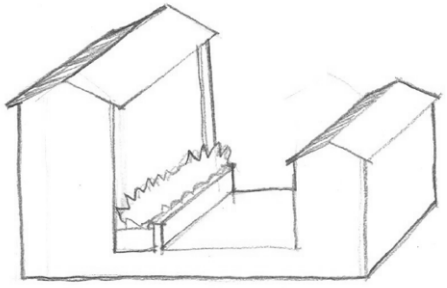
► APPLICATIONS

Adjacent to buildings. Flow-through planters may be located adjacent to buildings, where the planter vegetation can soften the visual effect of the building wall. A setback with a raised planter box may be appropriate even in some neo-traditional pedestrian-oriented urban streetscapes.

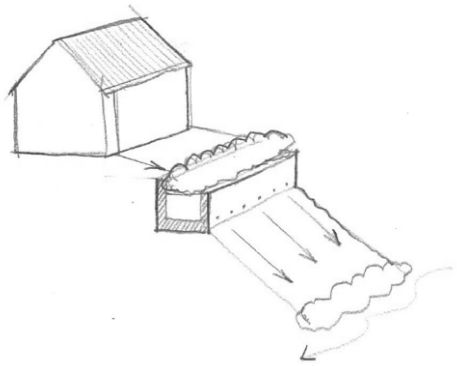
At plaza level. Flow-through planters have been successfully incorporated into podium-style developments, with the planters placed on the plaza level and receiving runoff from the tower

roofs above. Runoff from the plaza level is typically managed separately by additional flow-through planters or bioretention facilities located at street level.

Steep slopes. Flow-through planters provide a means to detain and treat runoff on slopes that cannot accept infiltration from a bioretention facility. The planter can be built into the slope similar to a retaining wall. The design should consider the need to access the planter for periodic maintenance. Flows from the planter underdrain and overflow must be directed in accordance with local requirements. It is sometimes possible to disperse these flows to the downgradient hillside.



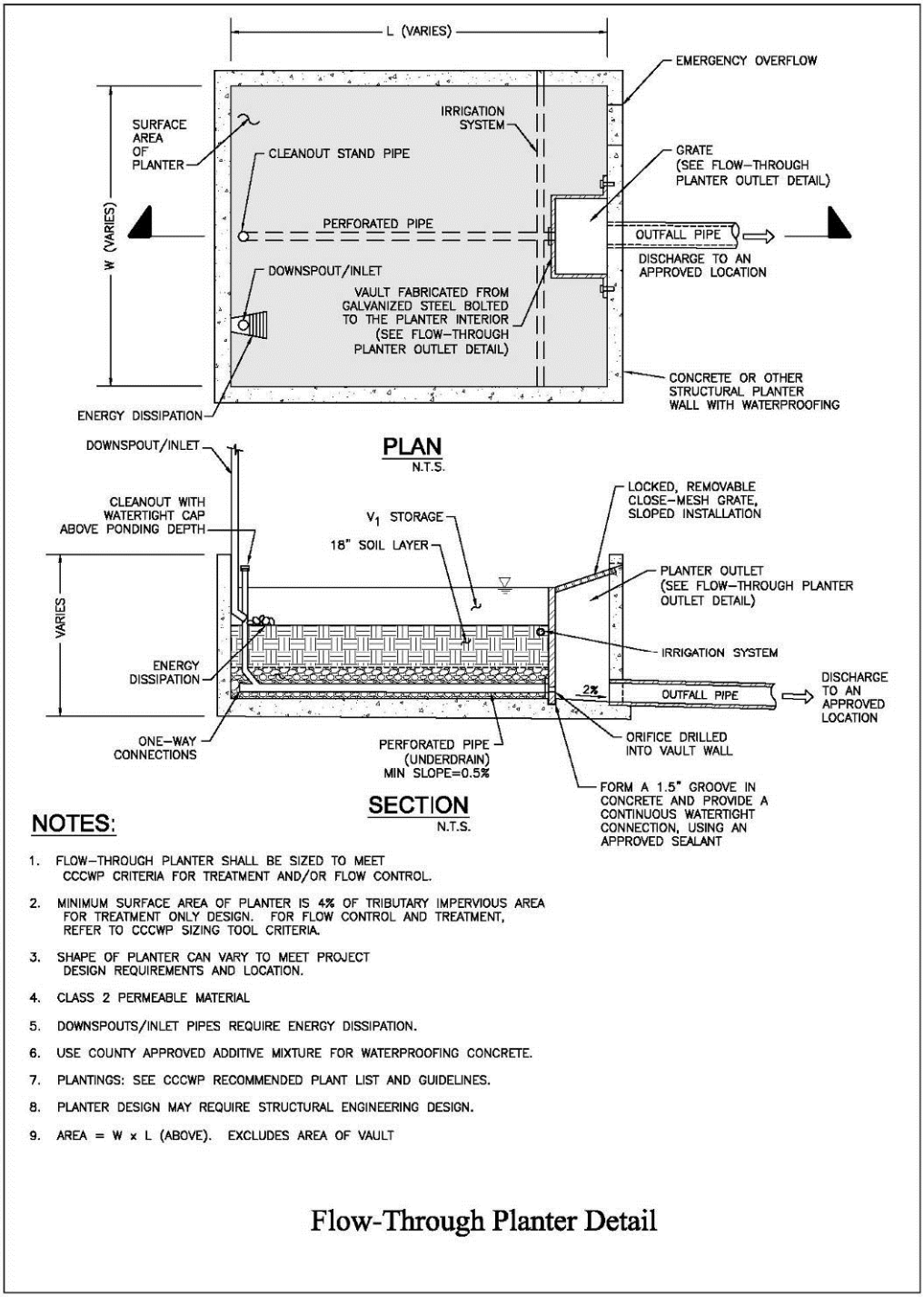
Flow-through planter on the plaza level of a podium-style development.



Flow-through planter built into a hillside. Flows from the underdrain and overflow must be directed in accordance with local requirements.

Design Checklist for Flow-through Planter

- ❒ Reservoir depth is 4-6" minimum.
- ❒ 18" depth "loamy sand" soil mix with minimum long-term infiltration rate of 5"/hour.
- ❒ Area of soil mix meets or exceeds minimum.
- ❒ "Class 2 perm" drainage layer.
- ❒ No filter fabric.
- ❒ Perforated pipe underdrain with outlet located flush or nearly flush with planter bottom. Connection with sufficient head to storm drain or discharge point.
- ❒ Underdrain has a clean-out port consisting of a vertical, rigid, non-perforated PVC pipe, with a minimum diameter of 6 inches and a watertight cap.
- ❒ Overflow connected to a downstream storm drain or approved discharge point.
- ❒ Location and footprint of facility are shown on site plan and landscaping plan.
- ❒ Planter is set level.
- ❒ Emergency spillage will be safely conveyed overland.
- ❒ Plantings are suitable to the climate and a well-drained soil.
- ❒ Irrigation system with connection to water supply.



NOTES:

1. FLOW-THROUGH PLANTER SHALL BE SIZED TO MEET CCCWP CRITERIA FOR TREATMENT AND/OR FLOW CONTROL.
2. MINIMUM SURFACE AREA OF PLANTER IS 4% OF TRIBUTARY IMPERVIOUS AREA FOR TREATMENT ONLY DESIGN. FOR FLOW CONTROL AND TREATMENT, REFER TO CCCWP SIZING TOOL CRITERIA.
3. SHAPE OF PLANTER CAN VARY TO MEET PROJECT DESIGN REQUIREMENTS AND LOCATION.
4. CLASS 2 PERMEABLE MATERIAL
5. DOWNSPOUTS/INLET PIPES REQUIRE ENERGY DISSIPATION.
6. USE COUNTY APPROVED ADDITIVE MIXTURE FOR WATERPROOFING CONCRETE.
7. PLANTINGS: SEE CCCWP RECOMMENDED PLANT LIST AND GUIDELINES.
8. PLANTER DESIGN MAY REQUIRE STRUCTURAL ENGINEERING DESIGN.
9. AREA = W x L (ABOVE). EXCLUDES AREA OF VAULT

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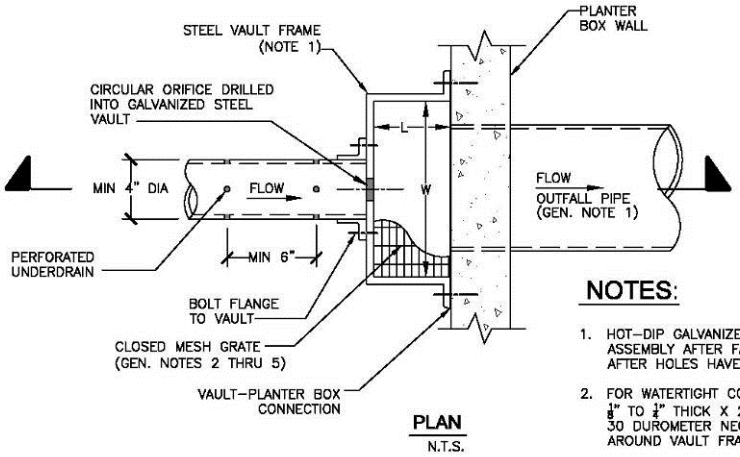
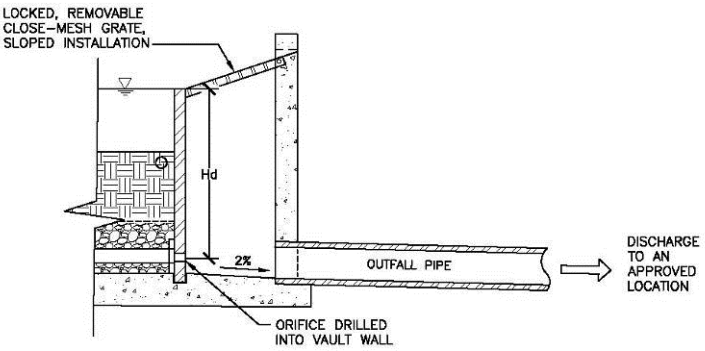
Flow-Through Planter Detail



PLAN
N.T.S.

NOTES:

1. HOT–DIP GALVANIZE ENTIRE FRAME ASSEMBLY AFTER FABRICATION AND AFTER HOLES HAVE BEEN DRILLED.
2. FOR WATERTIGHT CONNECTION, INSTALL $\frac{1}{8}$" TO $\frac{1}{4}$" THICK X 2" WIDE CONTINUOUS 30 DUROMETER NEOPRENE GASKET, ALL AROUND VAULT FRAME.



SECTION
N.T.S.

GENERAL OUTLET DETAIL NOTES:

1. OUTFALL PIPE SHALL BE SIZED TO CONVEY DESIGN STORM PER CCCWP DESIGN CRITERIA.
2. GRATE SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
3. GRATE SHALL BE STAINLESS STEEL, ALUMINUM OR STEEL. STEEL GRATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER PAINTED AFTER GALVANIZING.
4. GRATE SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
5. STRUCTURAL DESIGN OF GRATE SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF GRATE.

Flow-Through Planter Outlet Detail

Dry Wells and Infiltration Basins

The typical dry well is a prefabricated structure, such as an open-bottomed vault or box, placed in an excavation or boring. The vault may be empty, which provides maximum space efficiency, or may be filled in rock.

An infiltration basin has the same functional components—a volume to store runoff and sufficient area to infiltrate that volume into the native soil—but is open rather than covered.

Best Uses

- Alternative to bioretention in areas with permeable soils

Advantages

- Compact footprint
- Can be installed in paved areas

Limitations

- Can be used only on sites with "A" and "B" soils
- Requires minimum of 10' from bottom of facility to seasonal high groundwater
- Not suitable for drainage from some industrial areas or arterial roads
- Must be maintained to prevent clogging.

► CRITERIA

Dry wells and infiltration basins must be designed with the minimum volume calculated by Equation 4-8 using a unit volume based on the County of San Diego's 85th Percentile Isopluvial Map.

Consult with the local jurisdiction engineer regarding the need to verify soil permeability and other site conditions are suitable for dry wells and infiltration basins. Some proposed criteria are on Page 5-12 of Caltrans' 2004 *BMP Retrofit Pilot Study Final Report* (CTSW-RT-01-050).

The infiltration rate and infiltrative area must be sufficient to drain a full facility within 72 hours.

► DETAILS

Dry wells should be sited to allow for the potential future need for removal and replacement.

In locations where native soils are coarser than a medium sand, the area directly beneath the facility should be over-excavated by two feet and backfilled with sand as a groundwater protection measure.

Design Checklist for Dry Well

- ❒ Volume and infiltrative area meet or exceed minimum.
- ❒ Overflow connected to a downstream storm drain or approved discharge point.
- ❒ Emergency spillage will be safely conveyed overland.
- ❒ Depth from bottom of the facility to seasonally high groundwater elevation is ≥10'.
- ❒ Areas tributary to the facility do not include automotive repair shops; car washes; fleet storage areas (Bus, truck, etc.); nurseries, or other uses that may present an exceptional threat to groundwater quality.
- ❒ Underlying soils are in Hydrologic Soil Group A or B. Infiltration rate is sufficient to ensure a full basin will drain completely within 72 hours. Soil infiltration rate has been confirmed.
- ❒ Set back from structures 10' or as recommended by structural or geotechnical engineer

Cistern with Bioretention Facility

A cistern in series with a bioretention facility can meet treatment requirements where space is limited. In this configuration, the cistern is equipped with a flow-control orifice and the bioretention facility is sized to treat a trickle outflow from the cistern.

Best Uses

- In series with a bioretention facility to meet treatment requirement in limited space.
- Management of roof runoff
- Dense urban areas

Advantages

- Storage volume can be in any configuration

Limitations

- Somewhat complex to design, build, and operate
- Requires head for both cistern and bioretention facility

► CRITERIA

Cistern. The cistern must detain the volume calculated by Equation 4-8 and must include an orifice or other device designed for a 24-hour drawdown time.

Bioretention facility. See the design sheet for bioretention facilities. The area of the bioretention facility must be sized to treat the maximum discharge flow, assuming a percolation rate of 5" per hour through the engineered soil.

Use with sand filter. A cistern in series with a sand filter can meet treatment requirements. See the discussion of treatment facility selection in Chapter 2 and the design guidance for sand filters in Chapter 4.

► DETAILS

Flow-control orifice. The cistern must be equipped with an orifice plate or other device to limit flow to the bioretention area.

Preventing mosquito harborage. Cisterns should be designed to drain completely, leaving no standing water. Drains should be located flush with the bottom of the cistern. Alternatively—or in addition—all entry and exit points, should be provided with traps or sealed or screened to prevent mosquito entry. Note mosquitoes can enter through openings 1/16" or larger and will fly for many feet through pipes as small as ¼".

Exclude debris. Provide leaf guards and/or screens to prevent debris from accumulating in the cistern.

Ensure access for maintenance. Design the cistern to allow for cleanout. Avoid creating the need for maintenance workers to enter a confined space. Ensure the outlet orifice can be easily accessed for cleaning and maintenance.

► APPLICATIONS

Shallow ponding on a flat roof. The "cistern" storage volume can be designed in any configuration, including simply storing rainfall on the roof where it falls and draining it away slowly. See the County of San Diego's 85th percentile isopluvial diagrams for required average depths.

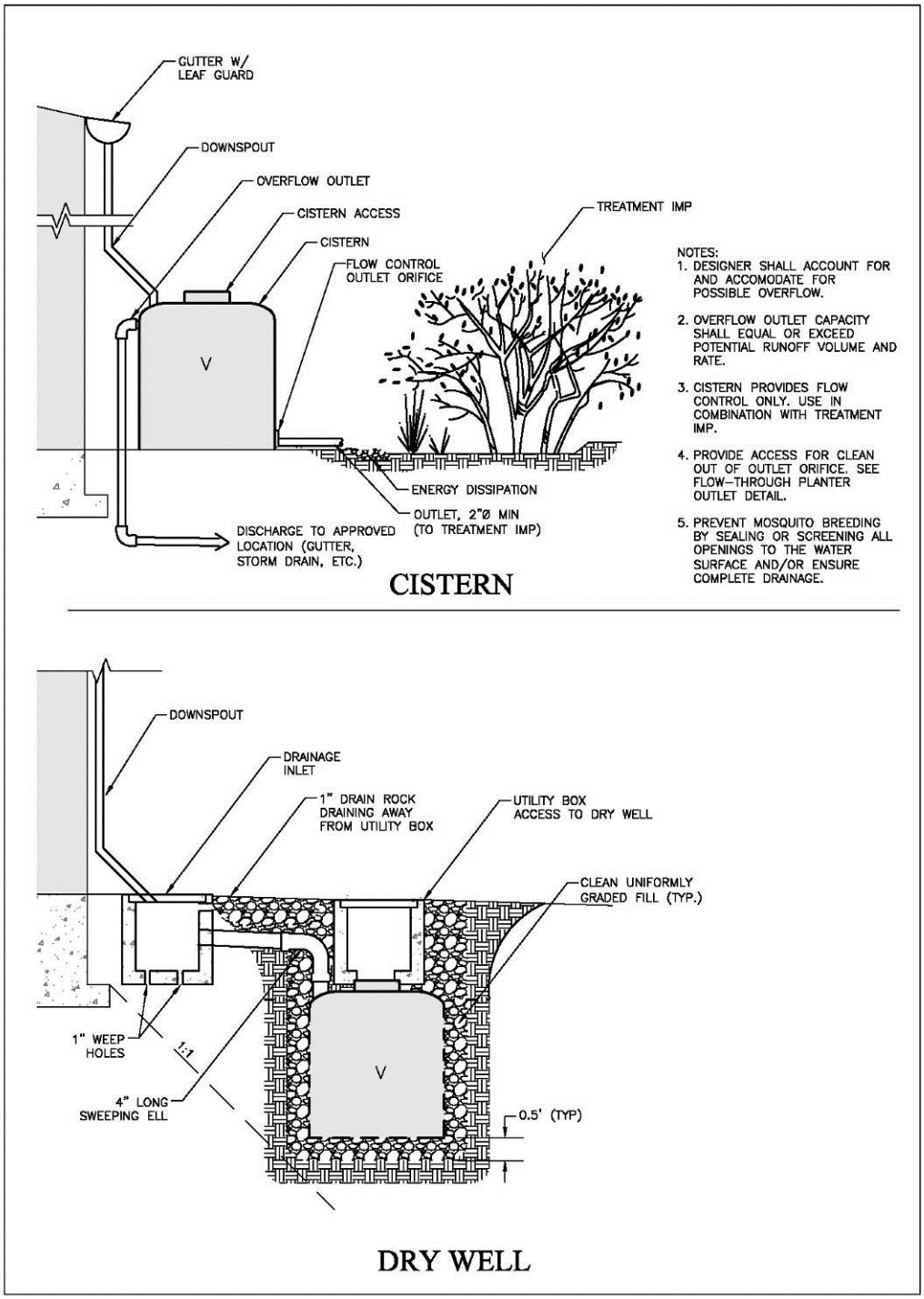
Cistern attached to a building and draining to a planter. This arrangement allows a planter box to be constructed with a smaller area.

Vault with pumped discharge to bioretention facility. In this arrangement, runoff from a parking lot and/or building roofs can be captured and detained underground and then pumped to a bioretention facility on the surface. Alternatively, treatment can be accomplished with a sand filter. See the discussion of selection of stormwater treatment facilities in Chapter 2.

Water harvesting or graywater reuse. It may be possible to create a site-specific design that uses cisterns to achieve stormwater flow control, stormwater treatment, and rainwater reuse for irrigation or indoor uses (**water harvesting**). Facilities must meet criteria for capturing and treating the volume specified by Equation 4-8. This volume must be allowed to empty within 24 hours so runoff from additional storms, which may follow, is also captured and treated. Additional volume may be required if the system also stores runoff for longer periods for reuse. Indoor uses of non-potable water may be restricted or prohibited. Check with municipal staff.

Design Checklist for Cistern

- ❒ Volume meets or exceeds minimum.
- ❒ Outlet with orifice or other flow-control device restricts flow and is designed to provide a 24-hour drawdown time.
- ❒ Outlet is piped to a bioretention facility designed to treat the maximum discharge from the cistern orifice.
- ❒ Cistern is designed to drain completely and/or sealed to prevent mosquito harborage.
- ❒ Design provides for exclusion of debris and accessibility for maintenance.
- ❒ Overflow connected to a downstream storm drain or approved discharge point.
- ❒ Emergency spillage will be safely conveyed overland.


GUTTER W/
LEAF GUARD
DOWNSPOUT
OVERFLOW OUTLET
CISTERN ACCESS
CISTERN
FLOW CONTROL
OUTLET ORIFICE
TREATMENT IMP
V
ENERGY DISSIPATION
OUTLET, 2"Ø MIN
(TO TREATMENT IMP)
DISCHARGE TO APPROVED
LOCATION (GUTTER,
STORM DRAIN, ETC.)
NOTES:
1. DESIGNER SHALL ACCOUNT FOR AND ACCOMODATE FOR POSSIBLE OVERFLOW.
2. OVERFLOW OUTLET CAPACITY SHALL EQUAL OR EXCEED POTENTIAL RUNOFF VOLUME AND RATE.
3. CISTERN PROVIDES FLOW CONTROL ONLY. USE IN COMBINATION WITH TREATMENT IMP.
4. PROVIDE ACCESS FOR CLEAN OUT OF OUTLET ORIFICE. SEE FLOW-THROUGH PLANTER OUTLET DETAIL.
5. PREVENT MOSQUITO BREEDING BY SEALING OR SCREENING ALL OPENINGS TO THE WATER SURFACE AND/OR ENSURE COMPLETE DRAINAGE.
CISTERN
DOWNSPOUT
DRAINAGE
INLET
1" DRAIN ROCK
DRAINING AWAY
FROM UTILITY BOX
UTILITY BOX
ACCESS TO DRY WELL
CLEAN UNIFORMLY
GRADED FILL (TYP.)
1" WEEP
HOLES
1:1
4" LONG
SWEEPING ELL
V
0.5' (TYP)
DRY WELL

Chapter

5

Operation & Maintenance of Stormwater Facilities

How to prepare a customized Stormwater Maintenance Plan for the treatment BMPs on your site.

The stormwater NPDES Permit requires the City to verify all treatment and flow-control facilities are adequately maintained. Facilities you install as part of your project will be verified for effectiveness and proper performance. The City may also verify the ongoing function of stormwater management features that are not treatment or flow control facilities, such as permeable pavements and limitations on impervious area.

Operation and maintenance of stormwater facilities is a six-stage process:

1. Determine **who will own** the facility and be responsible for the maintenance of treatment facilities. Identify the means by which ongoing maintenance will be assured (for example, a maintenance agreement that runs with the land).

2. Identify typical maintenance requirements, and allow for these requirements in your project planning and preliminary design.

3. Prepare a **maintenance plan** for the site incorporating detailed requirements for **each treatment and flow-control facility**.

4. **Maintain** the facilities from the time they are constructed until ownership and maintenance responsibility is formally transferred.

5. **Formally transfer** operation and maintenance **responsibility** to the site owner or occupant. A warranty, secured by a bond, or other financial instrument, may be required to secure against lack of performance due to flaws in design or construction.

6. Maintain the facilities in perpetuity and comply with your municipality's self-inspection, reporting, and verification requirements.

See the schedule for these stages in Table 5-1.

Stage 1: Ownership and Responsibility

You must specify a means to **ensure maintenance** of treatment and flow-control facilities **in perpetuity.**

Depending on the intended use of your site, this may require one or more of the following:

- Execution of a maintenance agreement that "runs with the land."
- Formation of a new community facilities district or other special district, or addition of the properties to an existing special district.
- Dedication of fee title or easement transferring ownership of the facility (and the land under it) to the City.

Ownership and maintenance responsibility for treatment and flow-control facilities should be discussed at the **beginning of project planning**, typically at the pre-application meeting for planning and zoning review. Experience has shown provisions to finance and implement maintenance of treatment and flow-control facilities can be a major stumbling block to project approval, particularly for **small residential subdivisions**. (See "New Subdivisions" in Chapter 1.)

► PRIVATE OWNERSHIP AND MAINTENANCE

The municipality may require—as a condition of project approval—that a maintenance agreement be executed.

TABLE 5-1. Schedule for Planning Operation and Maintenance of Stormwater Treatment BMPs.

Stage	*Description*	*Schedule*
1	Determine facility ownership and maintenance responsibility	Discuss with planning staff at pre-application meeting
2	Identify typical maintenance requirements	In initial submittal, coordinate with planning & zoning application
3	Develop detailed operation and maintenance plan	As required by municipality
4	Interim operation and maintenance of facilities	During and following construction including warranty period
5	Formal transfer of operation & maintenance responsibility	On sale and transfer of property or permanent occupancy
6	Ongoing maintenance and compliance with inspection & reporting requirements	In perpetuity

Typically, these agreements may provide that the City may collect a management and/or inspection fee established by a standard fee schedule. The agreement may provide that, if the property owner fails to maintain the stormwater facility, the City may enter the property, restore the stormwater facility to good working order and obtain reimbursement, including administrative costs, from the property owner.

Stage 2: General Maintenance Requirements

Include in your Project Submittal a general description of anticipated facility maintenance requirements. This will help ensure that:

- Ongoing costs of maintenance have been considered in your facility selection and design.
- Site and landscaping plans provide for access for inspections and by maintenance equipment.
- Landscaping plans incorporate irrigation requirements for facility plantings.
- Initial maintenance and replacement of facility plantings is incorporated into landscaping contracts and guarantees.

Fact sheets available on the Project Clean Water web page describe general maintenance requirements for the types of stormwater facilities featured in the LID Design Guide (Chapter 4). You can use this information to specify general maintenance requirements in your Project Submittal.

Maintenance fact sheets for conventional stormwater facilities are available in the California Stormwater BMP Handbooks.

Stage 3: Detailed Maintenance Plan

Prepare and submit a detailed maintenance plan. Your detailed maintenance plan should be kept on-site for use by maintenance personnel and during site inspections. It is also recommended that a copy of your initial Project Submittal be kept onsite as a reference.

► YOUR DETAILED MAINTENANCE PLAN: STEP BY STEP

The following step-by-step guidance will help you prepare your detailed maintenance plan.

Preparation of the plan will require familiarity with your stormwater facilities as they have been or will be constructed and a fair amount of "thinking through" plans for their operation and maintenance.

► STEP 1: DESIGNATE RESPONSIBLE INDIVIDUALS

To begin creating your detailed maintenance plan, designate and identify:

- The individual who will have direct responsibility for the maintenance of stormwater controls. This individual should be the designated contact with City inspectors and should sign self-inspection reports and any correspondence with the City regarding verification inspections.
- Employees or contractors who will report to the designated contact and are responsible for carrying out BMP operation and maintenance.
- The corporate officer authorized to negotiate and execute any contracts that might be necessary for future changes to operation and maintenance or to implement remedial measures if problems occur.
- Your designated respondent to problems, such as clogged drains or broken irrigation mains, that would require immediate response should they occur during off-hours.

Updated contact information must be provided to the City immediately whenever a property is sold and whenever designated individuals or contractors change.

Draw or sketch an **organization chart** to show the relationships of authority and responsibility between the individuals responsible for maintenance. This need not be elaborate, particularly for smaller organizations.

Describe how **funding for BMP operation and maintenance** will be assured, including sources of funds, budget category for expenditures, process for establishing the annual maintenance budget, and process for obtaining authority should unexpected expenditures for major corrective maintenance be required.

Describe how your organization will accommodate initial **training** of staff or contractors regarding the purpose, mode of operation, and maintenance requirements for the stormwater facilities on your site. Also, describe how your organization will ensure ongoing training as needed and in response to staff changes.

► STEP 2: SUMMARIZE DRAINAGE AND BMPS

Incorporate the following information from your Project Submittal into your maintenance plan:

- Figures delineating and designating pervious and impervious areas.
- Figures showing locations of stormwater facilities on the site.
- Tables of pervious and impervious areas served by each facility.

Review the Project Submittal narrative, if any, that describes each facility and its tributary drainage area and update the text to incorporate any changes that may have occurred during planning and zoning review, building permit review, or construction. Incorporate the updated text into your maintenance plan.

► STEP 3: DOCUMENT FACILITIES "AS BUILT"

Include the following information from final construction drawings:

- Plans, elevations, and details of all facilities. Annotate if necessary with designations used in the initial Project Submittal.
- Design information or calculations submitted in the detailed design phase (i.e., not included in the initial Project Submittal.)
- Specifications of construction for facilities, including sand or soil, compaction, pipe materials and bedding.

In the maintenance plan, note field changes to design drawings, including changes to any of the following:

- Location and layouts of inflow piping, flow splitter boxes, and piping to off-site discharge
- Depths and layering of soil, sand, or gravel
- Placement of filter fabric or geotextiles
- Changes or substitutions in soil or other materials.
- Natural soils encountered (e.g., sand or clay lenses)

► STEP 4: PREPARE MAINTENANCE PLANS FOR EACH FACILITY

Prepare a maintenance plan, schedule, and inspection checklists (routine, annual, and after major storms) for each facility. Plans and schedules for two or more similar facilities on the same site may be combined.

Use the following resources to prepare your customized maintenance plan, schedule, and checklists.

- Specific information noted in Steps 2 and 3, above.
- Other input from the facility designer, City staff, or other sources.
- Operation and Maintenance Fact Sheets (available on the Project Clean Water website).

Note any particular characteristics or circumstances that could require attention in the future, and include any troubleshooting advice.

Also include manufacturer's data, operating manuals, and maintenance requirements for any:

- Pumps or other mechanical equipment.
- Proprietary devices used as BMPs.

Manufacturers' publications should be referenced in the text (including models and serial numbers where available). Copies of the manufacturers' publications should be included as an attachment in the back of your maintenance plan or as a separate document.

► STEP 5: COMPILE MAINTENANCE PLAN

The following general outline is provided as an example.

I. Inspection and Maintenance Log

II. Updates, Revisions and Errata

III. Introduction

   A. Narrative overview describing the site; drainage areas, routing, and discharge points; and treatment facilities.

IV. Responsibility for Maintenance

   A. General

      (1) Name and contact information for responsible individual(s).

      (2) Organization chart or charts showing organization of the maintenance function and location within the overall organization.

(3) Reference to Operation and Maintenance Agreement (if any). A copy of the agreement should be attached.

(4) Maintenance Funding

(1) Sources of funds for maintenance

(2) Budget category or line item

(3) Description of procedure and process for ensuring adequate funding for maintenance

B. Staff Training Program

C. Records

D. Safety

V. Summary of Drainage Areas and Stormwater Facilities

A. Drainage Areas

(1) Drawings showing pervious and impervious areas (copied or adapted from initial Project Submittal).

(2) Designation and description of each drainage area and how flow is routed to the corresponding facility.

B. Treatment and Flow-Control Facilities

(1) Drawings showing location and type of each facility

(2) General description of each facility (Consider a table if more than two facilities)

(1) Area drained and routing of discharge.

(2) Facility type and size

VI. Facility Documentation

A. "As-built" drawings of each facility (design drawings in the draft Plan)

B. Manufacturer's data, manuals, and maintenance requirements for pumps, mechanical or electrical equipment, and proprietary facilities (include a "placeholder" in the draft plan for information not yet available).

C. Specific operation and maintenance concerns and troubleshooting

VII. Maintenance Schedule or Matrix

A. Maintenance Schedule for each facility with specific requirements for:

(1) Routine inspection and maintenance

(2) Annual inspection and maintenance

(3) Inspection and maintenance after major storms

B. Service Agreement Information

Assemble and make copies of your maintenance plan. One copy must be submitted to the municipality, and at least one copy kept on-site. Here are some suggestions for formatting the maintenance plan:

- Format plans to 8½" x 11" to facilitate duplication, filing, and handling.
- Include the revision date in the footer on each page.
- Scan graphics and incorporate with text into a single electronic file. Keep the electronic file backed-up so that copies of the maintenance plan can be made if the hard copy is lost or damaged.

► STEP 6: UPDATES

Your maintenance plan will be **a living document**.

Operation and maintenance personnel may change; mechanical equipment may be replaced, and additional maintenance procedures may be needed. Throughout these changes, the maintenance plan must be kept up-to-date.

Updates may be transmitted to the local municipality at any time. However, at a minimum, updates to the maintenance plan must accompany the annual inspection report.

Stage 4: Interim Maintenance

Applicants will typically be required to warranty stormwater facilities against lack of performance due to flaws in design or construction. The warranty may need to be secured by a bond or other financial instrument.

Stage 5: Transfer Responsibility

As part of the detailed maintenance plan, note the expected date when responsibility for operation and maintenance will be transferred. Notify the City when this transfer of responsibility takes place.

Stage 6: Operation & Maintenance Verification

The City implements an operation and maintenance verification program, including periodic site inspections.

City staff will perform inspections at least once prior to the rainy season annually.

References and Resources

- *Urban Runoff Quality Management* (WEF/ASCE, 1998). pp 186-189.
- *Stormwater Management Manual* (Portland, 2004). Chapter 3.
- *California Storm Water Best Management Practice Handbooks* (CASQA, 2003).
- *Best Management Practices Guide* (Public Telecommunications Center for Hampton Roads, 2002).
- Operation, Maintenance, and Management of Stormwater Management Systems (Watershed Management Institute, 1997)

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Bibliography

BASMAA. 1999. Bay Area Stormwater Management Agencies Association. *Start at the Source: Design Guidance Manual for Stormwater Quality.* Tom Richman and Associates. 154 pp. plus appendix.

BASMAA. 2003. *Using Site Design Techniques to Meet Development Standards for Stormwater Quality.* www.basmaa.org

CASQA. 2003. California Stormwater Quality Association. *California Stormwater BMP Handbooks.* Four Handbooks: *New Development and Redevelopment, Construction, Municipal, and Industrial/Commercial.* www.cabmphandbooks.org

County of San Diego. 2007. *Low Impact Development Handbook: Stormwater Management Strategies.*

Federal Interagency Stream Restoration Working Group. 1998. *Stream Restoration: Principles, Processes, and Practices.* http://www.nrcs.usda.gov/technical/stream_restoration/

Hampton Roads, VA. 2002. *Best Management Practices Guide.* Public Telecommunications Center. http://www.hrstorm.org/BMP.shtml

Low Impact Development Center. 2006. *LID for Big-Box Retailers.* 75 pp. http://lowimpactdevelopment.org/bigbox/

Maryland. 2000. State of Maryland. *Maryland Stormwater Design Manual.* www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.asp

Portland. City of Portland, OR. *2004 Stormwater Management Manual.* http://www.portlandonline.com/bes/index.cfm?c=35117

Prince George's County, Maryland. 1999. *Low-Impact Development Design Strategies: An Integrated Design Approach.* Department of Environmental Resources, Programs and Planning Division. June 1999. 150 pp. http://www.epa.gov/owow/nps/lid/

Prince George's County, Maryland. 2002. *Bioretention Manual.* Department of Environmental Resources, Programs and Planning Division. http://www.goprincegeorgescounty.com/Government/AgencyIndex/DER/ESD/Bioretention/bioretention.asp

Puget Sound Action Team. 2005. Low Impact Development Technical Guidance Manual for Puget Sound. http://www.psat.wa.gov/Publications/LID_tech_manual05/lid_index.htm

Riley, Ann. 1998. *Restoring Streams in Cities.* Island Press, Washington, DC. 425 pp. www.islandpress.org/books/detail.html?SKU=1-55963-042-6

RWQCB. 2007. California Regional Water Quality Control Board for the San Diego Region. Order R9-2007-0001 (Stormwater NPDES Permit) www.waterboards.ca.gov/sandiego/

Salvia, Samantha. 2000. "Application of Water-Quality Engineering Fundamentals to the Assessment of Stormwater Treatment Devices." Santa Clara Valley Urban Runoff Pollution Prevention Program. Tech. Memo, 15 pp. www.scvurppp-w2k.com/pdfs/9798/SC18.02finalTM.pdf

Schueler, Tom. 1995. *Site Planning for Urban Stream Protection.* Environmental Land Planning Series. Metropolitan Washington Council of Governments. 232 pp. www.cwp.org/SPSP/TOC.htm

Washington Department of Ecology. 2001. Stormwater Management Manual for Western Washington. www.ecy.wa.gov/biblio/9911.html

Watershed Management Institute. 1997. *Operation, Maintenance, and Management of Stormwater Management Systems.*

WEF/ASCE. 1998. Water Environment Foundation/American Society of Civil Engineers. Urban Runoff Quality Management. WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87. ISBN 1-57278-039-8 ISBN 0-7844-0174-8. 259 pp. Access: Order from WEF or ASCE, www.wef.org or www.asce.org.

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Appendix

A

Stormwater Pollutant Sources/ Source Control Checklist

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APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

How to use this worksheet:

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.

2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your Project-Specific SUSMP drawings.

3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in a table in your Project-Specific SUSMP. Use the format shown in Table 3-1 on page 31 of the *SUSMP*. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternatives.

IF THESE SOURCES WILL BE ON THE PROJECT SITE	**... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs**		
1 **Potential Sources of Runoff Pollutants**	**2** **Permanent Controls—Show on SUSMP Drawings**	**3** **Permanent Controls—List in SUSMP Table and Narrative**	**4** **Operational BMPs—Include in SUSMP Table and Narrative**
❑ **A.** On-site storm drain inlets	❑ Locations of inlets.	❑ Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	❑ Maintain and periodically repaint or replace inlet markings. ❑ Provide stormwater pollution prevention information to new site owners, lessees, or operators. ❑ See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ❑ Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
❑ **B.** Interior floor drains and elevator shaft sump pumps	-------	❑ State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE	… THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
❑ **C.** Interior parking garages	-------	❑ State that parking garage floor drains will be plumbed to the sanitary sewer.	❑ Inspect and maintain drains to prevent blockages and overflow.
❑ **D1.** Need for future indoor & structural pest control	-------	❑ Note building design features that discourage entry of pests.	❑ Provide Integrated Pest Management information to owners, lessees, and operators.
❑ **D2.** Landscape/ Outdoor Pesticide Use	❑ Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. ❑ Show self-retaining landscape areas, if any. ❑ Show stormwater treatment facilities.	State that final landscape plans will accomplish all of the following. ❑ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ❑ Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. ❑ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ❑ Consider using pest-resistant plants, especially adjacent to hardscape. ❑ To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	❑ Maintain landscaping using minimum or no pesticides. ❑ See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ❑ Provide IPM information to new owners, lessees and operators.

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE	… THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
❑ **E.** Pools, spas, ponds, decorative fountains, and other water features.	❑ Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.	❑ If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	❑ See applicable operational BMPs in Fact Sheet SC-72, "Fountain and Pool Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
❑ **F.** Food service	❑ For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. ❑ On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	❑ Describe the location and features of the designated cleaning area. ❑ Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.	-------

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE	… THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
❑ **G.** Refuse areas	❑ Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. ❑ If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area. ❑ Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	❑ State how site refuse will be handled and provide supporting detail to what is shown on plans. ❑ State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	❑ State how the following will be implemented: Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
❑ **H.** Industrial processes.	❑ Show process area.	❑ If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."	❑ See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE	… THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
❑ **I.** Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)	❑ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area. ❑ Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ❑ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	❑ Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for: ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release (CalARP) ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank	❑ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE	… THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on SUSMP Drawings**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
❑ **J.** Vehicle and Equipment Cleaning	❑ Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle /equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use). (3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.	❑ If a car wash area is not provided, describe measures taken to discourage on-site car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable): ❑ Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. ❑ Car dealerships and similar may rinse cars with water only. ❑ See Fact Sheet SC-21, "Vehicle and Equipment Cleaning," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE	… THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls—Show on SUSMP Drawings**	3 **Permanent Controls—List in SUSMP Table and Narrative**	4 **Operational BMPs—Include in SUSMP Table and Narrative**
❑ **K.** Vehicle/Equipment Repair and Maintenance	❑ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater. ❑ Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas. ❑ Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	❑ State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. ❑ State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. ❑ State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	In the SUSMP report, note that all of the following restrictions apply to use the site: ❑ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. ❑ No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. ❑ No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE	… THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
❑ **L.** Fuel Dispensing Areas	❑ Fueling areas[1] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable. ❑ Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.	-------	❑ The property owner shall dry sweep the fueling area routinely. ❑ See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

[1] The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
❑ **M.** Loading Docks	❑ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible. Direct connections to storm drains from depressed loading docks are prohibited. ❑ Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer. ❑	-------	❑ Move loaded and unloaded items indoors as soon as possible. ❑ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
❑ **N.** Fire Sprinkler Test Water	-------	❑ Provide a means to drain fire sprinkler test water to the sanitary sewer.	❑ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

IF THESE SOURCES WILL BE ON THE PROJECT SITE	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
O. Miscellaneous Drain or Wash Water ❑ Boiler drain lines ❑ Condensate drain lines ❑ Rooftop equipment ❑ Drainage sumps ❑ Roofing, gutters, and trim.	-------	❑ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ❑ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ❑ Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ❑ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ❑ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	-------
❑ **P.** Plazas, sidewalks, and parking lots.	-------	-------	❑ Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.

Appendix

B

Hydromodification Management Plan

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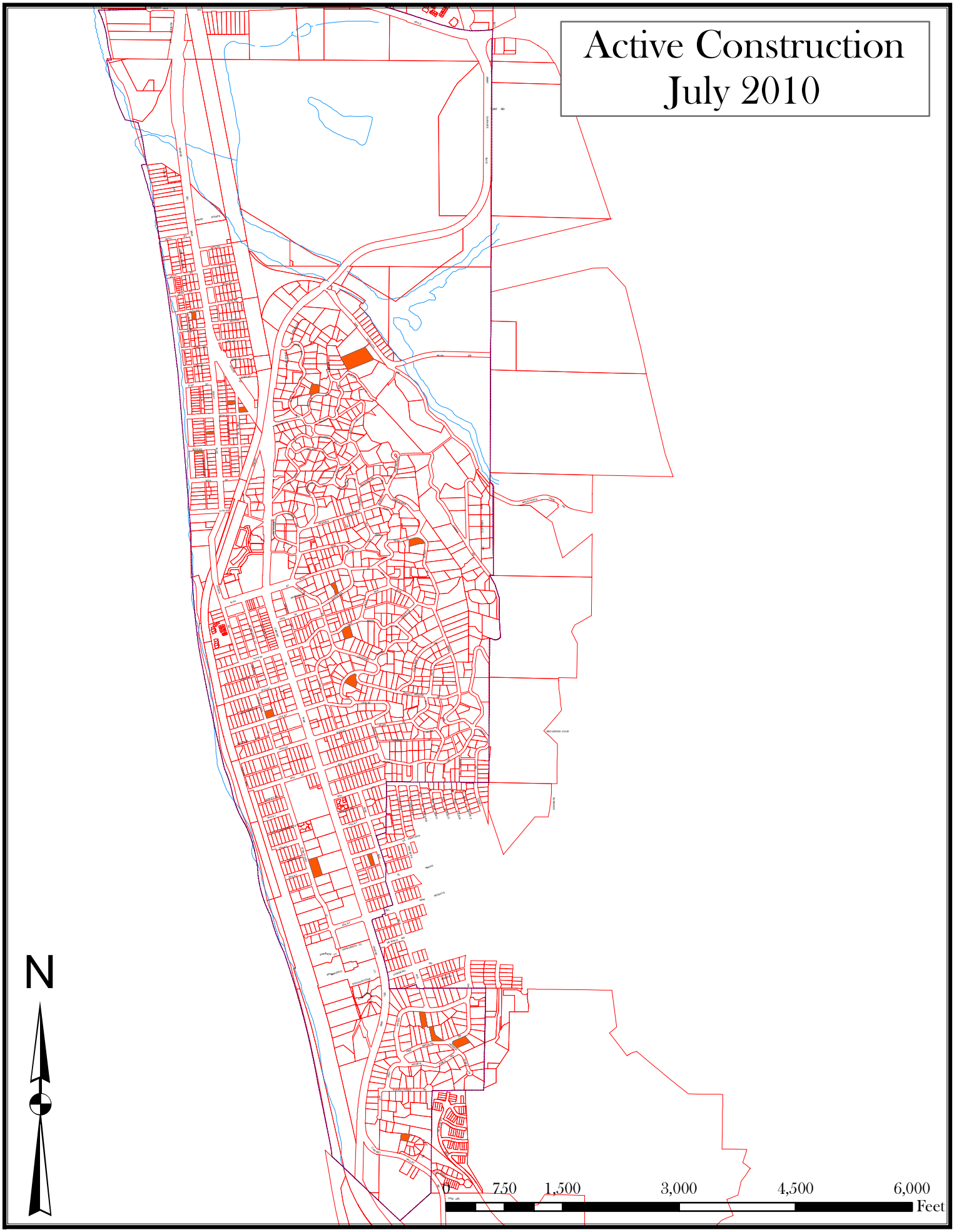
Appendix C - FY 2011 Watershed Based Construction Inventory

Planning File #	Site Name	Number	Street	Hydrologic Unit	Description of Activity	Receiving Waterbody	303(d) Listed Waterbody
High and Medium Priority Contruction Projects							
DRB-08-27	Pacifica Stratford	615/617	Stratford Ct.	San Dieguito	new duplex	Pacific Ocean	No
DRB-08-28	Pacifica Stratford	605/607	Stratford Ct.	San Dieguito	new duplex	Pacific Ocean	No
DRB-08-29	Pacifica Stratford	555/557	Stratford Ct.	San Dieguito	new duplex	Pacific Ocean	No
DRB-09-04	Batchelder	100	Stratford Ct.	Los Peñasquitos	home remodel and grading	Pacific Ocean	No
DRB-09-09	Handzel	100	12th Street	San Dieguito	NSFR with basement	Pacific Ocean	No
No Planning File	21st Street Pump Station		21st St. & Court St.	San Dieguito	CIP - replace pump station	Pacific Ocean	No
Low Priority Contruction Projects							
DRB-09-16	Assi	1997	Zapo Street	San Dieguito	NSFR	Pacific Ocean	No
DRB-98-32 Mod	Bakker	335	La Amatista	San Dieguito	remodel and addition	Pacific Ocean	No
DRB-05-23	Belezzuoli	424	Carolina Rd.	San Dieguito	windows/pool	Pacific Ocean	No
DRB-10-08	Bingham	150/152	11th Street	San Dieguito	NSFR and second unit	Pacific Ocean	No
DRB-10-24	Campbell	334	Hidden Pines Rd.	Los Peñasquitos	home remodel	Pacific Ocean	No
ADR-11-07	Cassidy	2614	Ocean Front	San Dieguito	home remodel	San Dieguito Lagoon	Bacteria
HZR-10-01 / ADR-10-09	Chasen Medical	1431	Camino del Mar	San Dieguito	commercial remodel	Pacific Ocean	No
DRB-10-13	Collins	139	18th Street	San Dieguito	home remodel	Pacific Ocean	No
DRB-08-17	Conkwright	1201	Camino del Mar	San Dieguito	roofing and siding commercial bldg	Pacific Ocean	No
DRB-08-20	Deal	157/159	8th Street	San Dieguito	NSFR with basement - 2 detached	Pacific Ocean	No
DRB-07-05	Eaton	187	Ocean View Ave.	Los Peñasquitos	home remodel/addition	Pacific Ocean	No
DRB-10-04	Fermanian	2430	Ocean Front	San Dieguito	home remodel and new roof	San Dieguito Lagoon	Bacteria
DRB-84-52	Gillies	2136	San Dieguito Dr.	San Dieguito	NSFR	San Dieguito Lagoon	Bacteria
DRB-08-43	Hardke	431	Van Dyke Ave.	San Dieguito	NSFR w/ basement and pool	Pacific Ocean	No
DRB-04-15	Hilliard	1492	Crest Rd.	San Dieguito	site improvements	Pacific Ocean	No
DRB-09-07	Kenyon	463	15th Street	San Dieguito	NSFR w/ basement	Pacific Ocean	No
DRB-05-24	Klipstein	415	Torrey Pointe Rd.	Los Peñasquitos	NSFR w/ basement	Los Peñasquitos Lagoon	Bacteria, Sediment
DRB-10-02	Linnell	411	Hidden Pines Ln.	Los Peñasquitos	interior work - garage	Pacific Ocean	No
DRB-08-27	Mankwitz	420	Luzon Ave.	San Dieguito	NSFR	San Dieguito Lagoon	Bacteria
ADR-10-13	Marier	141	4th Street	Los Peñasquitos	outdoor landscaping, concrete	Pacific Ocean	No
DRB-04-13	McGuire	1105	Stratford Ct.	San Dieguito	home remodel	Pacific Ocean	No
DRB-10-11	Milligan	1382	Via Alta	San Dieguito	home remodel and landscape	Pacific Ocean	No
DRB-09-12	More	408	Luzon Ave.	San Dieguito	exterior improvements	San Dieguito Lagoon	Bacteria
DRB-08-38	Nerenberg	205	Ocean View Ave.	Los Peñasquitos	NSFR	Pacific Ocean	No
DRB-06-23	Oliphant	2020	Santa Fe Ave.	San Dieguito	NSFR	Pacific Ocean	No
DRB-08-12	Parker-O'Brien	116/118	11th Street	San Dieguito	NSFR	Pacific Ocean	No
DRB-10-07	Rehfeld	385	Belaire St.	San Dieguito	NSFR	Pacific Ocean	No

Appendix C - FY 2011 Watershed Based Construction Inventory

Planning File #	Site Name	Number	Street	Hydrologic Unit	Description of Activity	Receiving Waterbody	303(d) Listed Waterbody
DRB-08-06	Reid	116	Nob Ave.	Los Peñasquitos	NSFR	Pacific Ocean	No
No Planning File	RHN	1846	Ocean Front	San Dieguito	interior improvements	Pacific Ocean	No
DRB-10-22	Rowe	538	Amphitheatre Dr.	San Dieguito	home remodel	Pacific Ocean	No
DRB-08-08	Savage	2007/2009	Santa Fe Ave.	San Dieguito	home remodel	Pacific Ocean	No
DRB-08-40	Schwartz	243	22nd Street	San Dieguito	home remodel	Pacific Ocean	No
ADR-10-17	Taylor	1408	Via Alta	San Dieguito	home remodel	Pacific Ocean	No
No Planning File	Unknown	2054	David Way	San Dieguito	home remodel	San Dieguito Lagoon	Bacteria
No Planning File	Unknown	114	9th Street	San Dieguito	home remodel - siding	Pacific Ocean	No
No Planning File	Unknown	2600	Ocean Front	San Dieguito	home remodel - siding	San Dieguito Lagoon	Bacteria
DRB-09-14	Vint	140	7th Street	San Dieguito	NSFR with basement	Pacific Ocean	No
DRB-08-37	Wiggins	1926	Coast Blvd.	San Dieguito	home remodel & roof deck	Pacific Ocean	No
DRB-08-35	Wilkinson	131	25th Street	San Dieguito	home remodel & addition	San Dieguito Lagoon	Bacteria
DRB-08-33	Wohlford-Kidd	1155	Cuchara Drive	San Dieguito	home remodel	Pacific Ocean	No


Active Construction
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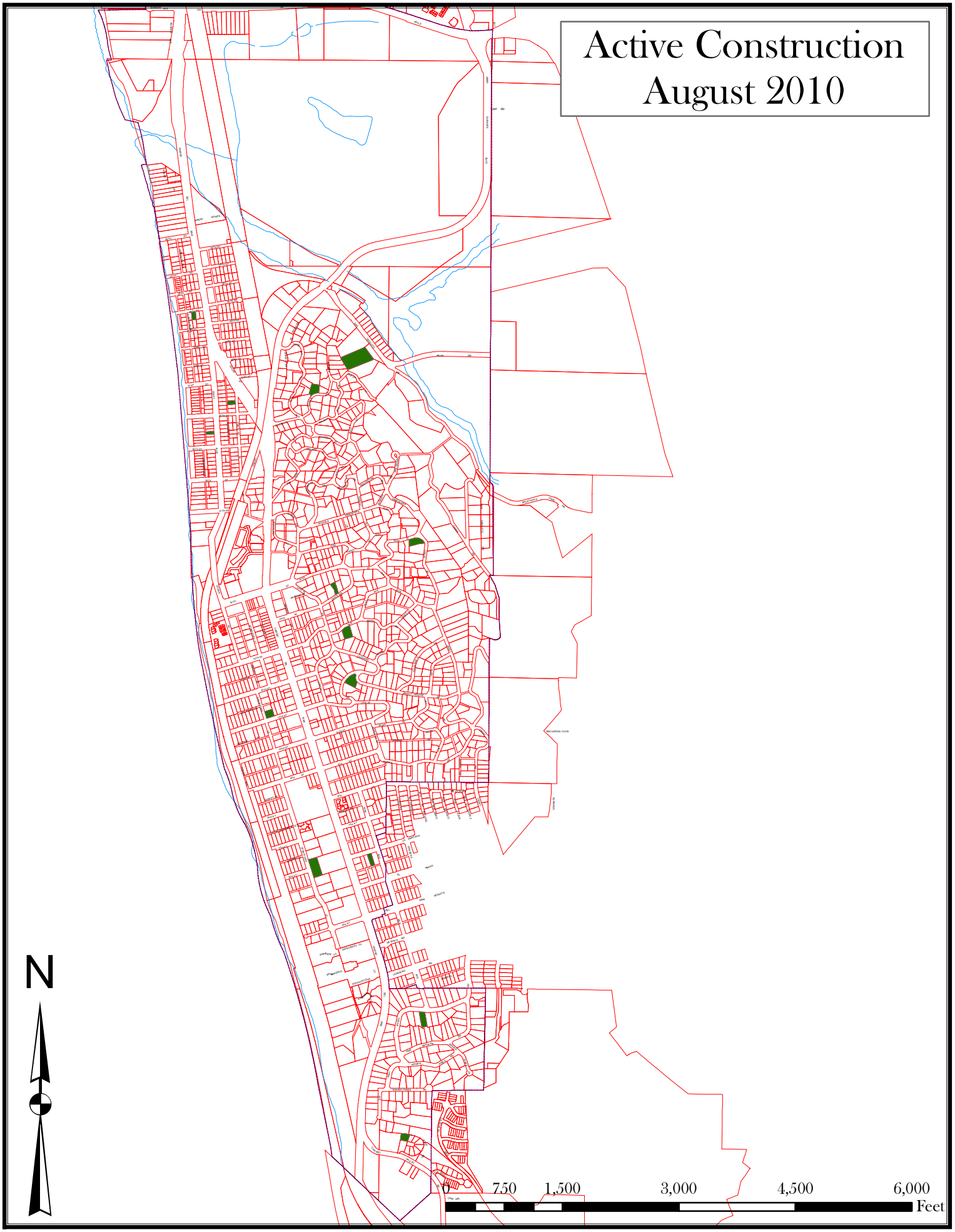
6,000
Feet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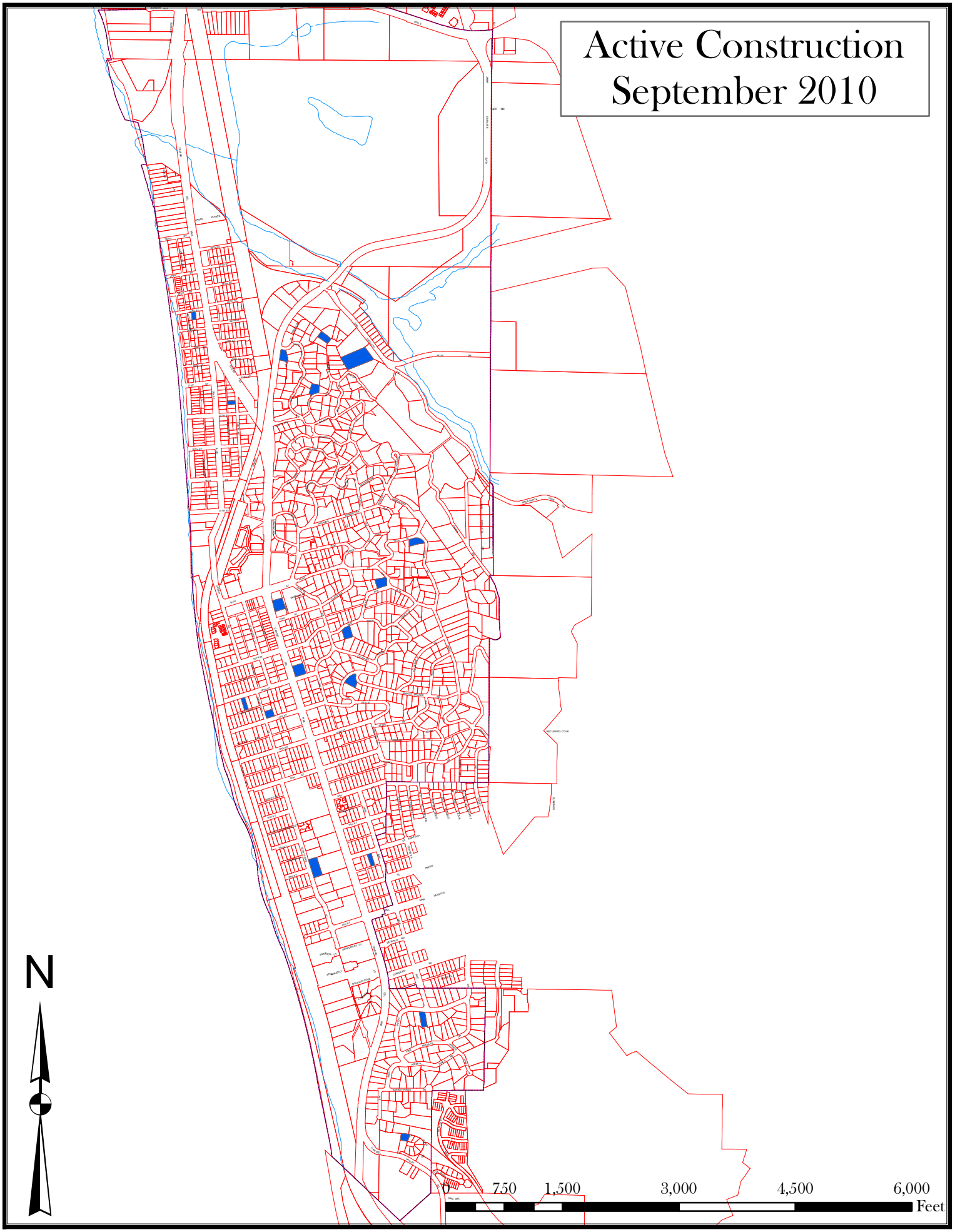
Active Construction
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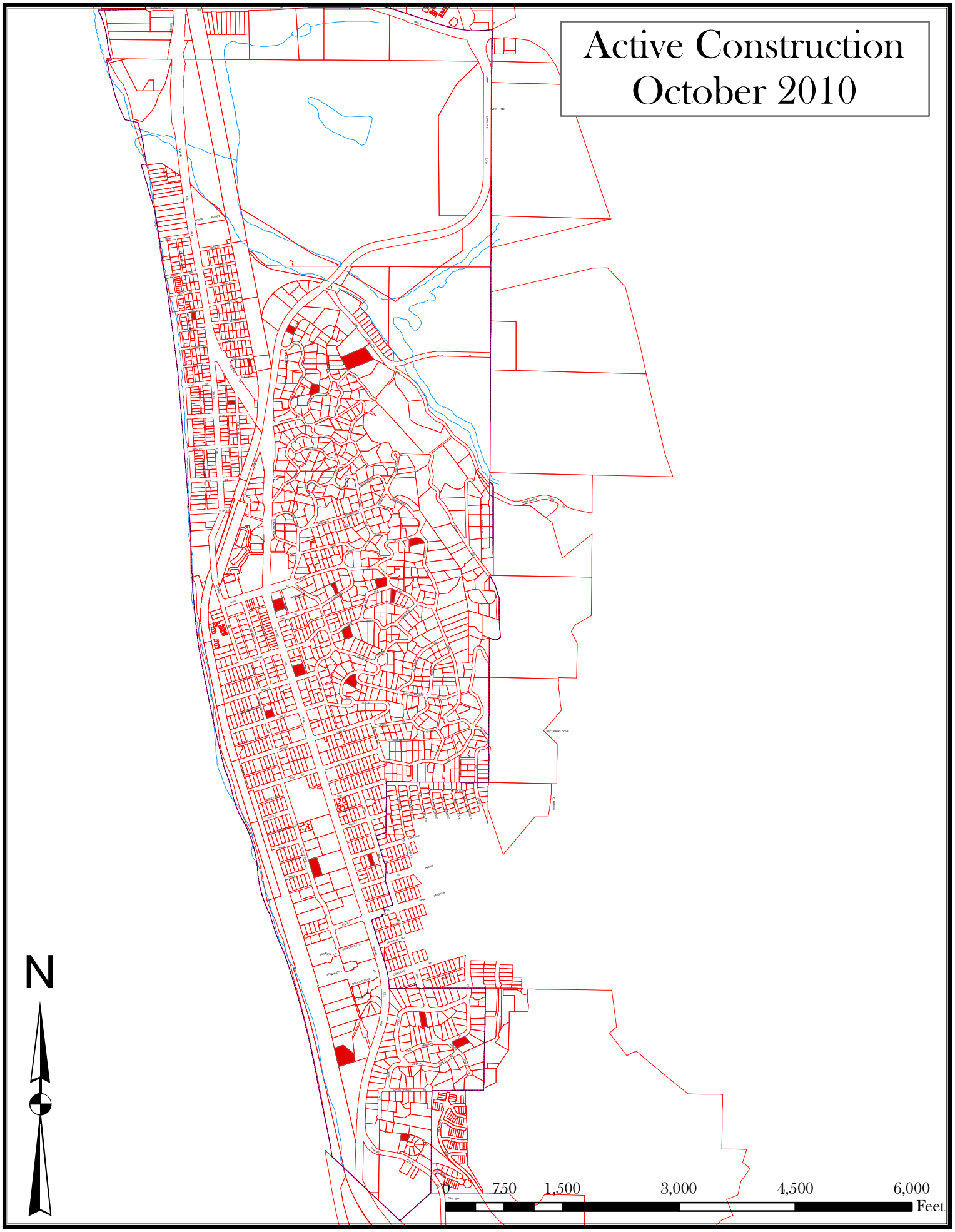
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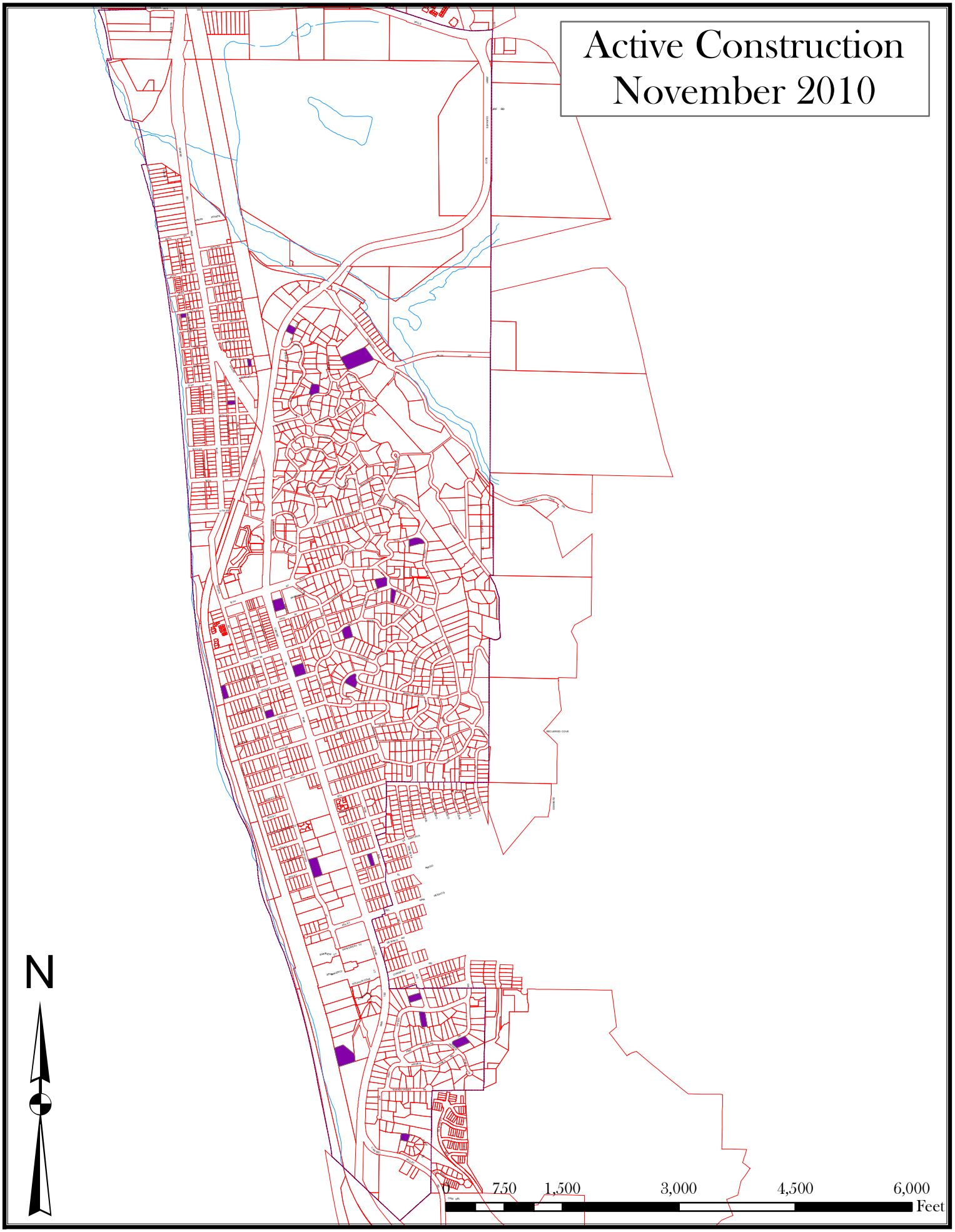
Active Construction
November 2010
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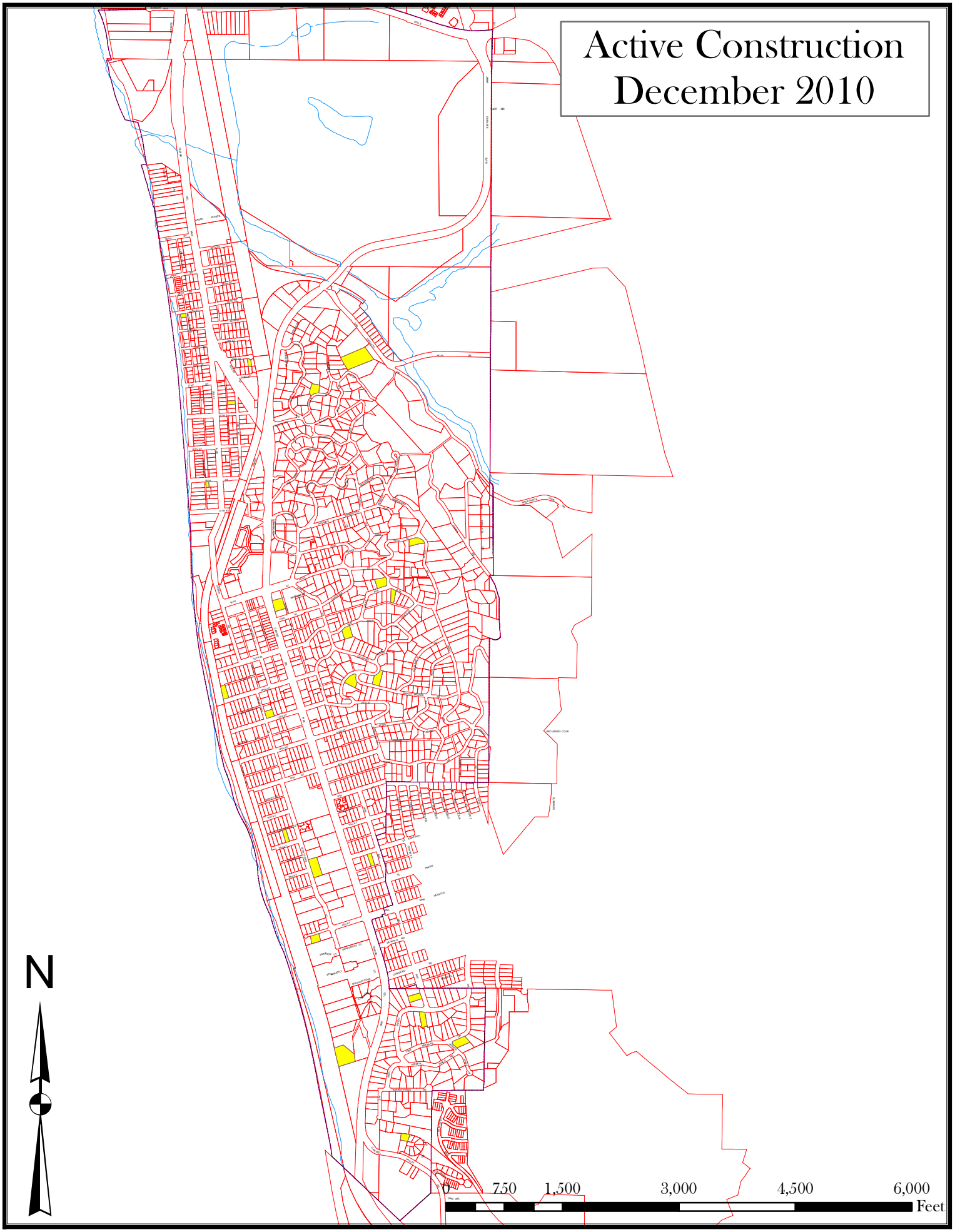
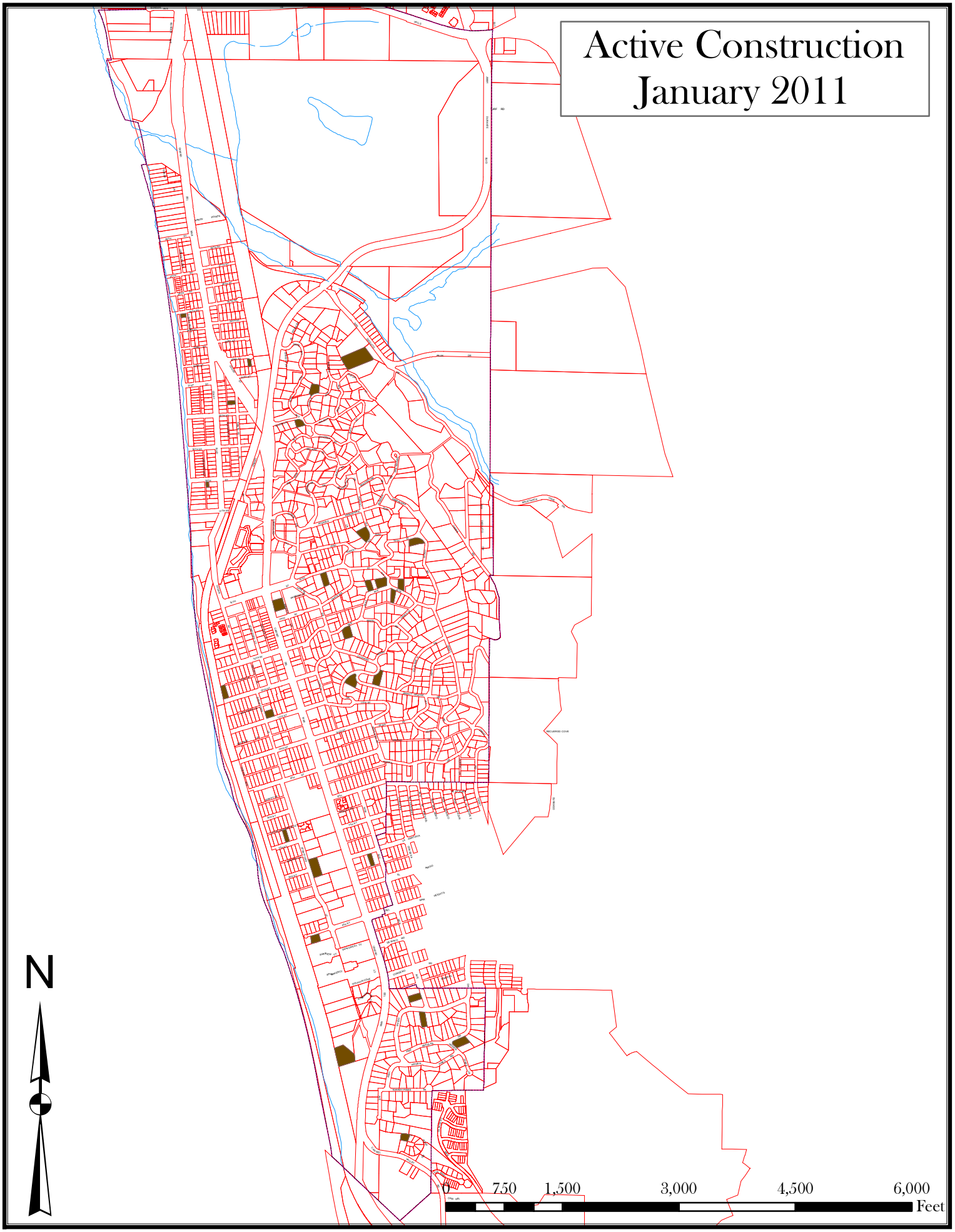
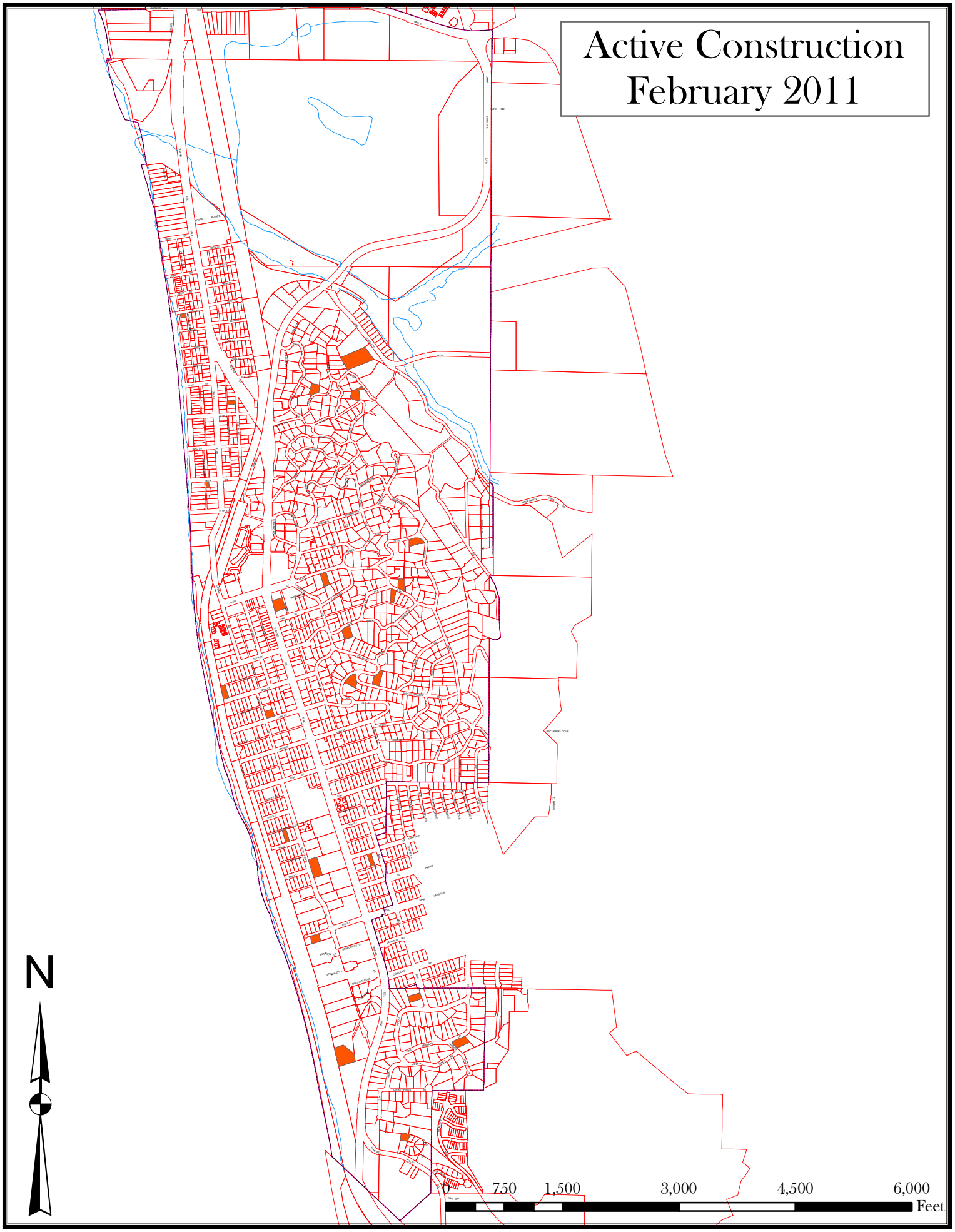
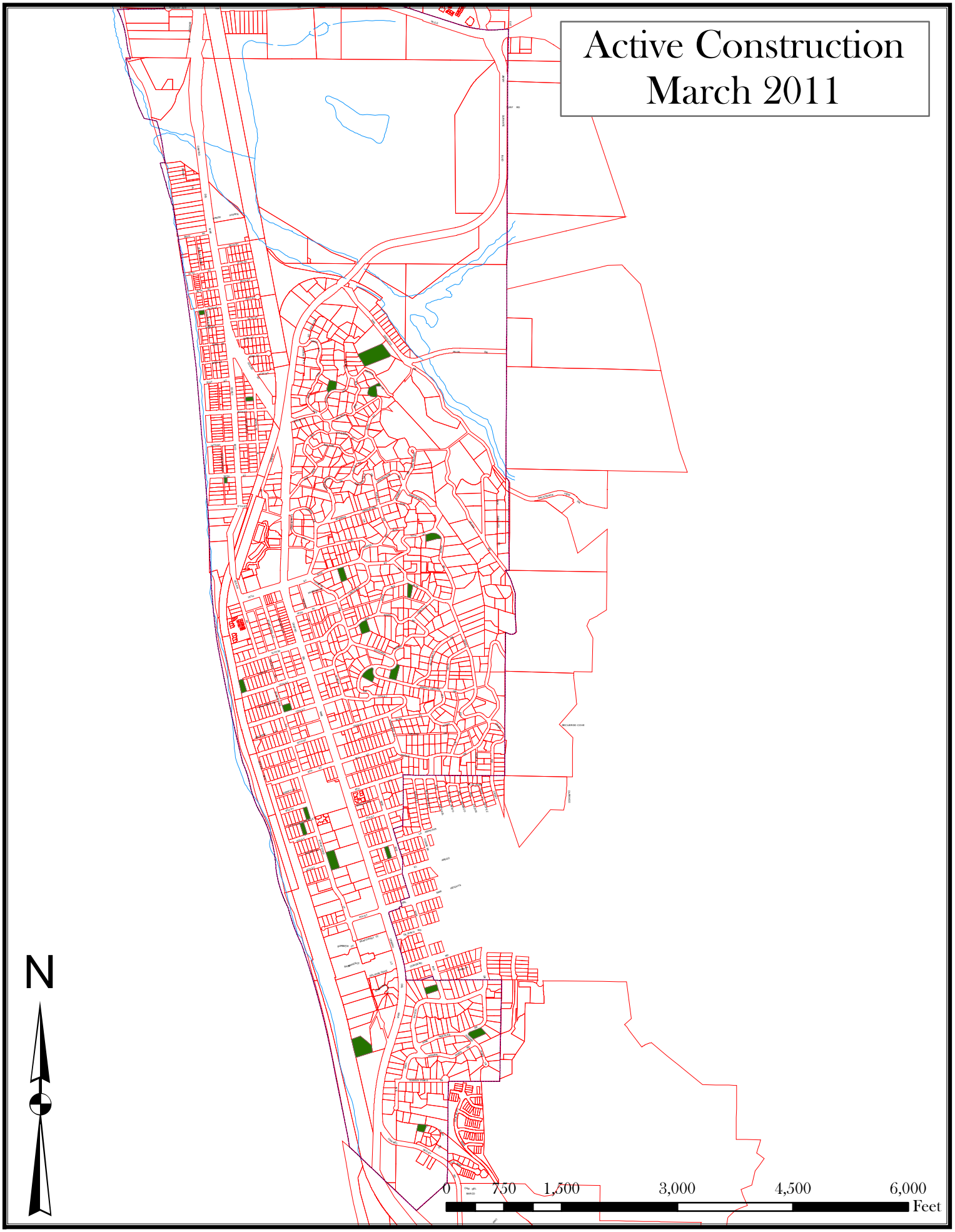
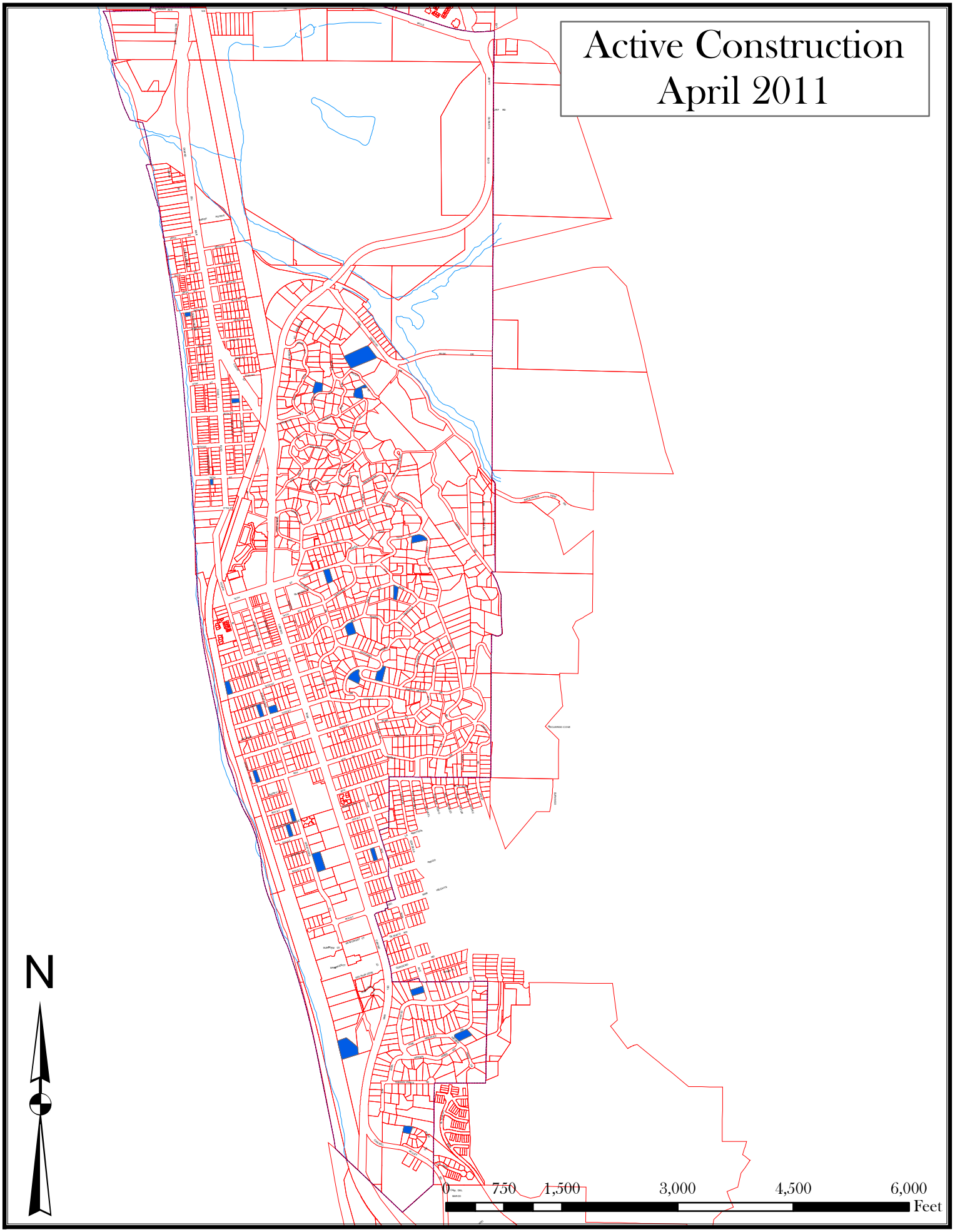
6,000
Feet

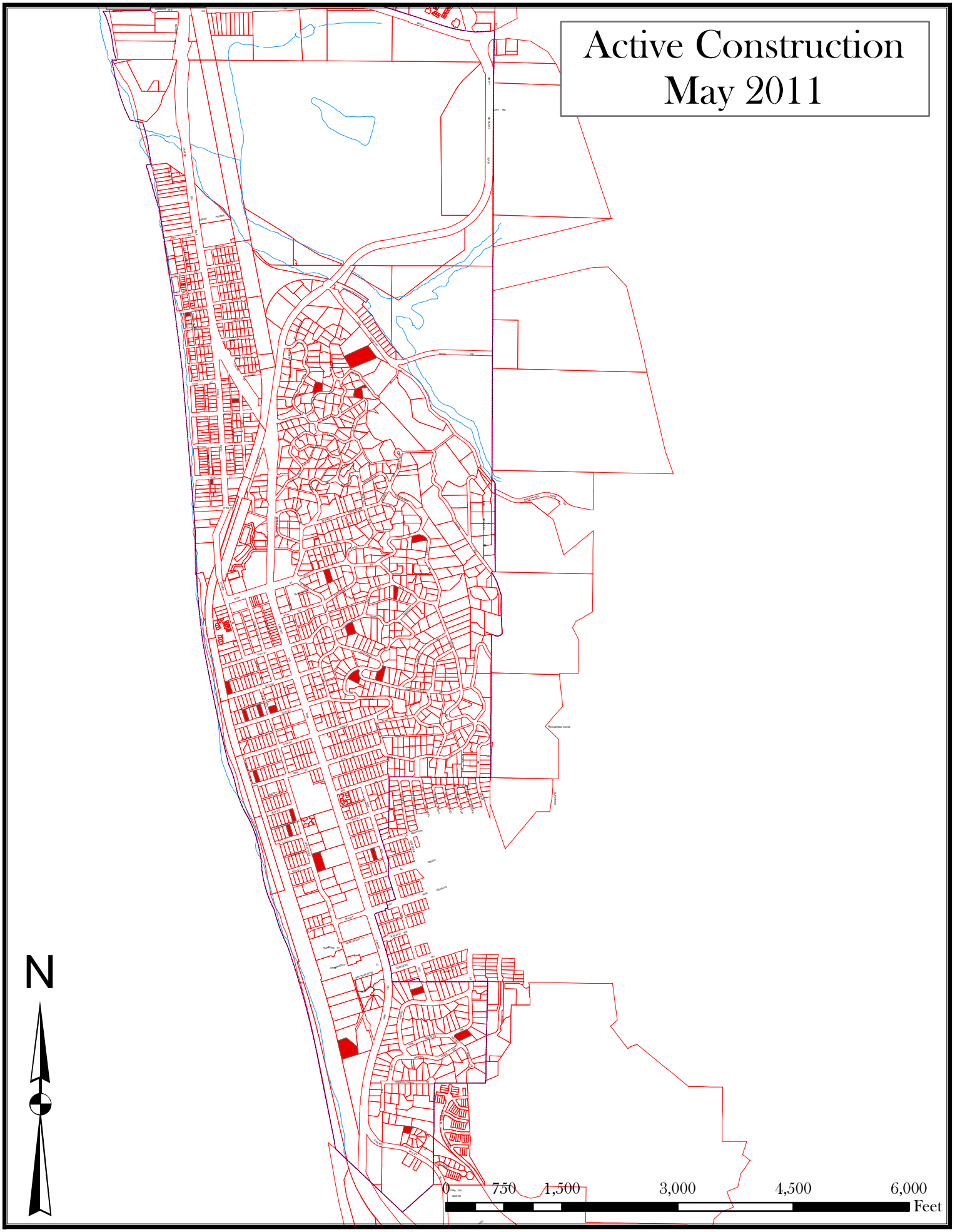

Active Construction
December 2010
N
0
750
1,500
3,000
4,500
6,000
Feet

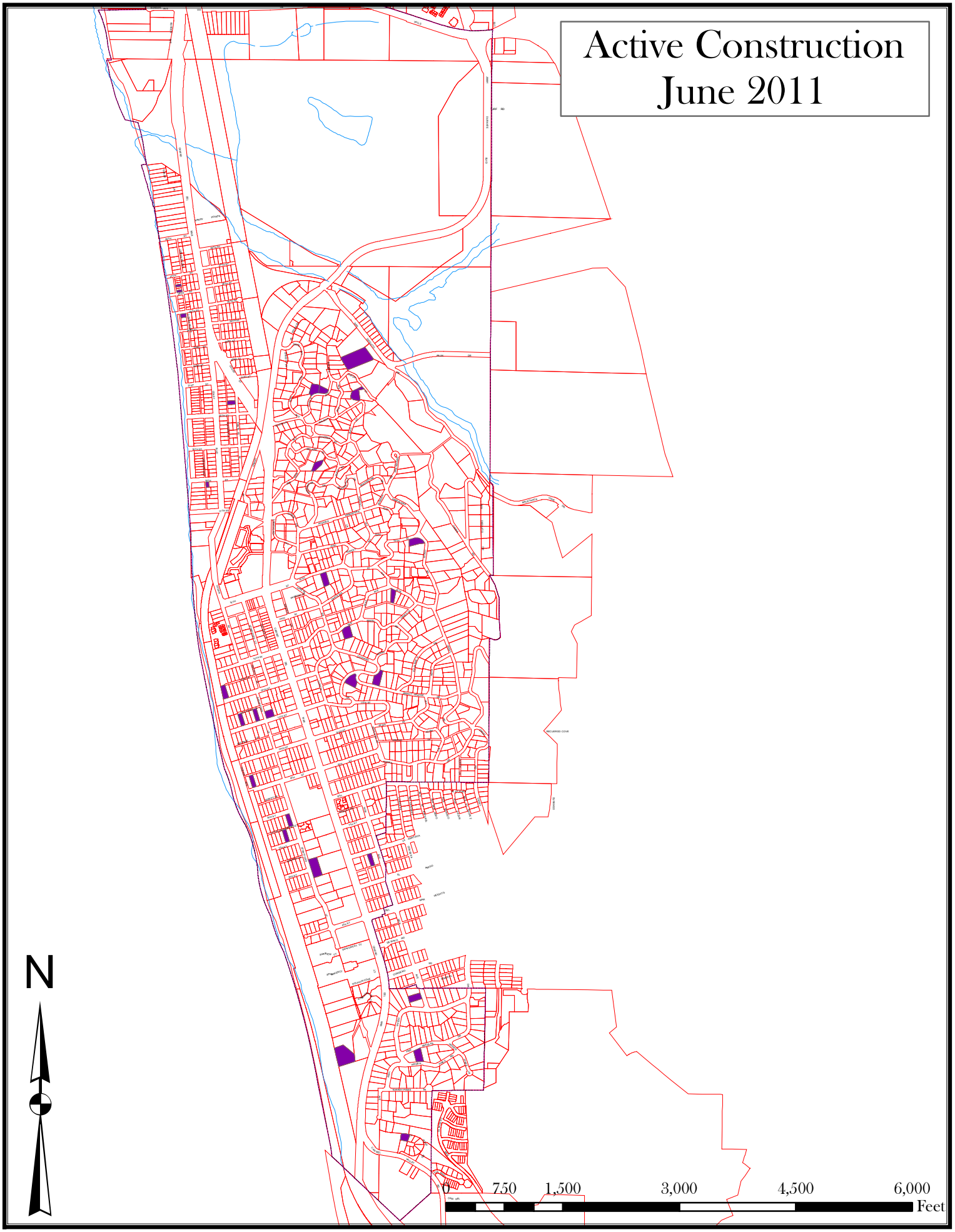

Active Construction
January 2011
N
0
750
1,500
3,000
4,500
6,000
Feet


Active Construction
February 2011
N
0
750
1,500
3,000
4,500
6,000
Feet


Active Construction
March 2011
N
0
750
1,500
3,000
4,500
6,000
Feet


Active Construction
April 2011
N
0
750
1,500
3,000
4,500
6,000
Feet


Active Construction
May 2011
N
0
750
1,500
3,000
4,500
6,000
Feet


Active Construction
June 2011
N
0
750
1,500
3,000
4,500
6,000
Feet

Appendix E - FY 2011 Construction Inspection Summary Table

Planning File #	Site Name	Street No.	Street Name	Hydrologic Unit	Description of Activity	Receiving Waterbody	303(d) Listed Waterbody	Start Date	End Date	Weeks Active (Wet)	Weeks Active (Dry)	No. Inspections (Wet)	No. Inspections (Dry)	Total Inspections
High and Medium Priority Contruction Projects														
DRB-08-27	Pacifica Stratford	615/617	Stratford Ct.	San Dieguito	new duplex	Pacific Ocean	No	6/7/2008	Active	30	22	19	2	21
DRB-08-28	Pacifica Stratford	605/607	Stratford Ct.	San Dieguito	new duplex	Pacific Ocean	No	6/7/2008	Active	30	22	19	2	21
DRB-08-29	Pacifica Stratford	555/557	Stratford Ct.	San Dieguito	new duplex	Pacific Ocean	No	6/7/2008	Active	30	22	19	2	21
DRB-09-04	Batchelder	100	Stratford Ct.	Los Peñasquitos	home remodel and grading	Pacific Ocean	No	7/1/2009	Active	30	22	18	2	20
DRB-09-09	Handzel	100	12th Street	San Dieguito	NSFR with basement	Pacific Ocean	No	10/18/2010	Active	28	8	17	2	19
No Planning File	21st Street Pump Station		21st Street & Court Street	San Dieguito	CIP - replace pump station	Pacific Ocean	No	1/4/2011	Active	16	8	10	2	12
Low Priority Contruction Projects														
DRB-09-16	Assi	1997	Zapo Street	San Dieguito	NSFR	Pacific Ocean	No	1/15/2011	Active	15	8	1	0	1
DRB-98-32 Mod	Bakker	335	La Amatista	San Dieguito	remodel and addition	Pacific Ocean	No	4/21/2005	Active	30	22	0	0	0
DRB-05-23	Belezzuoli	424	Carolina Rd.	San Dieguito	windows/pool	Pacific Ocean	No	9/4/2006	9/2/2010	30	9	0	0	0
DRB-10-08	Bingham	150/152	11th Street	San Dieguito	NSFR and second unit	Pacific Ocean	No	4/1/2011	Active	4	8	2	1	3
DRB-10-24	Campbell	334	Hidden Pines Rd.	Los Peñasquitos	home remodel	Pacific Ocean	No	6/1/2011	Active	0	4	0	1	1
ADR-11-07	Cassidy	2614	Ocean Front	San Dieguito	home remodel	San Dieguito Lagoon	Bacteria	3/1/2011	Active	8	8	1	0	1
HZR-10-01 / ADR-10-09	Chasen Medical	1431	Camino del Mar	San Dieguito	commercial remodel	Pacific Ocean	No	1/10/2011	2/28/2011	7	0	0	0	0
DRB-10-13	Collins	139	18th Street	San Dieguito	home remodel	Pacific Ocean	No	12/1/2010	Active	21	8	1	0	1
DRB-08-17	Conkwright	1201	Camino del Mar	San Dieguito	roofing and siding commercial bldg	Pacific Ocean	No	6/12/2010	12/1/2010	9	14	0	0	0
DRB-08-20	Deal	157/159	8th Street	San Dieguito	NSFR with basement - 2 detached	Pacific Ocean	No	2/21/2011	Active	9	8	1	0	1
DRB-07-05	Eaton	187	Ocean View Ave.	Los Peñasquitos	home remodel/addition	Pacific Ocean	No	4/27/2009	7/30/2010	0	4	0	0	0
DRB-10-04	Fermanian	2430	Ocean Front	San Dieguito	home remodel and new roof	San Dieguito Lagoon	Bacteria	10/15/2010	Active	28	8	1	1	2
DRB-84-52	Gillies	2136	San Dieguito Dr.	San Dieguito	NSFR	San Dieguito Lagoon	Bacteria	12/14/1998	Active	30	22	0	0	0
DRB-08-43	Hardke	431	Van Dyke Ave.	San Dieguito	NSFR w/basement and pool	Pacific Ocean	No	5/26/2009	Active	30	22	1	0	1
DRB-04-15	Hilliard	1492	Crest Rd.	San Dieguito	site improvements	Pacific Ocean	No	4/2/2007	Active	30	22	0	0	0
DRB-09-07	Kenyon	463	15th Street	San Dieguito	NSFR w/basement	Pacific Ocean	No	1/4/2011	Active	16	8	1	0	1
DRB-05-24	Klipstein	415	Torrey Pointe Rd.	Los Peñasquitos	NSFR w/basement	Los Peñasquitos Lagoon	Sediment, Bacteria	8/22/2008	Active	30	22	0	0	0

Appendix E - FY 2011 Construction Inspection Summary Table

Planning File #	Site Name	Street No.	Street Name	Hydrologic Unit	Description of Activity	Receiving Waterbody	303(d) Listed Waterbody	Start Date	End Date	Weeks Active (Wet)	Weeks Active (Dry)	No. Inspections (Wet)	No. Inspections (Dry)	Total Inspections
DRB-10-02	Linnell	411	Hidden Pines Ln.	Los Peñasquitos	interior work - garage	Pacific Ocean	No	2/8/2010	7/28/2010	0	4	0	0	0
DRB-08-27	Mankwitz	420	Luzon Ave.	San Dieguito	NSFR	San Dieguito Lagoon	Bacteria	6/1/2011	Active	0	4	0	0	0
ADR-10-13	Marier	141	4th Street	Los Peñasquitos	outdoor landscaping, concrete	Pacific Ocean	No	9/9/2010	2/28/2011	21	3	0	0	0
DRB-04-13	McGuire	1105	Stratford Ct.	San Dieguito	home remodel	Pacific Ocean	No	9/13/2007	Active	30	22	1	0	1
DRB-10-11	Milligan	1382	Via Alta	San Dieguito	home remodel and landscape	Pacific Ocean	No	9/15/2010	Active	30	2	2	1	3
DRB-09-12	More	408	Luzon Ave.	San Dieguito	exterior improvements	San Dieguito Lagoon	Bacteria	6/28/2010	Active	30	22	0	0	0
DRB-08-38	Nerenberg	205	Ocean View Ave.	Los Peñasquitos	NSFR	Pacific Ocean	No	12/28/2009	12/15/2010	19	14	0	1	1
DRB-06-23	Oliphant	2020	Santa Fe Ave.	San Dieguito	NSFR	Pacific Ocean	No	6/1/2009	Active	30	22	0	0	0
DRB-08-12	Parker-O'Brien	116/118	11th Street	San Dieguito	NSFR	Pacific Ocean	No	4/15/2011	Active	2	8	2	1	3
DRB-10-07	Rehfeld	385	Belaire St.	San Dieguito	NSFR	Pacific Ocean	No	6/1/2011	Active	0	4	0	0	0
DRB-08-06	Reid	116	Nob Ave.	Los Peñasquitos	NSFR	Pacific Ocean	No	11/1/2010	Active	26	8	2	5	7
No Planning File	RHN	1846	Ocean Front	San Dieguito	interior improvements	Pacific Ocean	No	6/28/2010	7/28/2010	0	4	0	0	0
DRB-10-22	Rowe	538	Amphitheatre Dr.	San Dieguito	home remodel	Pacific Ocean	No	11/20/2010	Active	23	8	0	0	0
DRB-08-08	Savage	2007/ 2009	Santa Fe Ave.	San Dieguito	home remodel	Pacific Ocean	No	10/19/2009	7/20/2010	0	3	0	0	0
DRB-08-40	Schwartz	243	22nd Street	San Dieguito	home remodel	Pacific Ocean	No	7/1/2009	1/15/2011	15	8	0	0	0
ADR-10-17	Taylor	1408	Via Alta	San Dieguito	home remodel	Pacific Ocean	No	9/1/2010	1/20/2011	16	4	0	0	0
No Planning File	Unknown	2054	David Way	San Dieguito	siding repair	San Dieguito Lagoon	Bacteria	8/10/2010	9/20/2010	0	7	0	0	0
No Planning File	Unknown	114	9th Street	San Dieguito	siding repair	Pacific Ocean	No	3/25/2011	Active	5	8	0	0	0
No Planning File	Unknown	2600	Ocean Front	San Dieguito	siding repair	San Dieguito Lagoon	Bacteria	5/28/2011	Active	0	4	0	0	0
DRB-09-14	Vint	140	7th Street	San Dieguito	NSFR with basement	Pacific Ocean	No	11/1/2010	Active	26	8	5	0	5
DRB-08-37	Wiggins	1926	Coast Blvd.	San Dieguito	home remodel & roof deck	Pacific Ocean	No	1/25/2010	8/20/2010	0	7	0	0	0
DRB-08-35	Wilkinson	131	25th Street	San Dieguito	home remodel & addition	San Dieguito Lagoon	Bacteria	10/26/2009	10/15/2010	2	8	0	0	0
DRB-08-33	Wohlford-Kidd	1155	Cuchara Drive	San Dieguito	home remodel	Pacific Ocean	No	3/23/2010	Active	30	22	1	1	2

Facility Name	Contact Person	Phone Number	Priority	Street No.	Street Name	Zip Code	Description of Area/Activity	Potential Pollutants									Hydrologic Area	HA	Tributary to 303(d) Listed Waterbody	303(d) Waterbody Impairment	Site Potentially Generates 303(d) Impairment Pollutants*
								Bacteria	Gross Pollutants	Heavy Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash					
11th Street Water Reservoir	Doug Blackstock	(858) 755-3294	Medium	562	11th St	92014	Potable water storage tank and equipment maintenance.	Y			Y	Y	Y				San Dieguito**	905.11	No	None	No
20th Street Lifeguard Station	Pat Vergne	(858) 755-1556	Medium		20th St and Coast Blvd	92014	Building. First Aid Care. Restroom Facilities. Building maintenance.	Y			Y		Y		Y	Y	San Dieguito**	905.11	No	None	No
21st St Sewer Lift Station	Doug Blackstock	(858) 755-3294	High	201	21st St	92014	Sanitary sewer pump station. Sewer spills, pump repairs and replacement.	Y	Y		Y	Y	Y				San Dieguito	905.11	Yes	Bacteria	Yes
25th Street Lifeguard Station	Pat Vergne	(858) 755-1556	High		25th St and Coast Blvd	92014	Building. First Aid Care. Restroom Facilities. Building and landscape maintenance.	Y			Y		Y		Y	Y	San Dieguito**	905.11	No	None	No
7th St Sewer Lift Station	Doug Blackstock	(858) 755-3294	Medium	120	7th St	92014	Sanitary sewer pump station. Sewer spills, pump repairs and replacement.	Y	Y		Y	Y	Y				San Dieguito**	905.11	No	None	No
Caminito Park	Doug Blackstock	(858) 755-3294	High	1500	Camino Del Mar	92014	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application.	Y	Y		Y		Y	Y	Y	Y	San Dieguito**	905.11	No	None	No
City Hall	Doug Blackstock	(858) 755-3294	Non	1050	Camino Del Mar	92014	Building and landscape maintenance.				Y			Y		Y	San Dieguito**	905.11	No	None	No
City Hall Parking Lot	Doug Blackstock	(858) 755-3294	High	1050	Camino Del Mar	92014	Parking and landscaping.			Y		Y		Y		Y	San Dieguito**	905.11	No	None	No
Community Library	Doug Blackstock	(858) 755-3294	Non	1309	Camino Del Mar	92014	Building, parking lot, and landscape maintenance.			Y	Y	Y		Y		Y	San Dieguito**	905.11	No	None	No
Crest Water Reservoir	Doug Blackstock	(858) 755-3294	High	706	Crest Rd	92014	Potable water storage tank and equipment maintenance.	Y			Y	Y	Y				San Dieguito**	905.11	No	None	No
Del Mar Fire Station	Robert Burron	(858) 755-1522	Non	2220	Jimmy Durante Blvd	92014	Building and parking lot. Vehicle storage and cleaning. Hazardous waste materials storage.			Y		Y	Y		Y	Y	San Dieguito	905.11	Yes	Bacteria	No
Main Lifeguard Station	Pat Vergne	(858) 755-1556	High	1700	Coast Blvd	92014	Building. First Aid Care. Restroom Facilities. Building and landscape maintenance.	Y			Y		Y		Y	Y	San Dieguito**	905.11	No	None	No
Main Lifeguard Station Parking Lot	Doug Blackstock	(858) 755-3294	High	1700	Coast Blvd	92014	Parking and landscaping.			Y		Y		Y		Y	San Dieguito**	905.11	No	None	No
Minipark	Doug Blackstock	(858) 755-3294	High	1300	Maiden Ln	92014	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application.	Y	Y		Y		Y	Y	Y	Y	San Dieguito**	905.11	No	None	No
Powerhouse Community Center	Pat Vergne	(858) 755-1556	High	1630	Coast Blvd	92014	Special events, food prep, restrooms. Building and landscape maintenenace.	Y	Y		Y	Y	Y			Y	San Dieguito**	905.11	No	None	No
Powerhouse Park	Doug Blackstock	(858) 755-3294	High	1630	Coast Blvd	92014	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application. Restrooms and showers	Y	Y		Y		Y	Y	Y	Y	San Dieguito**	905.11	No	None	No
Public Works Yard	Doug Blackstock	(858) 755-3294	High	2240	Jimmy Durante Blvd	92014	Public Works Admin building, shops, parking lot, open and covered storage yards. Fueling station, storage, vehicle/equipment cleaning and repair. Temporary storage of trash, recycling and landscape materials. Hazardous waste materials storage.	Y	Y	Y	Y	Y	Y	Y	Y	Y	San Dieguito	905.11	Yes	Bacteria	Yes
Riverpath Del Mar	Doug Blackstock	(858) 755-3294	High	2240	Jimmy Durante Blvd	92014	Public park. Tree and landscape maintenance.	Y			Y		Y	Y	Y	Y	San Dieguito	905.11	Yes	Bacteria	Yes
San Dieguito Sewer Lift Station	Doug Blackstock	(858) 755-3294	High	2110	San Dieguito Dr	92014	Sanitary sewer pump station. Sewer spills, pump repairs and replacement.	Y	Y		Y	Y	Y				San Dieguito	905.11	Yes	Bacteria	Yes
Sea Cliff Park	Doug Blackstock	(858) 755-3294	High	1500	Coast Blvd	92014	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application.	Y	Y		Y		Y	Y	Y	Y	San Dieguito**	905.11	No	None	No
Seagrove Park	Doug Blackstock	(858) 755-3294	High	1500	Coast Blvd	92014	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application.	Y	Y		Y		Y	Y	Y	Y	San Dieguito**	905.11	No	None	No
Tennis Court Facilities	Doug Blackstock	(858) 755-3294	Non		21st St and Court St	92014	Tennis courts with parking and access.									Y	San Dieguito	905.11	Yes	Bacteria	No
Torrey Pines Water Reservoir	Doug Blackstock	(858) 755-3294	High	487	Pine Needles Dr	92014	Potable water storage tank and equipment maintenance.	Y			Y	Y	Y				Penasquitos**	906.10	No	None	No
Winston School Ball Field	Doug Blackstock	(858) 755-3294	Medium	215	9th St	92014	Ball field and parking.	Y	Y		Y	Y	Y	Y	Y	Y	San Dieguito**	905.1	No	None	No
Zuni Water Reservoir	Doug Blackstock	(858) 755-3294	High	627	Zuni Dr	92014	Potable water storage tank and equipment maintenance.	Y			Y	Y	Y				San Dieguito	905.11	Yes	Bacteria	Yes

* Identification of site/source that is a tributary to CWA Section 303(d) waterbody segment and potentially generates pollutants for which the waterbody segment is impaired.
** Drainage from the inventoried facility leads to the Pacific Ocean.

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Municipal	Public works administration building, shops, parking lot, open and covered storage yards. Fueling station, storage, vehicle/equipment cleaning and repair. Temporary storage of trash, recycling and landscape materials. Area serves as a hazardous waste materials storage. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Public Works Yard		Corrective Actions Required:	No
Address:	2240 Jimmy Durante Blvd			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Municipal	Potable water storage tank and equipment maintenance. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Zuni Water Reservoir		Corrective Actions Required:	No
Address:	627 Zuni Dr			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Municipal	Public Park. Turf, tree, and landscape maintenance, fertilization and pesticide application. Restrooms and showers. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Powerhouse Park		Corrective Actions Requred:	No
Address:	1630 Coast Blvd			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Municipal	Potable water storage tank and equipment maintenance. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	11th Street Water Reservoir		Corrective Actions Requred:	No
Address:	562 11th St			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Tennis courts with parking and access. New pubp station under construction will occupy portion of tennis court parking lot. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Tennis Court Facilities		Corrective Actions Requred:	No
Address:	Del Mar, CA			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Potable water storage tank and equipment maintenance. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Crest Water Reservoir		Corrective Actions Requred:	No
Address:	706 Crest Rd			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Municipal	Potable water storage tank and equipment maintenance. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Torrey Pines Water Reservoir		Corrective Actions Requred:	No
Address:	487 Pine Needles Dr			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	Penasquitos (906.10)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Building and landscape maintenance. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	City Hall		Corrective Actions Requred:	No
Address:	1050 Camino Del Mar			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Parking and landscaping. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	City Hall Parking Lot		Corrective Actions Requred:	No
Address:	1050 Camino Del Mar			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Municipal	Sanitary sewer pump station. Sewer spills, pump repairs and replacement. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	7th Street Sewer Lift Station		Corrective Actions Requred:	No
Address:	120 7th St			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Sanitary sewer pump station. This station serves a majority of the City and undergoing construction to build and house new facilities. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	21st Street Sewer Lift Station		Corrective Actions Requred:	No
Address:	201 21st St			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Sanitary sewer pump station. Sewer spills, pump repairs and replacement. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	San Dieguito Sewer Lift Station		Corrective Actions Requred:	No
Address:	2110 San Dieguito Dr			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Municipal	Public park. Tree and landscape maintenance. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Riverpath Del Mar		Corrective Actions Requred:	No
Address:	2240 Jimmy Durante Blvd			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Building, parking lot, and landscape maintenance. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Community Library		Corrective Actions Requred:	No
Address:	1309 Camino Del Mar			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Public park. Turf, tree, and landscape maintenance. Fertilization and pesticide application. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Seagrove Park		Corrective Actions Requred:	No
Address:	1500 Coast Blvd			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Municipal	Building and parking lot, vehicle storage and cleaning. No issues to report.	Enforcement Action:	None
Inspection Date:	4/21/2011			
Facility Name:	Del Mar Fire Station		Corrective Actions Requred:	No
Address:	2220 Jimmy Durante Blvd			
			Corrective Action Description:	
Contact:	Robert Burron			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Public park. Turf, tree, and landscape maintenance. Fertilization and pesticide application. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Minipark		Corrective Actions Requred:	No
Address:	1300 Maiden Ln			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Public park. Turf, tree, and landscape maintenance. Fertilization and pesticide application. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Caminito Park		Corrective Actions Requred:	No
Address:	1500 Camino Del Mar			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Municipal	Public park. Turf, tree, and landscape maintenance. Fertilization and pesticide application. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Sea Cliff Park		Corrective Actions Requred:	No
Address:	1500 Coast Blvd			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Building, first aid care, and restroom facilities. Building maintenance. City of Del Mar Lifeguard Tower/ Beach Activitiy SWMP needs to be updated and a copy kept at this lifeguard tower.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	20th Street Lifeguard Station		Corrective Actions Requred:	No
Address:	20th St			
			Corrective Action Description:	
Contact:	Pat Vergne			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Inspection Type:	Municipal	Building, first aid care, and restroom facilities. Building and landscape maintenance. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	25th Street Lifeguard Station		Corrective Actions Requred:	No
Address:	25th St			
			Corrective Action Description:	
Contact:	Pat Vergne			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Municipal	Building, first aid care, and restroom facilities. Building and landscape maintenance. City of Del Mar Lifeguard Tower/Beach Activity SWMP not on site but at City. Needs to be updated to include 25th St. tower bathrooms and be kept on site.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Main Lifeguard Station		Corrective Actions Requred:	No
Address:	1700 Coast Blvd			
			Corrective Action Description:	
Contact:	Pat Vergne			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Municipal	Special events, food preperation, and restroom facilities. Building and landscape maintenance. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Powerhouse Community Center		Corrective Actions Requred:	No
Address:	1630 Coast Blvd			
			Corrective Action Description:	
Contact:	Pat Vergne			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Municipal	Parking and landscaping. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Main Lifegaurd Station Parking Lot		Corrective Actions Requred:	No
Address:	1700 Coast Blvd			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		**General Description of Findings**	**Enforcement and Follow Up**	
Inspection Type:	Municipal	Ballfield and parking. No issues to report.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Winston School Ballfield		Corrective Actions Requred:	No
Address:	215 9th St			
			Corrective Action Description:	
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Facility Name	Street No.	Street Name	Zip Code	SIC Code	Industrial/ Commerical	Principal Products/ Services	Potential Pollutants								Threat to Water Quality	Hydrologic Area	Tributary to 303(d) Listed Waterbody	303(d) Waterbody Impairment	Site Potentially Generates 303(d) Impairment Pollutants*	Industrial Permit	APN	GIS Mapping	
							Bacteria	Gross Pollutants	Heavy Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash									
Americana	1454	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-012-04	117.2605	32.95941
Animal And Bird Hospital Of Del Mar (Freeflight)	2132	Jimmy Durante Blvd.	92014	742	Commercial	Animal and Bird Specialty Services	Y	Y		Y	Y	Y	Y	Y	Y	High	905.11	Yes	Bacteria	Yes	No	299-100-29	117.2641	32.97017
Best Western Stratford Inn	710	Camino del Mar	92014	7011	Commercial	Hotel	Y	Y		Y	Y	Y	Y	Y	Y	High	905.11**	No	None	No	No	300-200-35	117.262	32.95018
Board & Brew	1212	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-074-07	117.2646	32.95678
Bruegger's Bagels	1435	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-030-82	117.2649	32.95948
Bully's North	1404	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-012-24	117.2653	32.95865
Café Secret	1140	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-092-06	117.2644	32.95612
Chinese Double Happiness	1011	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-410-29	117.2631	32.95468
Clarion Del Mar Inn	720	Camino del Mar	92014	7011	Commercial	Hotel	Y	Y		Y	Y	Y	Y	Y	Y	High	905.11**	No	None	No	No	300-200-21	117.2622	32.95079
Crepes & Corks Café	1328	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-012-17	117.2651	32.95799
Del Mar Automotive Services	2201	San Dieguito Dr.	92014	7538	Commercial	Automotive Services		Y	Y		Y			Y	Y	High	905.11	Yes	Bacteria	No	No	299-100-34	117.2618	32.96972
Del Mar Farmer's Market	1050	Camino del Mar	92014	5411	Commercial	Grocery Store	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-092-03	117.2642	32.95505
Del Mar German Car Service	155	Carmel Valley Rd.	92014	7538	Commercial	Automotive Services		Y	Y		Y			Y	Y	High	906.11	Yes	Bacteria, Sediment	Yes	No	301-032-11	117.2592	32.93931
Del Mar Koi	1105	Camino del Mar	92014	5999	Commercial	Animal and Bird Specialty Services	Y	Y		Y	Y	Y	Y	Y	Y	High	905.11**	No	None	No	No	300-401-10	117.2635	32.95567
Del Mar Liquor & Deli	1149	Camino del Mar	92014	5812	Commercial	Grocery Store/Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-400-28	117.264	32.95633
Del Mar Motel on the Beach	1702	Coast Blvd.	92014	7011	Commercial	Hotel	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	299-232-08	117.268	32.9626
Del Mar Pizza, Inc.	211	15th Street	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-012-30	117.266	32.95945
Del Mar Plaza	1555	Camino del Mar	92014	7389	Commercial	Shopping Center	Y	Y		Y	Y	Y	Y	Y	Y	High	905.11**	No	None	No	No	300-030-86	117.2651	32.96049
Del Mar Rendezvous***	1555	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-030-86	117.2651	32.96068
Del Mar Snack Shack	1670	Coast Blvd.	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	299-230-29	117.2681	32.96204
En Fuego, Cantina & Grill	1342	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-012-20	117.2652	32.95827
Eucalyptus Stoneware	2201	San Dieguito Dr.	92014	3269	Industrial	Pottery Manufacturing			Y			Y		Y	Y	High	905.11	Yes	Bacteria	No	Yes	299-100-34	117.262	$32.97
Harvest Ranch Market***	1555	Camino del Mar	92014	5431	Commercial	Grocery Store	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-030-86	117.2651	32.96068
Il Fornaio Cucina Italiana/Enoteca del Fornaio***	1555	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-030-86	117.2651	32.96068
Jake's Del Mar	1660	Coast Blvd.	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	299-230-03	117.2682	32.9619
Jimmy O's	225	15th Street	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	299-091-04	117.2658	32.95949
Kitchen 1540	1540	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	299-310-09	117.2659	32.96033
La Tienda Wine Shop	1342	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-012-20	117.2652	32.95827

Facility Name	Street No.	Street Name	Zip Code	SIC Code	Industrial/ Commerical	Principal Products/ Services	Potential Pollutants								Threat to Water Quality	Hydrologic Area	Tributary to 303(d) Listed Waterbody	303(d) Waterbody Impairment	Site Potentially Generates 303(d) Impairment Pollutants*	Industrial Permit	APN	GIS Mapping	
							Bacteria	Gross Pollutants	Heavy Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash								
Osteria Pescatore Inc.	1201	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-075-06	117.2639	32.95688
Pacifica Del Mar / Pacifica Breeze***	1555	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-030-86	117.2651	32.96068
Prep Kitchen	1201	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-075-06	117.2639	32.95688
Rose Towing, Inc.	2201	San Dieguito Dr.	92014	7549	Commercial	Automotive Services		Y	Y		Y			Y	Y	High	905.11	Yes	Bacteria	No	No	299-100-34	117.2618	32.96972
Sbicca American Bistro	215	15th Street	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-012-02	117.2658	32.95919
Seagrove Parking	1601	Coast Blvd.	92014	7521	Commercial	Automotive Services		Y	Y		Y			Y	Y	High	905.11**	No	None	No	No	299-230-10	117.2672	32.96172
Seaside Yogurt	1231	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-075-04	117.2643	32.95719
Shimbashi Izakaya-Seasonal Japanese Tapas & Sake Bar***	1555	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-030-86	117.2651	32.96068
Starbucks Coffee #526	1435	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-030-82	117.2649	32.95948
Stratford Court Café	1307	Stratford Court	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-012-12	117.2653	32.95756
Sunset Parking Services***	1555	Camino del Mar	92014	7521	Commercial	Automotive Services		Y	Y		Y			Y	Y	High	905.11**	No	None	No	No	300-030-86	117.2651	32.96068
Sushi Japone	1101	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-401-10	117.2635	32.95567
The Brigantine	3263	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	298-241-08	117.2688	32.97939
The Curry Comb	1212	Camino del Mar	92014	742	Commercial	Animal and Bird Specialty Services	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-074-06	117.2644	32.95681
The Poseiden Restaurant	1670	Coast Blvd.	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	299-230-29	117.0181	32.96204
Zel's Del Mar	1247	Camino del Mar	92014	5812	Commercial	Food Establishment	Y	Y		Y	Y	Y		Y	Y	High	905.11**	No	None	No	No	300-075-01	117.2642	32.95744

* Identification of site/source that is a tributary to CWA Section 303(d) waterbody segment and potentially generates pollutants for which the waterbody segment is impaired.
** Drainage from the inventoried facility leads to the Pacific Ocean.
*** Businesses located in Del Mar Plaza. For inspection purposes, these are covred in one property-based inspection.

Appendix I - FY 2011 Commercial and Industrial Summary Table

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/18/2011			
Facility Name:	Il Fornaio Cucina Italiana		Corrective Actions Required:	No
Address:	1555 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Roberto Gerbino/Ulisse Vicinanza			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Liquor store with deli. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/18/2011			
Facility Name:	Del Mar Liquor & Deli		Corrective Actions Required:	No
Address:	1149 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Ted Talia			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/18/2011			
Facility Name:	Americana		Corrective Actions Required:	No
Address:	1454 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Randy Gruber			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/31/2011			
Facility Name:	Seaside Yogurt		Corrective Actions Required:	No
Address:	1231 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	John Lee			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Chinese Double Happiness		Corrective Actions Required:	No
Address:	1011 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	De Gou Li			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Automotive repair services. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/17/2011			
Facility Name:	Del Mar Automotive		Corrective Actions Required:	No
Address:	2201 San Dieguito Dr			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Al Phillips			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Automotive repair services. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/25/2011			
Facility Name:	Del Mar German Car Service		Corrective Actions Required:	No
Address:	155 Carmel Valley Rd			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Ray Duffy			
Hydrologic Area:	Peñasquitos (906.10)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/ violations reported.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Del Mar Pizza, Inc		Corrective Actions Required:	No
Address:	211 15th Street			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Victor			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Automotive services. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/31/2011			
Facility Name:	Rose Towing		Corrective Actions Required:	No
Address:	2201 San Dieguito Rd			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Sam Mahdii			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/7/2011			
Facility Name:	The Brigantine		Corrective Actions Required:	No
Address:	3263 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Tyler Martin			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Veterinary clinic. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/31/2011			
Facility Name:	Animal & Bird Hospital of Del Mar		Corrective Actions Required:	No
Address:	2132 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Pam Stonebreaker			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Bruegger's Bagels		Corrective Actions Required:	No
Address:	1435 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Jorge Rosas			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/31/2011			
Facility Name:	Bully's North		Corrective Actions Required:	No
Address:	1404 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Sharron Delmonico			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/7/2011			
Facility Name:	Sbicca American Bistro		Corrective Actions Required:	Yes
Address:	215 15th Street			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Dan Sbicca			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	Yes
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Pet grooming establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/7/2011			
Facility Name:	The Curry Comb		Corrective Actions Required:	No
Address:	1212 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Cathy Wachter			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/14/2011			
Facility Name:	Jimmy O's		Corrective Actions Required:	No
Address:	225 15th Street			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Billy/Keith Nordling			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/reported violations.	Enforcement Action:	None
Inspection Date:	4/19/2011			
Facility Name:	En Fuego		Corrective Actions Required:	No
Address:	1342 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	John Wingate			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/14/2011			
Facility Name:	Starbucks Coffee #526		Corrective Actions Required:	No
Address:	1435 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Laura Billings			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Market. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/27/2011			
Facility Name:	Del Mar Farmer's Market		Corrective Actions Required:	No
Address:	1050 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Estella Madrid			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/21/2011			
Facility Name:	Jake's Del Mar		Corrective Actions Required:	No
Address:	1660 Coast Blvd			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Perry Ustick			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Parking lot. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/14/2011			
Facility Name:	Seagrove Parking		Corrective Actions Required:	No
Address:	1601 Coast Blvd			
Business Type:	Commercial		Corrective Action Description:	
Contact:	John Allen King			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Shopping area. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/21/2011			
Facility Name:	Del Mar Plaza		Corrective Actions Required:	No
Address:	1555 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Michael Hull			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/24/2011			
Facility Name:	Crepes & Corks Café		Corrective Actions Required:	No
Address:	1328 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Lana Blackwell/Nico			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. Verbal warning issued for lack of overhead cover on grease container. Follow up inspection required once necessary materials have been installed.	Enforcement Action:	Verbal
Inspection Date:	3/18/2011			
Facility Name:	Board & Brew		Corrective Actions Required:	Yes
Address:	1212 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
			Owner will construct overhead cover as appropriate.	
Contact:	Tom Powers/Sergio			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	Yes
Inspector:	Don Scoles		Follow Up Inspection Date:	To be completed in early FY 2012
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Animal & bird specialty services. No issues/violations reported. It is recommended that Del Mar Koi be removed from inspection list for next Fiscal Year.	Enforcement Action:	None
Inspection Date:	3/31/2011			
Facility Name:	Del Mar Koi		Corrective Actions Required:	No
Address:	1101 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Junie Young			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment/Hotel. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/14/2011			
Facility Name:	Kitchen 1540/L'Auberge Del Mar		Corrective Actions Required:	No
Address:	1540 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Raul Sandoval			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/7/2011			
Facility Name:	Café Secret		Corrective Actions Required:	No
Address:	1140 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	John Halper			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Food establishment. Prep Kitchen is new this year. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/21/2011			
Facility Name:	Prep Kitchen		Corrective Actions Required:	No
Address:	1201 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Ryan Studebaker			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/14/2011			
Facility Name:	The Poseidon Restaurant		Corrective Actions Required:	No
Address:	1670 Coast Blvd			
Business Type:	Commercial		Corrective Action Description:	
			Facility will ask New Leaf to provide grease containment, and will clean the area surrounding the grease collection container.	
Contact:	Tom Ranglas/Toni Bretzing			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/14/2011			
Facility Name:	Del Mar Snack Shack		Corrective Actions Required:	No
Address:	1670 Coast Blvd			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Tom Ranglas/Toni Bretzing			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Stoneware manufacturer; industrial permit issued in 2002. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	3/25/2011			
Facility Name:	Eucalyptus Stoneware		Corrective Actions Required:	No
Address:	2201 San Dieguito Dr			
Business Type:	Industrial		Corrective Action Description:	
Contact:	Alison Young			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Hotel establishment. No issues/ violations reported.	Enforcement Action:	None
Inspection Date:	4/14/2011			
Facility Name:	Stratford Court Café		Corrective Actions Required:	No
Address:	1307 Stratford Court			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Gregg Sonken			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/ violations reported.	Enforcement Action:	None
Inspection Date:	3/18/2011			
Facility Name:	Sushi Japone		Corrective Actions Required:	No
Address:	1101 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Akira Konishi/Kazu Osaka			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Food establishment. Part of En Fuego Restaurant. No issues/violations reported.	Enforcement Action:	None
Inspection Date:	4/21/2011			
Facility Name:	La Tienda Wine Shop		Corrective Actions Required:	No
Address:	1342 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	John Wingate			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Hotel. New restaurant under construction.	Enforcement Action:	None
Inspection Date:	5/4/2011			
Facility Name:	Best Western Stratford Inn		Corrective Actions Required:	No
Address:	710 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Mario Leon			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Hotel establishment. No issues/ violations reported.	Enforcement Action:	None
Inspection Date:	4/21/2011			
Facility Name:	Clarion Del Mar Inn		Corrective Actions Required:	No
Address:	720 Camino del Mar			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Thomas Mackee			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Annual Inspection	Hotel establishment. No issues/ violations reported.	Enforcement Action:	None
Inspection Date:	5/13/2011			
Facility Name:	Del Mar Hotel on the Beach		Corrective Actions Required:	No
Address:	1702 Coast Blvd			
Business Type:	Commercial		Corrective Action Description:	
Contact:	Mikki Ellis			
Hydrologic Area:	San Dieguito (905.11)			
			Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

Firm Name	Firm Name (Addl)	Business Type	Firm Address	City	State	Zipcode	Phone Number
A & A Glass & Mirror Co.		Contractors	518 Cassou Rd	San Marcos	CA	92069	(760) 489-0307
A & D Fire Sprinklers Inc.		Fire Sprinklers	11465 Woodside Ave	Santee	CA	92071	(619) 448-1962
A & D Glass Inc.		Contractor - Specialty	1903 West Vista Way	Vista	CA	92083	760-758-1673
A + B Sheet Metal		Contractor - Specialty	13420 Orange Blossom Lane	Poway	CA	92064	619-987-9058
A C Electric Corp.		Electrical	PO Box 530	Poway	CA	92074	(858) 748-6973
A.B. Plumbing		Plumbing and A/C	239 Estrelita Dr	Vista	CA	92084	(760) 715-1165
A.K. Stuart Construction		Contractors	1502 Via Rancho Parkway	Escondido	CA	92029	(760) 839-5751
A.O. Reed & Co., Inc.		Contractor - Specialty	4777 Ruffner St	San Diego	CA	92111	858-565-4131
A.R. Bardsley Construction		Contractors	PO Box 512	Jamul	CA	91935	(619) 669-6593
Aaaa Dba Drain Patrol		Plumbing and A/C	7764 Arjons Dr	San Diego	CA	92126	(858) 560-1137
Abc Construction Co., Inc.		Contractors	3120 National Ave	San Diego	CA	92113-2597	(619) 239-3428
Abundant Sun Sustainable		Contractor - Specialty	2136 San Dieguito Drive	Del Mar	CA	92014	858-755-3740
Academy Backflow Service		Plumbing and A/C	PO Box 1528	Lakeside	CA	92010	(619) 561-0991
Access Plumbing		Plumbing and A/C	7525 Juarez Ct # B	Carlsbad	CA	92009	(858) 755-4213
Accurate Comfort Systems Inc.	Action Air Conditioning & Heating	Plumbing and A/C	2750 S Santa Fe Ave	San Marcos	CA	92069	(760) 727-4152
Acuterra Inc.		Contractors	3525 Del Mar Heights Rd # 119	San Diego	CA	92130	(858) 509-1500
Adalberto Landscape		Landscaping	835 Del Riego Avenue	Encinitas	CA	92024	760-633-4561
Added Touch Paint Professionals		Painting	3733 Curtis St	San Diego	CA	92106	(619) 886-1229
Adg Overhead Doors Inc.	Dba Lockout Garage Doors	Contractors	7933 Silverton Ave #716	San Diego	CA	92126	(858) 481-3123
Advanced Backflow Preventer Svc	West End Holdings	Plumbing and A/C	8260 Engineer Rd	San Diego	CA	92111	(858) 573-0842
Advanced Waterscape Inc		Contractors	PO Box 70121	San Diego	CA	92167	(619) 222-6767
Advanced Window Washing		Power Washing/Window Cleaning	1611 Calle Colorado	Vista	CA	92084	(760) 630-5773
Affordable Water Heaters		Plumbing and A/C	24663 Railroad Ave	Santa Clarita	CA	91321	(661) 259-7131
Ahe, Inc. Dba American Home Entertainment		Electrical	7373 Engineer Rd #D	San Diego	CA	92111	(858) 430-1701
Ahlee Backflow Service		Plumbing and A/C	905 4Th St	El Cajon	CA	92019	(619) 444-7781
Air Flohs		Contractor - Specialty	16232 Martincoip Road	Poway	CA	92064	858-748-6437
Air Temperature Specialists		Contractor - Specialty	41659 Date St Ste 200	Murrieta	CA	92562	888-588-1602
Air West Mechanical Inc		Contractor - Specialty	1341 Distribution Way 13	Vista	CA	92081	760-734-4526
Airx Utility Surveyors Inc.		Contractor - Specialty	2534 E El Norte Parkway Ste C	Escondido	CA	92027	760-480-2347
Akeena Solar Inc		Contractor - Specialty	5784 Miramar Rd	San Diego	CA	92121	858-558-8337
Alarms Unlimited/Custom Electronics		Electrical	4584 Park Blvd	San Diego	CA	92116	(619) 297-4500
Alcal Arcade Contracting, Inc.		Contractors	31164 Huntwood Ave	Hayward	CA	94544	(510) 477-9380
Alessio Heating & Air Inc.		Plumbing and A/C	550 W 6Th Ave	Escondido	CA	92025	(760) 489-2299
All Seasons Insulation, Inc		Contractor - Specialty	22421 Barton Rd #166	Grand Terrace	CA	92313	909-824-2634
All Sorts Concrete		Masonry	221 Melinda Way	Oceanside	CA	92057	
All Star Water Heaters		Contractor - Specialty	26867 Pelham Pl	Hayward	CA	94542	951-712-5115
Alliance Environmental Group,		Contractor - Specialty	8390 Juniper Creek Ln	San Diego	CA	92126	619-229-6135
Almendariz Plumbing Systems		Plumbing and A/C	1513 Valleda Ln	Encinitas	CA	92024	(760) 419-4211
Alpine Plumbing & Backhoe Inc		Contractor - Specialty	2538 Alpine Blvd	Alpine	CA	91901	619-445-5288
Alta Dena Certified Dairy Inc.		Food Service-Delivery	17637 E Valley Blvd	City Of Industry	CA	91744	(818) 964-6401
Am Cabinets Inc.		Contractor - Specialty	239 East Gardena Boulevard	Gardena	CA	90248	310-532-1919
Ambiance Electric		Electrical	4982 Mt Frissell Dr	San Diego	CA	92117	(858) 268-3558
American Bobcat& Backhoe Service, Inc.		Equipment Suppliers	1334 Descanso Ave	San Marcos	CA	92069	(619) 520-2042
American Fireplaces, Inc.		Masonry	9938 Mesa Rim Rd	San Diego	CA	92121	(858) 578-4062
American Fish & Seafood Co.		Food Service - Delivery	625 Kohler St	Los Angeles	CA	90021	(213) 612-0353
American Insulation, Inc.		Insulation Services	8305 Miralani Dr	San Diego	CA	92126	(858) 527-0100
American Marble-Kammerer Ent		Contractor - Specialty	1280 N Melrose Dr	Vista	CA	92083	760-560-0550
American Residential Services	Dba Rescue Rooter	Plumbing and A/C	9895 Olson Dr 720	San Diego	CA	92121	(858) 642-4745
American Technologies Inc.		Contractors	8444 Miralani Dr	San Diego	CA	92126	(858) 530-2400

Firm Name	Firm Name (Addl)	Business Type	Firm Address	City	State	Zipcode	Phone Number
Amg Demolition & Environmental Service		Contractors	1220 Rosecrans St S-523	San Diego	CA	92106	(619) 501-7427
Amir's Catering & Event Planning		Catering	2565 Abedul St	Carlsbad	CA	92009	(760) 929-0707
Amtech Elevator Services		Mechanical	4837 Mercury St	San Diego	CA	92111	(858) 637-4660
Anderson Drilling/Sja Inc		Grading & Demolition	10303 Channel Road	Lakeside	CA	92040	(619) 443-3891
Andrew Electric		Electrical	402 Alpine Heights Rd	Alpine	CA	91901	(619) 445-8955
Andrew Mccracken Tree Service		Landscape Service	11730 Tierra Del Sur	San Diego	CA	92130	(858) 755-7362
Angel's Feeds Inc.		Food Service - Delivery	4518 Rowland Ave	El Monte	CA	91731	(818) 442-2680
Angel'S Tree Service		Gardening	629 C Avenue	National City	CA	91950	
Ankeney Bros Painting		Painting	879 Starflower Rd	Encinitas	CA	92024	(760) 944-2930
Anning Johnson Company		Contractor - Specialty	13250 Temple Ave	Temple	CA	91746	626-369-7131
Antimite Associates, Inc.		Pest Control	1931 Plaza Real	Oceanside	CA	92056	(858) 451-0440
Anytyme Plumbing, Inc.		Plumbing and A/C	1064 La Mirada Ct	Vista	CA	92081	
Apex Construction		Contractors	29536 Avenida Del Sol	Temecula	CA	92591	(951) 693-1969
Apex Lighting & Electric Inc.		Electrical	1939 Friendship Dr Ste A	El Cajon	CA	92020	(619) 448-6400
Apex Pacific, Inc.		Contractors	8911 Complex Dr Ste F	San Diego	CA	92123	(858) 496-0072
Apptek Coachella Inc		Contractor - Specialty	10685 Roselle St #200	San Diego	CA	92121	858-875-1850
Apw Construction, Inc Dba Ace		Contractor - Specialty	727 N Glendora Ave	La Puente	CA	91744	626-333-0727
Aquatech Raingutters		Contractor - Specialty	4965 Brighton Ave	San Diego	CA	92107	619-248-9297
Arbor West Tree Surgeons, Inc.		Landscape Service	8553 Avenida Costa Blanca	San Diego	CA	92154	(619) 661-5001
Archibald Inc. Dba Affordable Rain Gutters		Contractors	1402 N Magnolia Ave	El Cajon	CA	92020	(619) 469-0400
Area-West Fence Co		Fencing	12566 Vigilante Rd	Lakeside	CA	92040	(619) 561-4900
Arias Waterproofing		Masonry	1133 Sweetwater Ln	Spring Valley	CA	91977	(619) 884-7923
Armstrong Woodworking		Contractors	14263 Tyler Rd	Valley Center	CA	92082	(760) 297-2186
Arrow Pipeline Repair Inc		Contractors	1228 Keystone Wy	Vista	CA	92081	(760) 476-9388
Ars Of San Diego #8118		Contractor - Specialty	965 Ridge Lake Blvd Ste 201	Memphis	TN	38120	858-805-0613
Artistic Metal Working		Contractor - Specialty	1332 Simpson Way	Escondido	CA	92029	760-889-9427
Artquest Catering		Catering	10717 Cariuto Court	San Diego	CA	92124	619-823-9531
Asphalt& Concrete Specialist, Inc.		Contractors	7200 Ponto Dr Ste B	Carlsbad	CA	92011	___
Asplundh Tree Expert Co		Gardening	708 Blairmill Road	Willow Grove	PA	19090	858-583-8776
Assurance Plumbing		Plumbing and A/C	PO Box 397	Carlsbad	CA	92018	(760) 433-7646
Assured Quality Woodcraft		Contractor - Specialty	602 N Pacific Coast Highway	Redondo Beach	CA	90277	310-376-5809
Ast Stone Corporation		Masonry	5300 The Grand Del Mar Way	San Diego	CA	92102	(619) 401-8871
Authentic Flavors Catering		Catering	7004 Carroll Rd	San Diego	CA	92121	858-404-0606
Avidex Systems, Inc		Contractor - Specialty	13555 Bel-Red Rd Ste 2210	Bellevue	WA	98005	425-646-0890
Aztec Landscaping Inc.		Landscape Service	7980 Lemon Grove Way	Lemon Grove	CA	91945	(619) 464-3303
B.A. Worthing, Inc		Contractors	PO Box 1041	Carlsbad	CA	92018	(760) 729-3965
B.E. Kaylor Restoration, Inc		Contractors	4820 Mercury St Ste D	San Diego	CA	92111	(858) 974-7787
Backflow Services		Plumbing and A/C	9420 Loren Drive	La Mesa	CA	91942	(619) 303-1561
Baer Heating and Air		Plumbing and A/C	13030 S Mountain Dr	Lakeside	CA	92040	(619) 328-5900
Baj Backflow & Plumbing		Contractor - Specialty	125 Willowside Terrace	Alpine	CA	91901	619-241-1990
Baker'S Booth Co., Inc.		Contractor - Specialty	5975 Fairmount Avenue	San Diego	CA	92120	619-284-6094
Baldassari		Contractors	8615 F Via Mallorca	La Jolla	CA	92037	(619) 987-6946
Baldwin Electrical		Contractor - Specialty	2179 Mardavido Ln	Fallbrook	CA	92028	619-972-0910
Ball General Contracting		Contractors	3855 Manchester	Encinitas	CA	92024	(760) 634-5548
Banker Insulation Of Ca, Inc		Contractor - Specialty	2357 Auto Park Way	Escondido	CA	92029	760-738-6980
Bar None Barbeque, Inc		Catering	7401 Princess View Dr Ste E	San Diego	CA	92120	(619) 285-0801
Bar Works Catering		Catering	8504 Commerce Ave	San Diego	CA	92121	(858) 566-6077
Barbara Reed'S Pro. Cleaning		Contractor - Specialty	13676 Cynthia Lane	Poway	CA	92064	858-748-6227
Barton Electric		Electrical	4089 Helena St	Fallbrook	CA	92028	(760) 723-1651
Beach Plumbing Inc		Plumbing and A/C	241 Calle Pintoresco	San Clemente	CA	92672	(949) 498-6000
Behind The Scenes, Inc.		Catering	9888 Waples St	San Diego	CA	92121	858-638-1400

Firm Name	Firm Name (Addl)	Business Type	Firm Address	City	State	Zipcode	Phone Number
Bekker's Catering		Catering	7455 Mission Gorge Road	San Diego	CA	92120	(619) 287-9027
Bela Bartanyi Home and Land Maintenance		Handymen	1321 Stratford Ct	Del Mar	CA	92014	(858) 259-5782
Beltran Construction		Contractors	799 Hygeia Ave	Encinitas	CA	92024	(760) 802-7073
Benchmark Landscape Inc		Landscape Service	12575 Stowe Dr	Poway	CA	92064	(858) 513-7190
Benitez Landscape		Landscaping	3350 Currant St	San Diego	CA	92111	858-688-2488
Berck's Family Plumbing, Heating & Air		Plumbing and A/C	38415 Innovation Ct Ste E	Murrieta	CA	92563	(877) 423-7257
Besek Electric		Electrical	525 F St.	Chula Vista	CA	91910	(619) 691-8748
Besemer Construction Inc		Contractors	5159 Del Mar Mesa Rd	San Diego	CA	92130	(858) 755-2987
Beyer Heating & Air Conditioning		Plumbing and A/C	772 Jamacha Rd Pmb 348	El Cajon	CA	92019	(619) 579-1139
Bgm Installationtion Inc.		Contractor - Specialty	25022 S Vermont Avenue	Harbor City	CA	90710	310-536-0110
Bill Howe Plumbing, Inc		Contractor - Specialty	1364 Morena Blvd	San Diego	CA	92110	619-286-6348
Bingham Heating & Air		Plumbing and A/C	6387 Nancy Ridge Dr Ste B	San Diego	CA	92121	(858) 200-0680
Black Car Specialized		Auto Detailing	PO Box 102	Del Mar	CA	92014	(858) 603-3863
Black Forest Detail		Auto Detailing	PO Box 675853	Rancho Santa Fe	CA	92067	(858) 558-0244
Black Hawk Electric Co. Inc		Contractor - Specialty	PO Box 461208	Escondido	CA	92046	619-286-0360
Black Mountain Plumbing, Inc.		Plumbing and A/C	9929 Hibert St.	San Diego	CA	92131	(858) 536-4161
Bligh Roof	Dba Bligh Pacific	Roofing	11043 Forest Pl.	Santa Fe Springs	CA	90670	(562) 944-9753
Blue Moon Pools, Inc.		Contractor - Specialty	PO Box 711807	Santee	CA	92072	619-258-7665
Blue Pacific Landscape & Design		Landscape Service	709 Oceanview Ave	Encinitas	CA	92024	(760) 635-3806
Bob Piva Roofing		Roofing	1192 Industrial Ave	Escondido	CA	92029	(760) 745-4700
Bradley Landscape Dev. Inc.		Landscape Service	607 N Vulcan Ave Ste B	Encinitas	CA	92024	(760) 436-0554
Breeze Point Heating & Air		Contractor - Specialty	1518 Seabrook Ln	San Diego	CA	92139	858-864-3780
Brian Cain Lanscape Co.		Landscape Service	1784 Glidden Ct.	San Diego	CA	92111	(619) 582-0233
Brian Cox Mechanincal, Inc.		Mechanical	12155 Kirkham Rd	Poway	CA	92064	(858) 679-5757
Broadway Auto Glass		Automotive - Misc.	98 Broadway	Chula Vista	CA	91910	(619) 426-0187
Brookwood Plastering Inc.		Masonry	4876 Elsa Rd	San Diego	CA	92120	(619) 520-7828
Buckboard Catering		Catering	9265 Activity Rd 108	San Diego	CA	92126	(858) 748-1617
Burke Lighting Design, Inc.		Contractor - Specialty	4886 Monroe Avenue	San Diego	CA	92115	619-564-7600
Burris Plumbing, Inc.		Contractor - Specialty	1305 I Avenue	National City	CA	91950	619-477-7510
Business Advisory Services		Contractor - Specialty	5042 Seashell Place	San Diego	CA	92130	760-930-6060
Buzcor Heating & Air		Contractor - Specialty	PO Box 891286	Temecula	CA	92589	760-224-2896
C & C Partnership		Contractor - Specialty	6661 Carthage St	San Diego	CA	92120	619-286-9202
C & M Stucco Specialist Inc.		Contractor - Specialty	475 Corporate Drive	Escondido	CA	92029	760-735-9783
C. Park Inc		Catering	6835 Flanders Dr Ste 200	San Diego	CA	92121	(858) 558-7618
Cafe Catering		Catering	960 Rancheros Dr # A	San Marcos	CA	92069	(760) 745-9700
Cafe Merlot Custom Catering		Catering	13330 Paseo Del Verano	San Diego	CA	92128	(858) 592-7785
Cafe Sevilla, Inc.		Catering	8560 A Production Ave	San Diego	CA	92121	858-860-0382
Cali D'Cuisine		Catering	13330 Paseo Del Verano Norte Suite E	San Diego	CA	92128	858-592-7785
California Backflow		Plumbing and A/C	1701 Alta Vista Dr	Vista	CA	92084	(858) 755-2758
California Boring, Inc.		Grading & Demolition	770 N Eckhoff St	Orange	CA	92868	(714) 456-9650
California Cuisine		Catering	PO Box 600310	San Diego	CA	92160	619-543-0790
California Custom Lift, Inc.		Mechanical	13802 West St	Garden Grove	CA	92843	(714) 554-1300
California Glass Enterprises,		Contractor - Specialty	13220 Evening Creek Dr So. #106	San Diego	CA	92128	858-486-2500
California Mirror &		Contractor - Specialty	10045 Carroll Canyon Road Ste B	San Diego	CA	92131	858-566-0603
California Sheet Metal Works Inc.		Contractors	1020 Marshall St	El Cajon	CA	92020	(619) 562-7010
Cam Contractors, Inc.		Contractors	938 S andreasen Dr	Escondido	CA	92029	(760) 796-4085
Camino Air Conditioning, Inc.		Contractor - Specialty	13135 Claire Drive	Poway	CA	92064	858-486-1136
Campbell Escondido Refrig, Inc.		Plumbing and A/C	1948 Don Lee Pl St 3	Escondido	CA	92029	(760) 745-4431

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Can Am Marine Enterprise Inc		Contractor - Specialty	19952 Lei Garden Road	Burlington	WA	98233	360-757-3249
Canseco's Painting		Painting	119 Plimouth Dr	Vista	CA	92083	(760) 758-5945
Capo Valley Fireside		Masonry	26401 Via De Anza	San Juan Capistrano	CA	92675	(949) 364-5118
Cardiff By The Sea Roofing		Contractor - Specialty	PO Box 280	Cardiff By The Sea	CA	92007	760-753-2622
Cardiff Seaside Market		Catering	2087 San Elijo Avenue	Cardiff By The Sea	CA	92007	760-753-5445
Carlsbad Lanscaping &		Landscaping	3190 Roosevelt Street	Carlsbad	CA	92008	760-730-3764
Carmel Valley Pest Control		Contractor - Specialty	2658 Del Mar Heights Road #523	Del Mar	CA	92014	858-350-8838
Carpenter's Plumbing Inc.		Plumbing and A/C	722 Suzanne Ln	Escondido	CA	92026	(760) 745-0465
Cartwright Termite & Pest Control Inc		Pest Control	1376 Broadway	El Cajon	CA	92021	(619) 442-9613
Casey's Concrete Service		Masonry	1257 Maple Ave	Beaumont	CA	92223	(951) 845-4704
Casper's Concrete Cutting, Inc.	Dba Casper Company	Masonry	3825 Bancroft Dr	Spring Valley	CA	91977	
Cass Construction, Inc.		Contractors	1100 Wagner Dr	El Cajon	CA	92020	(619) 590-0929
Catering By Barry Layne, Inc.	Dba Coast Catering	Catering	3732 Gum Tree Glen	Escondido	CA	92025	(760) 212-7780
Catering By Daniela		Catering	9121 Atlanta Ave #710	Huntington Beach	CA	92646	714-305-8431
Catering By Felicia G.		Catering	13790 Rostrata Ave	Poway	CA	92064	(619) 742-4747
Catering By Felicia G.		Catering	13790 Rostrata Ave	Poway	CA	92064	619-742-4747
Ccs Cabinets		Contractor - Specialty	7360 Trade St	San Diego	CA	92121	858-536-9095
Cement Cutting Inc.		Masonry	3610 Hancock St	San Diego	CA	92110	(619) 296-0849
Centex Glazing Inc		Masonry	8260 Commercial St	La Mesa	CA	91942	(619) 644-1981
Central Meat & Provision Co		Food Service - Delivery	1603 National Ave	San Diego	CA	92113	(619) 239-1391
Cesar's Exterior Designs Inc		Landscape Service	PO Box 124511	San Diego	CA	92112	(619) 850-4826
Challenge Dairy Products, Inc		Food Service - Delivery	3510 Hancock St	San Diego	CA	92101	(619) 297-3541
Charlie's Tractor Service		Contractors	5656 La Sencilla	Rancho Santa Fe	CA	92067	(760) 753-5804
Chef Dave Simmons		Catering	1179 Lake Berryessa St	Henderson	NV	89002	(702) 489-2201
Chef Dk Catering		Catering	2502 Navarra Dr #221	Carlsbad	CA	92009	(760) 828-0596
Chefaxel, Inc.		Catering	7097 University Ave	La Mesa	CA	91941	(619) 421-8844
Chief Plastering		Contractor - Specialty	1660 E Lexington Ave	El Cajon	CA	92019	619-579-1639
Chiefs Kitchen		Catering	298 W 5Th St	Westmorland	CA	92281	(760) 256-5903
Chileco Catering		Catering	735 E Mission Rd	San Marcos	CA	92069	(760) 670-4502
Chism Brothers Painting		Painting	9235 Chesapeake Dr Ste R	San Diego	CA	92123	(858) 571-0676
Chris Coulter Landscape		Landscape Service	PO Box 465	Solana Beach	CA	92075	(760) 942-7547
Christian Brothers Flooring & Interiors		Flooring	12086 Woodside Ave	Lakeside	CA	92040	(760) 789-6234
Christopher Ayers Plastering		Masonry	1282 Via Angelica	Vista	CA	92081	(760) 622-9343
Circle Foods Llc		Food Service - Delivery	8411 Siempre Viva Rd	San Diego	CA	92154	(619) 263-8000
City Fire Equipment Inc.		Fire Sprinklers	1816 Country Club	Escondido	CA	92029	(619) 917-3580
CJ's Interiors, Inc.		Contractors	8265 Commerical St #6	La Mesa	CA	91942	(619) 464-0042
Clairemont Roofing Co, Inc.		Roofing	4232 Balboa Ave Ste 16	San Diego	CA	92117	(858) 483-7345
Clay Leaf Building Contractor,		Contractor - Specialty	7533 Draper Ave	La Jolla	CA	92037	858-459-2995
Clean Air Diagnostics and Solutions		Plumbing and A/C	1546 Avenida La Posta	Encinitas	CA	92024	(760) 277-5262
Clean Energy Construction		Contractors	2808 Oceanfront Rd	Del Mar	CA	92014	(562) 493-7227
Cmc Home Repair		Handymen	33034 Puffin St	Temecula	CA	92592	(951) 694-6044
Cms Interiors, Inc.		Contractor - Specialty	9373 Activity Road Suite D	San Diego	CA	92126	858-693-9000
Coast Line Electric		Electrical	4251 10Th Ave	San Diego	CA	92103	(858) 456-1753
Coast Sign		Contractors	1500 W Embassy	Anaheim	CA	92802	(714) 520-9144
Coast Waste Management, Inc.		Solid Waste Haulers	5960 El Camino Real	Carlsbad	CA	92018-0947	(760) 753-9412
Coastal Flooring, Inc.		Contractor - Specialty	377 E Street	Chula Vista	CA	91910	619-426-1245
Coastal Pet Care		Pet Grooming	930 Via Mil Cumbres # 138	Solana Beach	CA	92075	(760) 715-7951

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Coastal Plumbing, Inc.		Plumbing and A/C	1228 Keystone Wy	Vista	CA	92081	(760) 720-2991
Coastal Roofing & Sheet Metal		Roofing	5171 Santa Fe St B	San Diego	CA	92109	(858) 277-1131
Coca-Cola Bottling Co Of Sd		Food Service - Delivery	1348 47Th St	San Diego	CA	92101	(619) 266-3300
Coles Custom Cabinets Inc.		Woodworking	750 Design Ct # 108	Chula Vista	CA	91911	(619) 216-1170
Columbia Pest Control Of San Diego		Pest Control	127 W 9Th Street	National City	CA	91950	(619) 264-6443
Columbine Landscape, Inc.		Landscape Service	2268 Buena Creek Rd	Vista	CA	92084	(760) 598-3600
Community Contractors		Contractors	1130 Devon Shire	Encinitas	CA	92024	(760) 753-3531
Complete Building Solutions Inc		Plumbing and A/C	2458 Melissa Ct	Vista	CA	92081	(760) 597-4761
Concrete Contractors Interstate		Contractors	12599 Stotler Ct	Poway	CA	92064	(858) 679-5550
Conex Roofing Company		Roofing	2011 W Batavia St	Orange	CA	92865	(888) 874-6649
Conner Detail		Auto Detailing	1721 Red Barn Rd	Encinitas	CA	92024	(760) 522-6034
Continental Catering		Catering	8238 Parkway Dr	La Mesa	CA	91942	(619) 698-3500
Corky's Pest Control, Inc.		Pest Control	909 Rancheros Dr	San Marcos	CA	92069	(760) 432-8801
Coronado Catering		Catering	PO Box 180411	Coronado	CA	92178	619-717-3392
Co'S Traffic Control, Inc.		Contractor - Specialty	PO Box 1101	Del Mar	CA	92014	858-259-0300
Country Carpets		Carpet Cleaning	2201 San Dieguito Dr	Del Mar	CA	92014	(858) 316-6730
Countywide Mechanical Systems		Mechanical	9330 Stevens Rd.	Santee	CA	92071	(619) 449-9900
Coutts Brother Inc.		Contractor - Specialty	PO Box 1777	San Marcos	CA	92079	760-751-8777
Craig Peterson Plumbing		Contractor - Specialty	1649 Honeysuckle Ct	Encinitas	CA	92024	760-942-6160
Creative Food & Beverage		Catering	240 Dahlia Ave	Imperial Beach	CA	91932	(619) 647-4199
Creative Stone & Tile, Inc		Contractor - Specialty	5661 Palmer Way Ste 14	Carlsbad	CA	92010	760-603-8282
Crescent Floors		Flooring	6841 Mimosa Dr	Carlsbad	CA	92011	(760) 310-0948
Crew Builders		Contractors	6191 Cornerstone Ct # 101	San Diego	CA	92121	(858) 587-0900
Cross Way Fire		Contractor - Specialty	1220 Rosecrans St # 303	San Diego	CA	92106	619-589-1141
Crossman Landscape Inc		Landscape Service	8617 Cuyamaca St	Santee	CA	92071	___
Crown Point Catering, Inc.		Catering	4927 Voltaire St	San Diego	CA	92107	(619) 223-1211
Crs Company		Contractors	1345 Camino Linda Dr	San Marcos	CA	92078	(760) 975-9698
Ctm Contracting, Inc.		Contractors	1820 Horseman Ln	Rancho Santa Fe	CA	92091	(858) 756-2024
Culligan		Plumbing and A/C	7575 Carroll Rd	San Diego	CA	92121	(760) 729-1171
Custom Hardwood Floors		Flooring	3232 N Twin Oaks Valley Rd	San Marcos	CA	92069	(760) 744-6248
Custom Plastering, Inc.		Contractor - Specialty	2308 Denova Dr	Alpine	CA	91901	619-445-4216
Custom Plumbing Innovations		Plumbing and A/C	1374 S Grade Rd	Alpine	CA	91901	(619) 937-1564
Custom Theater Systems		Electrical	124 Lomas Santa Fe Dr #206	Solana Beach	CA	92075	(858) 509-7900
Cut 'N Core		Contractors	9194 Chesapeake Dr	San Diego	CA	92123	(619) 560-6627
Cypress Landscape		Landscaping	PO Box 462854	Escondido	CA	92046	760-455-4279
D & M Shelley's Inc.	Dba D & M Welding	Welding Or Ironwork	7952 North Ave	Lemon Grove	CA	91945	(619) 460-1710
D.A.D. Asphalt		Paving	14781 Pomerado Rd #246	Poway	CA	92064	(858) 748-8988
D.W. Quality Drywall		Drywall	3525 Del Mar Heights Rd	San Diego	CA	92130	(858) 259-8750
Damianos Services Inc		Contractor - Specialty	PO Box 2607	Valley Center	CA	92082	760-749-9757
Dana Construction		Contractors	315 First St Ste U #53	Encinitas	CA	92021	(760) 807-3373
Daniel F. Schaldach Inc. Dba D&S		Contractor - Specialty	1277 Pacific Oaks Place Suite 100	Escondido	CA	92029	760-743-0339
Daniel Schaeffer Dba Landmark		Contractor - Specialty	8015 Balboa Ave	San Diego	CA	92111	858-279-1222
Darband/Fifth Ave Grill		Catering	1556 5Th Ave	San Diego	CA	92101	619-230-1001
Darling International Inc		Food Service - Delivery	8096 Miramar Rd	San Diego	CA	91926	(619) 566-8600
Daryl Griffis Acoustics, Inc.		Contractors	4958 Naples St	San Diego	CA	92110	(619) 275-3060
Davenport Development Corp		Contractor - Specialty	6210 Marindustry Dr	San Diego	CA	92121	858-455-9966
Davey Tree Surgery		Landscape Service	1500 N Mantua St	Kent	OH	44240-5193	(925) 443-1723
David Brown		Contractor - Specialty	632 Cerro St	Encinitas	CA	92024	760-436-2138
David Read Fine Carpentry & Construction		Contractors	4715 Murat Pl	San Diego	CA	92117	(619) 981-1804
David Tepper	Dba Affordable Affairs Catering	Catering	2940 Lincoln Ave.	San Diego	CA	92104	(619) 282-1064

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Davis Framing Inc		Framing	8103 Commercial St	La Mesa	CA	91942	(619) 463-2394
Davis Stone Inc		Masonry	519 Venture St	Escondido	CA	92029	(760) 745-7881
DBC Construction Inc.		Contractors	6805 Nancy Ridge Dr	San Diego	CA	92121	(858) 450-6990
DBG Plumbing, Inc.	Dba: Dg Plumbing	Plumbing and A/C	206 Greenfield Dr Ste G	El Cajon	CA	92020	(619) 447-9497
Decidedly Better, Llc.		Catering	3645 28Th St	San Diego	CA	92104	(619) 299-0889
Del Mar Epoxy		Contractors	12950 Carmel Creek Rd #104	San Diego	CA	92130	
Del Mar Fabrication & Welding		Contractors	1745 Olivenhain Rd	Encinitas	CA	92024	(760) 753-2266
Del Mar Glass, Inc.		Contractor - Specialty	2120 Jimmy Durante Blvd 116	Del Mar	CA	92014	858-755-7505
Del Mar Glazing and Construction		Contractors	2126 Jimmy Durante Blvd. C""	Del Mar	CA	92014	(858) 847-0163
Del Mar Restoration		Contractors	PO Box 2646	Del Mar	CA	92014	(858) 793-3456
Del Mar Screens		Contractors	12295 Caminito Mira Del Mar	San Diego	CA	92130	(858) 356-9994
Demcon Concete Contractors		Contractor - Specialty	13795 Blaisdell Place #202	Poway	CA	92064	858-748-5090
Demdo Drywall Co., Inc.		Contractor - Specialty	419 S Marshall Avenue	El Cajon	CA	92020	619-590-0025
Dependable Plumbing		Plumbing and A/C	12120 Tech Center Dr Ste A	Poway	CA	92064	(858) 486-5111
Design Builders		Contractors	4092 Wooster Dr.	Oceanside	CA	92056	(760) 726-8564
Dewey Pest Control		Pest Control	4623 Desoto St	San Diego	CA	92109	(619) 272-3611
DH Maintenance Services		Contractors	2320 Back Nine St	Oceanside	CA	92056	(760) 721-0440
DHF Inc.	Dba Low Voltage Systems	Electrical	12315 Oak Knoll Rd #110	Poway	CA	92064	(858) 699-4379
Diamond Environmental		Environmental Services	807 E Mission Rd	San Marcos	CA	92069	(760) 744-7191
Dick Miller, Inc.		Contractors	930 Boardwalk Ste G	San Marcos	CA	92078	(760) 471-6842
Dig Dug Underground, Inc.		Contractors	21475 Webster Ave	Perris	CA	92570	(951) 242-2202
Dillon Waterproofing Inc		Contractor - Specialty	PO Box 675211	Rancho Santa Fe	CA	92067	858-759-7590
Dirt Cheap Demolition,Inc.		Grading & Demolition	171 Mace Street Ste A-4	Chula Vista	CA	91911	(619) 426-9598
Divine Pet Care		Pet Grooming	12950 Ilene St	Poway	CA	92064	(858) 397-8338
Dixon'S Grading And Paving		Contractor - Specialty	140 S Stetson Ave #341	Hemet	CA	92139	877-734-9766
Dm Concrete Pumping Inc		Plumbing and A/C	30610 Rolling Hills Dr	Valley Center	CA	92082	(760) 749-4200
Domingo Landscaping		Landscaping	1309 E Mission Ave.	Escondido	CA	92027	760-755-7483
Dominguez Drywall		Drywall	566 Hilldale Circle	Vista	CA	92083	(760) 455-3946
Don Hubbard Contracting		Contractors	1015-A Linda Vista Dr	San Marcos	CA	92078	(760) 736-3241
Double E Electric		Electrical	26741 Portola Pkwy #672	Foothill Ranch	CA	92610	(949) 830-9473
Draves Pipeline Incorporated		Contractor - Specialty	PO Box 1051	Bonsall	CA	92003	760-728-7094
DRP Construction		Contractors	1093 Crest Dr	Encinitas	CA	92024	(760) 944-4409
DS Waters Of America, Inc.	Dba Sparkletts	Food Service - Delivery	2615 Temple Heights Dr	Oceanside	CA	92056	(770) 933-1400
Duke's Root Control, Inc.		Plumbing and A/C	1020 Hiawatha Blvd. West	Syracuse	NY	13204	(315) 472-4781
Dunnington Inc		Contractor - Specialty	9883 Pacific Heights Blvd Ste E	San Diego	CA	92121	858-457-9100
Duran Maintenance		Landscaping	15624 Via Monte Cristo	San Diego	CA	92127	858-336-0487
Dynamic Cabinet Designs		Woodworking	10215 Canoga Ave	Chatsworth	CA	91311	(818) 700-1658
Dywidag Systems International		Contractor - Specialty	2154 E South St	Long Beach	CA	90805	562-531-6161
E & J Custom Granite Inc.		Masonry	795 North Ave # E	Vista	CA	92083	(760) 940-1633
Eco Caters		Catering	4934 Voltaire Street	San Diego	CA	92107	858-246-6129
Ecoscape Industries		Landscape Service	13275 Benchley St	San Diego	CA	92014	(858) 275-8969
Ehmcke Sheet Metal Corp		Contractors	840 W 19Th St	National City	CA	91950	(619) 477-6484
Ekedal Concrete, Inc.		Contractor - Specialty	220 Newport Center Drive #11-288	Newport Beach	CA	92660	949-729-8082
El Comal Antojitos Bar & Grill		Catering	3946 Illinois St	San Diego	CA	92104	(619) 294-8292
El Indio Shops		Catering	3695 India St	San Diego	CA	92103	619-299-0385
El Nopalito, Inc.		Catering	560 Santa Fe Dr	Encinitas	CA	92024	760-436-5775
Elecore Inc		Contractor - Specialty	2215 Via Cerro	Riverside	CA	92509	951-779-3200
Electronic Homes Inc		Electrical	1954 Bienvenido Ln	Escondido	CA	92026	(760) 420-9898
Elegant Events Catering Co		Catering	7516 Mesa College Dr	San Diego	CA	92111	(858) 278-5691
Elpidio V. Castro		Landscaping	PO Box 963	Cardiff By The Sea	CA	92007	760-846-3148
Elston Masonry, Inc.		Masonry	1422 Santa Margarita Dr	Fallbrook	CA	92028	(760) 728-3593
Emilio & Sons Inc.		Contractor - Specialty	2255 Micro Place	Escondido	CA	92029	760-233-1112

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Endurance Masonry		Masonry	534 N Cedros Ave	Solana Beach	CA	92075	(760) 801-7203
Epic Catering		Catering	4942 Cape May Ave	San Diego	CA	92107	(619) 223-8200
Escondido Landscape Inc	Dba Nature Designs	Landscape Service	116 Hannalei Dr	Vista	CA	92083	(760) 945-4321
Events By Christopher	Christopher Durst Productions, Llc	Catering	1574 Caminito Solidago	La Jolla	CA	92037	(858) 454-2267
Evt Pool Service		Pool Or Spa Care	3850 Elijah Ct #934	San Diego	CA	92130	(858) 792-7103
Expo Tile & Marble		Contractor - Specialty	2278 Del Mar Heights Rd	Del Mar	CA	92014	858-259-8453
Exterior Restoration Specialists		Painting	970 W Valley Pkwy Ste #404	Escondido	CA	92025	(760) 466-1205
F & S Asphalt Seal And Sripe,		Contractor - Specialty	PO Box 789	Fallbrook	CA	92088	760-723-3533
F.J. Brawley Concrete Inc.		Contractors	1868 National Ave	San Diego	CA	92113	(619) 231-7778
Farmers Bros. Co.		Food Service - Delivery	20333 S Normandie Ave	Torrance	CA	90502	(610) 787-5200
Farwest Insulation Contracting		Contractor - Specialty	1375 S Acacia Ave Ste A	Fullerton	CA	92831	714-520-5600
Fast Water Heater, Inc.		Plumbing and A/C	275 N Marshall Ave.	El Cajon	CA	92020	(800) 454-8955
Feast On This Inc.		Catering	8395 Camino Santa Fe Ste D	San Diego	CA	92121	(858) 597-0740
Ferandell Tennis Courts, Inc		Contractor - Specialty	2120 Jimmy Durante Blvd 102	Del Mar	CA	92014	858-350-3444
Ferguson Builders Inc.		Contractors	14066 Saddlewood Dr.	Poway	CA	92064	(858) 335-2893
Ferguson Construction		Contractors	1925 Glasgow	Cardiff	CA	92007	(760) 634-3106
Finish Right		Contractor - Specialty	1115 Camelia St	Oceanside	CA	92054	760-754-8428
Finishing Touch Millwork, Inc		Contractor - Specialty	1240 Activity Drive Suite C	Vista	CA	92081	760-598-3200
Fireplaces Plus Inc.		Masonry	1833 Diamond St # 101	San Marcos	CA	92078	(760) 752-7789
Fishel Company, The		Contractor - Specialty	1366 Dublin Rd	Columbus	OH	43215	760-967-6930
Flores Landscape		Landscape Service	3609 Grand Ave	San Marcos	CA	92078	(760) 271-4676
Fortney & Weygandt Inc.		Contractors	31269 Bradley Rd	North Olmsted	OH	44070	(440) 716-4000
Foshay Electric Co, Inc		Contractors	7676 Engineer Rd	San Diego	CA	92111	(858) 277-7676
Four By Four Construction		Contractors	1055 Torrey Pines Rd/Ste 201	La Jolla	CA	92037	(858) 456-0610
Four Seasons Foods		Catering	4230 Voltaire Ave	San Diego	CA	92107	(619) 221-0087
Fox Direct		Landscape Service	40740 Symphony Park	Murrieta	CA	92562	(951) 294-0315
Franke Contracting Inc.		Contractors	9040 Carroll Wy #8	San Diego	CA	92121	(858) 689-8799
Fredricks Electric, Inc.		Contractor - Specialty	2211 Newcastle Ave	Cardiff	CA	92007	760-436-9172
Friendly Fence		Fencing	1273 Linda Vista Dr	San Marcos	CA	92078	(760) 304-4611
Frontier Fence Co		Fencing	1314 W Mission Rd	Escondido	CA	92029	(760) 745-5609
Fry Specialty Company		Contractor - Specialty	10735 Prospect Avenue	Santee	CA	92071	619-562-8446
Fuller Paving & Development, Inc.		Paving	536-Aoliveave	Vista	CA	92083	(760) 451-0181
G.F. Whillock Grading		Contractors	1298 Distribution Way Vista	Vista	CA	92083	(760) 599-6800
Ga Abell Dba Precision Electric		Contractor - Specialty	8137 Winter Gardens Blvd	Lakeside	CA	92040	619-390-2991
GA Abell Dba Precision Electric Company		Electrical	8137 Winter Gardens Blvd	Lakeside	CA	92040	(619) 390-2991
Gallant Electric Co.		Electrical	1735 Ivy Rd	Oceanside	CA	92054	(760) 722-9016
Gamboa Inc.	Dba Metro Steel	Contractors	10520 Kenny St	Santee	CA	92071	(619) 448-9995
Garcia Landscape Services		Landscape Service	10236 Moorpark St	Spring Valley	CA	91978	(619) 670-6746
Gardner Pool Company, Inc		Pool Or Spa Care	801 Gable Way	El Cajon	CA	92020	(619) 593-8880
Gary's Construction, Inc.		Contractors	2517 Dos Lomas	Fallbrook	CA	92028	(760) 639-4456
Gciuffa, Inc.	Dba Giuseppe Restaurants & Fine Catering	Catering	700 Prospect	La Jolla	CA	92037	(858) 581-2205
General Coatings Corporation		Contractor - Specialty	6711 Nancy Ridge Dr	San Diego	CA	92121	858-587-1277
Genesis Innovations, Llc		Contractor - Specialty	4004 Medford Drive	Loveland	CO	80538	970-635-9315
Geoff O'Brien		Contractor - Specialty	11414 Caminito Garcia	San Diego	CA	92131	
Geogrid Retaining Wall Systems, Inc.		Contractors	1295 Distribution Way	Vista	CA	92081	(760) 509-0079
George Mosher		Contractors	5153 Muir Ave	San Diego	CA	92107	(619) 851-0185
George W. Weir Asphalt Construction, Inc.		Paving	610 Metcalf	Escondido	CA	92025	(760) 746-0232
GMG Stone, Inc		Masonry	165 Denny Way	El Cajon	CA	92020	(619) 258-6899

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Gold Coast Skylights, Inc.		Roofing	1338 N Melrose Dr. # I	Vista	CA	92083	(760) 758-2864
Gold Crown Landscape		Landscape Service	1245 Morning View Dr 131	Escondido	CA	92026	(760) 297-0468
Golden State Fence Company		Fencing	870 N Main St	Riverside	CA	92501-1016	(909) 788-5620
Goodwin Construction Inc		Contractors	12985 Caminito Pt	Del Mar	CA	92014	(619) 755-3522
Gorden Benjamin Anguiano		Landscape Service	471 Cole Ranch Rd	Encinitas	CA	92024	
Gordon E. Copeland, Inc.	Dba Mission Roofing Co	Roofing	443 Venture St	Escondido	CA	92029	(760) 747-3205
Great Western Roofing		Contractor - Specialty	1005 Honey Suckle	San Marcos	CA	92078	760-712-7525
Green Garden Landscape & Design		Landscape Service	4910 Cass St	San Diego	CA	92109	(858) 483-8802
Green Leaf Tree Care, Inc		Landscape Service	1011 Dearborn Dr	San Diego	CA	92154	(619) 575-1332
Green Paradise Company		Landscape Service	910 Camino Del Mar Ste A	Del Mar	CA	92014	(858) 793-1809
Green Rainbow Landscape		Landscaping	1352 Hedionda Ave	Vista	CA	92081	760-941-4134
Greg Stein Tree Service		Contractor - Specialty	6947 Weller Street	San Diego	CA	92122	858-636-0903
Gregory D Caso Plumbing, Inc	Dba Apex Plumbing	Plumbing and A/C	361 Engel Street	Escondido	CA	92029	(760) 839-0428
GSC Concrete Construction, Inc.		Masonry	1413 W Industrial Ave	Escondido	CA	92029	(760) 739-9177
Guardian Waterproofing		Contractors	8622 Argent St #D	Santee	CA	92071	(619) 448-3700
Gus Ballas Plumbing, Inc.		Plumbing and A/C	12320 Oak Knoll Road Suite A	Poway	CA	92064	(858) 679-6899
Gus-Of-All-Trades		Handymen	5019 Biltmore St.	San Diego	CA	92117	(858) 775-0353
H & H Demolition, Inc.		Grading & Demolition	2182 El Camino Real #105	Oceanside	CA	92054	(760) 439-3652
H.A. Casillas Landscape		Landscape Service	3498 Wallace Dr	Bonita	CA	91902	(619) 267-1343
H.G. Smith Lumber Co., Inc.		Contractors	6144 Federal Blvd	San Diego	CA	92114	(619) 263-3131
H.R. Schlegel & Sons, Inc		Gardening	PO Box 488	La Jolla	CA	92038	858-273-0740
Hai Long Inc	Dba Juan's Tree Service	Landscape Service	1150 Camino Del Mar #D	Del Mar	CA	92014	(619) 916-7280
Hammond & Masing Gen Contractors Inc		Contractors	26157 Jefferson Ave Ste A	Murrieta	CA	92562	(858) 536-2440
Hanna Plumbing & Supply Co.		Plumbing and A/C	643 S Santa Fe Ave	Vista	CA	92083	(760) 726-2002
Hanson Aggregates Pacific		Contractors	Southwest, Inc. 9229 Harris Plant Rd	San Diego	CA	92163	(858) 277-5481
Happy Dogs Inc Dba Tlc Dog Care		Pet Grooming	20177 Colina Encantada Wy	Escondido	CA	92029	(760) 744-6565
Har-Bro Construction& Consulting, Inc		Contractors	455 54Th St Ste 101	San Diego	CA	92114	(619) 398-0200
Hardesty Drywall, Inc.		Contractor - Specialty	19451 Split Rock Road	Ramona	CA	92065	760-788-0220
Hardesty Electric		Electrical	11131 Calgary Wy	Valley Center	CA	92082	(760) 751-1249
Harris Concrete, Inc.		Masonry	8265 Commerical St	La Mesa	CA	91942	(619) 464-0152
Hawthorne Masonry		Contractor - Specialty	2760 Secret Lake Lane	Fallbrook	CA	92028	760-723-3441
Hayward Baker Inc.		Contractor - Specialty	1780 Lemonwood Dr	Santa Paula	CA	93060	805-933-1331
Henderson Heating & Air Conditioning, Inc		Plumbing and A/C	3047 Degen Dr	Bonita	CA	91902	(619) 479-1028
Hernandez Landscaping		Landscaping	PO Box 2285	Oceanside	CA	92051	760-805-2057
Hernandez Roofing, Inc.		Contractor - Specialty	PO Box 344	San Luis Rey	CA	92068	760-721-7417
Hess Contracting, Inc.		Contractors	1024 Pine Dr	El Cajon	CA	92020	(619) 442-6333
Hidalgo Flowers		Florist	29920 Disney Ln	Vista	CA	92084	(760) 940-0414
High Quality Drywall, Inc		Drywall	2078 Montiel Rd	San Marcos	CA	92069	(760) 735-6329
Hilltop Dog Grooming		Pet Grooming	5510 Santa Margarita St	San Diego	CA	92114	(619) 922-0608
Hodad'S Jr Catering		Catering	5010 Newport Ave	San Diego	CA	92107	619-818-2243
Holcomb Enterprises Inc	Dba Ki's Resturant	Catering	2591 S Coast Hwy 101	Cardiff By The Sea	CA	92007	(760) 436-5236
Holmes Landscape Company		Landscape Service	4616 North Ave	Oceanside	CA	92056	(760) 732-3379
Homestead Sheet Metal		Contractor - Specialty	9031 Memory Lane	Spring Valley	CA	91977	619-469-4373
Hospitality Inc.	Dba Picnic People	Catering	9558 Camino Ruiz	San Diego	CA	92126	(619) 586-2121
Hourani Concrete		Masonry	5014 E Mountain View Dr	San Diego	CA	92116	(858) 699-6920
Howards Rug Co. Of San Diego Inc		Contractor - Specialty	6110 Nancy Ridge Dr	San Diego	CA	92121	858-558-3939
Hume & Co. Inc		Pest Control	1949 Avenida Del Oro #102	Oceanside	CA	92056	760-598-2201
Huntamer Inc. Dba Window		Contractor - Specialty	10054 Prospect Avenue	Santee	CA	92071	619-258-0515
I Love Tacos Catering		Catering	6187 University Avenue	San Diego	CA	92115	619-303-8567

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Ideal Mechanical Co.		Contractors	8524 Ablette	Santee	CA	92071	(619) 449-6116
Impressions "Culinary Art At Its Finest"		Catering	3430 Lake Circle Dr.	Fallbrook	CA	92028	(858) 342-3366
Independence Grading & Excavating		Grading & Demolition	329 Festival Dr	Oceanside	CA	92057	(619) 701-2868
Indulge Contemporary Catering		Catering	5131 Santa Fe St.	San Diego	CA	92109	858-270-5700
Industrial Skylights, Inc.		Contractor - Specialty	133 Newport Drive Ste C.	San Marcos	CA	92069	760-434-6001
Infused Food Inc		Catering	521 Mar Vista Dr	Solana Beach	CA	92075	(858) 829-1789
Ink Electric		Contractor - Specialty	7845 North Ave	Lemon Grove	CA	91945	619-644-1684
Inland Plaster Inc.		Contractor - Specialty	38372 C Innocation Ct. #301	Murrieta	CA	92563	951-698-2335
Integrity Concrete		Contractors	540 Opper St	Escondido	CA	92029	(760) 744-4444
Island Construction Corp.		Contractor - Specialty	2683 Via De La Valle G605	Del Mar	CA	92014	858-273-3100
Islanders Luau		Catering	23811 Washington Ave	Murrieta	CA	92562	951-677-3148
J & D Construction		Contractors	4782 Caminito Borrego	San Diego	CA	92130	(858) 449-8603
J & L Insulation		Insulation Services	10035 Maine Ave	Lakeside	CA	92040	(619) 561-8632
J & S Asphalt Pavina		Contractor - Specialty	PO Box 600525	San Diego	CA	92160	619-528-0593
J.D. Paving, Inc.		Contractor - Specialty	1412 Barham Dr	San Marcos	CA	92078	760-233-2980
J.G. Tate Fire Prtection Systems, Inc		Fire Sprinklers	13691 Danielson St Ste C	Poway	CA	92064	(858) 486-0900
J.M. Keystone, Inc		Contractors	2709 Via Orange Wy	Spring Valley	CA	91978	(619) 466-9876
J.M. Vanderham Plumbing		Plumbing and A/C	4489 Jutland Dr	San Diego	CA	92117	(858) 568-1399
J.P. Witherow Roofing Co.		Roofing	1001 Morena Blvd.	San Diego	CA	92110	(619) 297-4701
J.T. Wimsatt Contracting Co, Inc		Contractors	28064 Avenue Stanford Unit B	Valencia	CA	91355	(661) 775-8090
J.T.H. Inc.		Contractor - Specialty	31459 Sonoma Lane	Temecula	CA	92591	909-731-2271
J.W. Groswith Custom Building		Contractors	PO Box 1016	Del Mar	CA	92014	(858) 481-0740
J.W. Strauss Llc		Catering	514 Via De La Valle Ste. 100	Solana Beach	CA	92075	858-792-9090
Ja. Williams Masonry		Contractor - Specialty	542 Valley Drive	Vista	CA	92084	858-688-3353
Jackson & Blanc		Contractor - Specialty	7929 Arjons Dr	San Diego	CA	92126	858-831-7900
Jackson'S Concrete Cutting		Contractor - Specialty	970 W Valley Parkway #658	Escondido	CA	92025	760-801-5221
Jamar Electric San Diego Inc.		Electrical	9830 Prospect Ave. Ste. D	Santee	CA	92071	(619) 448-7770
James Chambers Construction		Contractors	208 Barbara Ave	Solana Beach	CA	92075	(858) 806-2039
Janks Construction Inc		Contractors	7887 Dunbrook Rd #H	San Diego	CA	92126	(858) 693-9700
Javier Garcia		Landscaping	1822 Cottage Grove Dr	Encinitas	CA	92024	760-943-1670
Jay's Pool & Spa		Pool Or Spa Care	40120 Lucero Dr	Temecula	CA	92592	
Jensen Drywall & Stucco		Contractors	3714 Lynda Pl	National City	CA	91950	(619) 267-0705
Jeremiah Nolan Roofing		Roofing	3612 36Th St	San Diego	CA	92104	(619) 212-6645
Joe Tree Service		Landscaping	PO Box 1151	Vista	CA	92083	760-945-0936
John A. Spring Dba Spring View Window and Door		Contractors	8733 N Magnolia Ave. #104	Santee	CA	92040	(619) 562-8266
John C. Read Construction Co.		Contractors	2126 Jimmy Durante Blvd	Del Mar	CA	92014	(858) 453-2100
John Griffin Construction		Contractors	244 Jason Ct	Corona	CA	92879	(951) 278-2377
John Little Catering		Catering	24270 Hwy 78 Ramona	Ramona	CA	92065	760-787-1077
John Smith Earthworks, Inc.		Grading & Demolition	5216 Anna Ave	San Diego	CA	92110	(619) 276-0946
John Stevenson Plumbing &		Contractor - Specialty	6351 Corte Del Abeto A-108	Carlsbad	CA	92011	760-918-0456
Johnson Controls Inc		Contractor - Specialty	PO Box 591	Milwaukee	WI	53210	414-524-2674
Jose Ybarra Dba Catering Express		Catering	987 Camino Del Sol	Chula Vista	CA	91910	619-843-3241
Juana Corporation	Dba Jondel	Contractors	9216 Abraham Wy Ste A	Santee	CA	92071	(619) 596-8916
Junglescapes, Inc.		Landscape Service	25929 N Centre City Pkwy	Escondido	CA	92026	(760) 747-8733
Jw Floor Covering, Inc.		Flooring	9881 Carroll Centre Rd	San Diego	CA	92126	(858) 536-8565
Jwg Cabinet		Contractor - Specialty	2721 Plumeria Drive	Carlsbad	CA	92009	760-214-5383
K & G Asphalt Paving & Seal Coating		Paving	204 N Citrus	Vista	CA	92083	(800) 237-2970
K.H. Minton Painting		Painting	2518 Camino Lagarto St	Alpine	CA	91901	(619) 445-8148

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Kacon, Inc.		Contractor - Specialty	PO Box 1630	El Centro	CA	92244	619-208-7748
Katman Inc. Ba Culinary	Concepts	Catering	8575 Commerce Ave	San Diego	CA	92121	(858) 530-1885
Kb Construction		Contractors	23025 Arjo Ln	Ramona	CA	92065	(760) 788-1504
Keena Construction		Contractors	PO Box 490	Poway	CA	92074	(858) 576-1364
Kevin Mills Landscape		Landscape Service	427 Zuni Dr	Del Mar	CA	92014	(858) 755-1331
Kevin Vint Masonry & Concrete		Masonry	2201 San Dieguito Dr	Del Mar	CA	92014	(858) 481-7033
Keystone Roofing, Inc.		Roofing	2133 Valley Rd	Oceanside	CA	92056	(760) 730-9888
Khf Inc.	Dba U.S. Building & Development	Contractors	243 N Hwy 101 #19	Solana Beach	CA	92075	(858) 350-0710
Kiks Mobile Detailing		Auto Detailing	6992 Torrey Santa Fe Rd	San Diego	CA	92129	(858) 405-5373
King Fine Woodworking		Contractor - Specialty	512 West California Ave #203	Vista	CA	92083	760-639-0231
Kirby Concrete		Masonry	7048 Ivy St	Carlsbad	CA	92009	(760) 603-1952
Kmp Plumbing		Plumbing and A/C	435 S Cedros Ave	Solana Beach	CA	92075	(858) 259-9300
Knott's Pest Control, Inc.		Pest Control	5141 Guild St	La Mesa	CA	91942	(619) 466-0464
Knudsen Roofing, Inc.		Roofing	1657 Silvertree Lane	Escondido	CA	92027	(760) 747-1864
Koloa Pacific Construction, Inc.		Contractor - Specialty	12527 Kirkham Court	Poway	CA	92064	858-486-7800
Kyne Construction		Contractors	9215 Briette Pl	El Cajon	CA	92021	(619) 749-2400
L & G Cable Construction		Contractors	2776 E Miraloma Ave	Anaheim	CA	92806	(714) 630-6174
L R Design Works		Landscape Service	140 12Th Street	Del Mar	CA	92014	(858) 531-2724
L&C Tile		Masonry	3465 Laurashawn Ln	Escondido	CA	92026	(760) 743-6516
L.D. Richards Co. Builder		Contractors	1701 Grand Ave	Del Mar	CA	92014	(858) 793-2682
La Costa Auto Detailing		Auto Detailing	740 Avenida Codorniz	San Marcos	CA	92069	(760) 944-9500
La Taquiza		Catering	1413-Bjayken Way	Chula Vista	CA	91911	(619) 426-7368
Lady Di's Elegant Events		Catering	3231 Petunia Ct	San Diego	CA	92117	(619) 370-6374
Lalley Construction		Contractors	927 Highland Dr.	Solana Beach	CA	92075	(858) 481-1462
Lance Patterson Plastering		Contractor - Specialty	3164 Old Oaktree Ln	Escondido	CA	92026	760-741-5382
Land Doctor Landscaping		Landscape Service	3525 Del Mar Heights #225	San Diego	CA	92130	(760) 432-6000
Land Graphics Enterprises, Inc		Landscaping	5752 Kearny Villa Road	San Diego	CA	92123	858-541-1600
Lang Homes		Contractors	150 Basil St	Encinitas	CA	92024	(760) 419-5103
Lara Air Conditioning		Contractor - Specialty	312 E Barioni Blvd	Imperial	CA	92251	760-352-2619
Larry Methvin Installation		Contractor - Specialty	501 Keltering Drive	Ontario	CA	91761	909-605-6468
Las Olas Inc.		Catering	2655 S Highway 101	Cardiff	CA	92007	760-942-1860
LBL Constructors		Contractors	2180 Summit Dr	Escondido	CA	92025	(760) 740-0103
LCI Backhoe Service		Contractors	508 N Cedros Ave	Solana Beach	CA	92075	(858) 243-4637
Leathem & Company		Contractor - Specialty	1524 Avenida De Las Adelsas	Encinitas	CA	92024	858-342-0966
Lekos Electric Inc.		Electrical	1370 Pioneer Way	El Cajon	CA	92020	(619) 447-7661
Lemler Plastering		Contractor - Specialty	3657 Foxley Dr	Escondido	CA	92027	760-741-5410
Leong-Kuba Sea Products, Inc.		Food Service - Delivery	6230 Marindustry Dr	San Diego	CA	92121	(858) 693-7561
Linear Electric Inc.		Electrical	7676 Engineer Rd Ste L	San Diego	CA	92111	(858) 277-5303
Lloyd Pest Control		Pest Control	935 Sherman St	San Diego	CA	92110	(619) 298-9865
Ln Iron Co.		Contractor - Specialty	2740 S Santa Fe Ave Ste 103	San Marcos	CA	92069	760-727-7548
Lockett Enterprises, Inc.	Dba American Arbor Tree Service	Landscape Service	3041 Industry St	Oceanside	CA	92054	(760) 754-3166
Logan Grapp Construction		Contractor - Specialty	PO Box 300062	Escondido	CA	92030	760-741-2600
Los Cabos, L.L.C.		Catering	12955 El Camino Real Ste G-7	San Diego	CA	92130	858-792-2226
Louis Beacham Construction		Contractors	405 Via Del Norte	La Jolla	CA	92037	(858) 454-2999
Luna Caprese Lp		Catering	3870 Valley Centre Drive #301	San Diego	CA	92130	858-720-8777
Luzaich Striping Inc.		Paving	14219 Olde Hwy 80	El Cajon	CA	92021	(619) 443-7755
M. J. Ratzlaff Inc		Contractor - Specialty	PO Box 21088	El Cajon	CA	92021	619-444-1310
M.B. Oliver Inc.	Dba Agricultural Pest Control	Pest Control	9917 Maine Ave	Lakeside	CA	92040	(858) 536-2999
M.C. Napoli		Contractor - Specialty	PO Box 2176	Carlsbad	CA	92018	619-818-2557
M.R. Contreras Construction, Inc		Contractors	226 Landis Ave	Chula Vista	CA	91910	(619) 422-4747
M.W. Reid Welding, Inc.	Dba So. Bay Welding	Welding Or Ironwork	781 O'Connor St	El Cajon	CA	92020	(619) 401-5880

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Mabon Sheet Metal		Contractor - Specialty	1930 S Coast Highway	Oceanside	CA	92054	760-757-0187
Macario Carrasco Landscape & Maintanence		Landscape Service	3949 Wooster Dr	Oceanside	CA	92056	(760) 310-4036
Macgray Electric Inc.		Electrical	2718 Waterbury Way	Carlsbad	CA	92010	(760) 802-0140
Magnesite Specialties Inc.		Contractor - Specialty	8686 Production Ave Ste A	San Diego	CA	92121	619-578-4186
Maile Construction		Contractors	2348 La Costa Ave #216	Carlsbad	CA	92009	(760) 707-4543
Maison Llc		Catering	716 S Los Angeles St #404	Los Angeles	CA	90014	(213) 612-0181
Major Plumbing Co. Inc.		Plumbing and A/C	1914 Mission Rd	Escondido	CA	92029	(760) 749-7383
Make It Shine Mobile Detailing		Auto Detailer	PO Box 270821	San Diego	CA	92198	858-848-5507
Malcolm Drilling Co., Inc.		Contractor - Specialty	4926 N Azusa Cyn Road	Irwindale	CA	91706	626-338-0035
Marathon Construction Corporation		Contractors	10108 Riverford Road	Lakeside	CA	92040	(619) 276-4401
Marco Crane & Rigging		Equipment Suppliers	10168 Channel Rd	Lakeside	CA	92040	(619) 938-8081
Marcotte & Hearne Builders, Inc		Contractors	11696 Sorrento Valley Rd # 200	San Diego	CA	92121	(858) 793-4101
Mariano's Landscaping		Landscape Service	3231 Madison St Apt B	Carlsbad	CA	92008	(760) 720-2867
Mariner Mechanical		Mechanical	1135 Garnet Ave Ste 13	San Diego	CA	92109	(858) 483-3568
Mark A. Miville Dba Executive Detail		Auto Detailing	10607 Birch Bluff Ave.	San Diego	CA	92131	(858) 493-0612
Mark Bell Construction		Contractors	26637 Brickenridge	Murrieta	CA	92563	(858) 442-3378
Mark Stangl Construction, Inc		Contractor - Specialty	715 H Avenue	Coronado	CA	92118	619-250-2706
Martel Electric Inc.		Contractor - Specialty	9932 Prospect Avenue # 146	Santee	CA	92071	619-258-5848
Martin Roofing Co. Inc.		Roofing	6608 Federal Blvd.	Lemon Grove	CA	91945	(619) 287-6860
Martino's Catering		Catering	4140 Morena Blvd #A	San Diego	CA	92117	(858) 490-9005
Masco Contractor Services Of California, Inc.		Contractors	13000 Kirkham Way Suite 101	Poway	CA	92064	(386) 304-2222
Matzinger Construction, Inc.		Contractor - Specialty	PO Box 2555	Rancho Santa Fe	CA	92067	760-943-1034
Maxim Crane Works, L.P.		Contractor - Specialty	6232 Fairmount Ave	San Diego	CA	92120	619-563-7910
Mcbride Door & Hardware Inc		Contractors	13811 Danielson St	Poway	CA	92064	(858) 842-4480
Mckinley Equipment Corp		Contractor - Specialty	17611 Armstrong Ave	Irvine	CA	92614	949-261-9222
Mclean Door& Trim Aka Windows		Windows	9260 Isaac St Ste E	Santee	CA	92071	(619) 596-5416
Mega Fume, Inc.		Pest Control	PO Box 17716	Anaheim	CA	92817	714-447-4640
Metro Catering		Catering	6625 Top Gun St #9	San Diego	CA	92121	(858) 626-2800
Metro Detailing Specialists		Auto Detailing	8910 University Center Ln P-4	San Diego	CA	92122	(858) 623-8568
Mhs Heating & Air Conditioning,		Contractor - Specialty	525 N Andreasen Drive N	Escondido	CA	92029	760-744-9450
Michael Demich Const	Dba Rancho Pacific Construct	Contractors	7592 Vista Rancho Court	Rancho Santa Fe	CA	92067	(619) 972-6106
Middle Way Power, Inc.		Contractor - Specialty	3928 Conde Street #2	San Diego	CA	92110	619-249-9361
Mike And Mike Construction Inc		Contractor - Specialty	2603 Figueroa	San Diego	CA	92109	858-273-3150
Mike Carroll Plumbing, Inc.		Plumbing and A/C	1938 Willow Ridge Dr	Vista	CA	92081	(760) 714-6272
Mike Lloyd Excavating Inc.		Contractors	626 Lower Springs Rd	Fallbrook	CA	92028	(760) 728-8661
Mike Lloyd Excavating, Inc.		Grading & Demolition	PO Box 1994	Fallbrook	CA	92088	(760) 728-8661
Mill Brothers Fine Woodworking, Inc.		Woodworking	9356 Wheatlands Rd Ste C	Santee	CA	92071	(619) 562-6944
Millennium Fire Protection Corp		Fire Sprinklers	101 Copperwood Wy Ste H	Oceanside		92058	(760) 722-2722
Mirstone Plastering, Inc.		Plastering	1374 Presioca St	Spring Valley	CA	91977	(619) 464-1123
Mission Iron Shop		Welding Or Ironwork	255 S Bent Ave #89	San Marcos	CA	92078	(760) 744-3740
Mission Pools Of Escondido Inc.		Pool Or Spa Care	755 W Grand Ave	Escondido	CA	92025	(760) 743-2605
Mission Solar Electric		Contractor - Specialty	4153 Falcon St	San Diego	CA	92103	619-895-2953
Mission Valley Roofing, Inc.		Contractor - Specialty	9908 Prospect Ave	Santee	CA	93417	619-449-9744
Monsoon Investments	Dba Bombay	Catering	3960 5Th Ave	San Diego	CA	92103	(619) 297-7777
Motivational Systems Inc		Contractor - Specialty	2200 Cleveland Ave	National City	CA	91950	619-474-8246
Mountain Valley Waterproofing		Coatings	10054 Mesa Ridge Ct. #102	San Diego	CA	92121	(858) 643-9001
Mr. Rooter Plumbing Rds Inc		Plumbing and A/C	5605 Kearny Villa Rd	San Diego	CA	92123	(858) 976-6837
Mr. Scape, Inc.		Landscaping	11490 Shadow Ranch Rd	La Mesa	CA	91941	619-660-9187

Firm Name	Firm Name (Addl)	Business Type	Firm Address	City	State	Zipcode	Phone Number
Mv Coffman Construction		Contractors	1028 C St	Encinitas	CA	92024	(760) 942-1197
My Plumber San Diego Llc		Plumbing and A/C	7150 Convoy Ct	San Diego	CA	92111	(619) 667-5500
Myron Plumbing Inc.		Plumbing and A/C	5218 Castle Hills Dr	San Diego	CA	92109	(858) 488-1522
National Air Inc.	Dba Nat'L Air & Energy	Plumbing and A/C	2053 Kurtz St	San Diego	CA	92110	(619) 299-2500
National Construction Rentals		Equipment Suppliers	15319 Chatsworth St	Mission Hills	CA	91345	(818) 221-6057
Natural Energy		Contractors	147 S Vinewood St	Escondido	CA	92029	(760) 743-6400
Neal Electric Inc.		Contractor - Specialty	13250 Kirkham Way	Poway	CA	92064	858-513-2525
Nelson-Lyman Painting, Inc.		Painting	659 Union St	Encinitas	CA	92024	(858) 775-3624
Nestle Waters North America Inc.		Food Service - Delivery	601 Potrero Grande	Monterey Park	CA	91755	(203) 531-4100
New Image Const.		Contractor - Specialty	14115 Margarita Lane	Valley Center	CA	92082	619-599-4660
New Image Painting		Contractor - Specialty	734 Grand Ave	Spring Valley	CA	91977	619-464-8362
New Vision Drywall Inc.		Contractor - Specialty	4204 Jutland Drive A2	San Diego	CA	92117	858-490-8888
Newest Construction		Contractors	7847 Dunbrook Rd Ste C	San Diego	CA	92126	(858) 537-0774
Nicholas Grant Corporation		Contractor - Specialty	5370 Eastgate Mall	San Diego	CA	92121	858-642-7500
North Cities Landscape Maintenance		Landscape Service	PO Box 3143	Rancho Santa Fe	CA	92067	(858) 259-6162
North County Deck & Patio		Contractor - Specialty	448 W Citracado Parkway	Escondido	CA	92025	760-658-6249
North County Pools		Pool Or Spa Care	19915 Fountian Del Este	Escondido	CA	92029	(760) 439-5802
NRM Builders		Contractors	200 Olive Ave #104	Vista	CA	92083	(760) 631-2602
Nu Flow America Inc		Plumbing and A/C	7150 Carroll Rd	San Diego	CA	92121	(888) 683-5691
OJ Insulation Lp		Contractors	600 S Vicent Ave	Azusa	CA	91702	(626) 812-6070
On Fire Food Company		Catering	PO Box 230306	Encinitas	CA	92023	760-212-2048
One Tripp Tree Service Inc		Landscape Service	3880 Begonia St	San Diego	CA	92121	(858) 571-3710
P. Vernon Smith Landscaping		Landscape Service	5224 Jack Pine Ct.	Oceanside	CA	92056	(760) 390-1483
Pacific Backflow Co., Inc.		Plumbing and A/C	1690 Ord Wy	Oceanside	CA	92056	(760) 639-4000
Pacific Coast Concrete		Masonry	10625 Prospect Ave	Santee	CA	92071	(619) 938-3811
Pacific Drilling Co.		Contractors	5220 Anna Ave. Ste A	San Diego	CA	92110	(619) 294-3682
Pacific Grading & Erosion Control, Inc.		Grading & Demolition	10541 A Prospect Ave	Santee	CA	92071	(619) 938-3514
Pacific Pebbles Inc, Dba Life		Contractor - Specialty	770 Gateway Center Drive	San Diego	CA	92102	619-262-8600
Pacific Rim Mechanical		Contractor - Specialty	7655 Convoy Ct.	San Diego	CA	92111	858-974-6500
Pacific West Catering		Catering	841 Eugenie Ave	Encinitas	CA	92024	(760) 846-0913
Pacifica Contracting, Inc		Contractors	PO Box 90668	San Diego	CA	92169-2668	(858) 483-9988
Paella Valenciana		Catering	14471 Yazoo St	San Diego	CA	92129	(858) 672-2243
Pal General Engineering Inc		Contractor - Specialty	2615 Camino Del Rio South Ste 308	San Diego	CA	92108	619-677-3949
Palapa Kings Inc.		Contractor - Specialty	305 Airport Road	Oceanside	CA	92058	760-757-7296
Palomar Grading & Paving, Inc.		Paving	2150 N Center City Prkwy Ste C	Escondido	CA	92026	(760) 743-3007
Palomar Specialists, Inc.		Contractor - Specialty	1608 Madrone Glen	Escondido	CA	92027	760-747-5080
Palomar Transit Mix Co.		Paving	849 W Washington Ave	Escondido	CA	92025	(760) 737-3486
Pamper Your Pet		Pet Grooming	6340 Citracado Cir	Carlsbad	CA	92009	(858) 794-1822
Par Electrical Contractors Inc		Electrical	2410 Auto Parkway	Escondido	CA	92029	(760) 291-1192
Paradise Custom Pools, Inc.		Contractors	PO Box 900454	San Diego	CA	92190	(619) 286-0009
Paragon Hospitality Enterprises,		Catering	1221 Vista Way	Oceanside	CA	92054	760-433-2633
Paramount Pools Inc		Pool Or Spa Care	PO Box 694	Ramona	CA	92065	(760) 788-0120
Paramount Scatfold, Inc.		Contractor - Specialty	16525 S Avalon Blvd.	Carson	CA	90746	310-818-8155
Paramount Tile Inc		Masonry	2054 Cecilia Cir	Corona	CA	92881	(951) 736-4570
Park Care		Gardening	PO Box 1005	Carlsbad	CA	92010	760-729-0890
Parker Construction		Contractors	3202 Via Arcilla	San Diego	CA	92111	(858) 278-7922
Parsons Field & Boyd		Catering	1197 Mustang Dr	Santa Ynez	CA	93460	805-569-5747
Partitions & Accessories Co Of Ca Inc.		Contractors	10320 Camino Santa Fe. Ste G	San Diego	CA	92121	(858) 597-9551
Party Time Tacos		Catering	6975 Saranac St.	San Diego	CA	92115	858-610-5933

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Pat & Oscars		Catering	1959 Palomar Oaks Wy Ste 300	Carlsbad	CA	92011	858-695-8500
Paul Hock	Dba H.C.Co./Hock Construction Co.	Contractors	1125 Camino Del Mar Ste E	Del Mar	CA	92014	(858) 259-5102
Pavement Recycling System Inc		Paving	121 N Main St	Riverside	CA	92501	(951) 682-1091
Paws Express Mobile Dog Grooming		Pet Grooming	1780 S El Camino Real Unit C205	Encinitas	CA	92024	(760) 707-9779
Pbc Residential		Contractor - Specialty	1560 W Lambert Rd.	Brea	CA	92821	714-278-0488
PDI Coatings Inc.		Contractors	13125 Danielson St. #111	Poway	CA	92064	(858) 679-0742
PDM Electric Inc		Electrical	33964 Verbena Ave	Murrieta	CA	92563	(760) 715-4280
Peartrees Catering, Inc.		Catering	2243 Venus St	San Diego	CA	92154	(619) 575-5500
Pella Architectural		Contractor - Specialty	PO Box 9427	Brea	CA	92822	714-256-0565
Pellegrino Stonecare		Contractor - Specialty	7965 Silverton Ave. #1302	San Diego	CA	92126	858-530-8185
Performance Auto Detail		Auto Detailing	9150 La Larga Vista	Spring Valley	CA	91977	(619) 665-9288
Personal Touch Dining		Catering	9888 Waples St	San Diego	CA	92121	(619) 593-2296
Peter Madsen Builder, Inc.		Contractors	7618 Reposado Dr	Carlsbad	CA	92009	(760) 943-9766
Peter Van Gaale & Sons Construction		Contractors	35375 Briggs Rd	Murrieta	CA	92563	(951) 677-8112
Phil's B.B.Q.		Catering	3750 Sports Arena Blvd	San Diego	CA	92110	(619) 814-0050
Photon Solar Construction		Contractor - Specialty	3323 Vista Norte	Escondido	CA	92025	760-556-8170
Pierce Productions Inc.		Catering	805 Grandview Drive	Maryville	TN	37803	865-789-2666
Pinnacle Holdings Group Inc.	Dba Pinnacle Landscape Company	Landscape Service	2200 S Fairview St	Santa Ana	CA	92704	(714) 434-7472
Pinnacle Security Ca, Lp		Contractor - Specialty	1290 S Sandhill Rd	Orem	UT	84058	801-437-1020
Pipes Plumbing, Inc.		Plumbing and A/C	1145 Law St	San Marcos	CA	92069	(760) 434-3067
Piteco's Landscaping		Landscape Service	11455 Hadar Dr	San Diego	CA	92126	(858) 831-0273
Plant-Tek, Inc.		Landscape Service	20110-B Elfin Forest Ln	Escondido	CA	92029	(760) 471-6420
Plaster Playhouse Dba Elijah's Restaurant		Catering	8861 Villa La Jolla Dr.	San Diego	CA	92037	(858) 955-1461
Plotke Plumbing		Plumbing and A/C	321 La Costa Avenue	Encinitas	CA	92024	(760) 632-0461
Polished Image Mobile Detailing		Auto Detailing	772 Anns Wy	Vista	CA	92083	(760) 724-4233
Pool 1		Pool Or Spa Care	1150 Socorro Ct	San Diego	CA	92150	(858) 472-2122
Pool N Spa Center Inc	Dba Pacific Sun Pool	Pool Or Spa Care	8550 Production Ave	San Diego	CA	92121	(619) 271-8822
Portillo Concrete Inc.		Contractors	3528 Harris St	Lemon Grove	CA	91945	(619) 466-4639
Power Plus Solutions Corp.		Contractor - Specialty	1210 Red Gum Ave	Anaheim	CA	92806	760-839-9436
Powerhouse Construction		Contractor - Specialty	PO Box 104	Del Mar	CA	92014	619-972-6428
Pratt Equipment Corp		Contractor - Specialty	PO Box 230026	Encinitas	CA	92023	760-310-9095
Precision Tech Connect		Contractor - Specialty	1441 N Cuyamaca Street	El Cajon	CA	92020	619-588-0800
Premier Contracting Group, Inc.		Contractors	25691 Atlantic Oean Dr # B-10	Lake Forest	CA	92630	(949) 305-0900
Premier Food Services Management Group, Inc.	Dba Carriage Trade Catering	Catering	7966 Arjons Drive	San Diego	CA	92126	(858) 621-5151
Prestige Concrete		Masonry	13507 Midland Rd	Poway	CA	92064	(858) 679-2772
Prestige Pools		Contractor - Specialty	970 W Valley Parkway #179	Escondido	CA	92025	760-747-6700
Primary Mechanical, Inc.		Contractor - Specialty	5345 Timken Street Ste I	La Mesa	CA	91942	619-698-7751
Prime Electrical Services		Electrical	480 Enterprise St	San Marcos	CA	92078	(760) 471-6634
Pristine Auto Detailing		Auto Detailing	2426 Manchester Ave	Cardiff By The Sea	CA	92007	
Pro Trees		Landscape Service	523 Vulcan	Encinitas	CA	92024	(760) 753-4800
Pro Wall Lathe Plaster, Inc		Contractor - Specialty	360 S Spruce Street	Escondido	CA	92025	760-480-9001
Professional Floor Installation		Contractor - Specialty	2005 Cassia Road 212	Carlsbad	CA	92009	760-310-8869
Prola Drilling		Contractors	700 Second St Ste E	Encinitas	CA	92024	(760) 815-3621
Prowall Drywall, Inc.		Drywall	345 N Market Place	Escondido	CA	92029	(760) 747-8556
Pure-Flo Water Co		Food Service - Delivery	7737 Mission Gorge Rd	Santee	CA	92071	(619) 596-4111
Quality Reinforcing Inc.		Contractor - Specialty	13275 Gregg St	Poway	CA	92064	858-748-8400
Quality Rooter and Plumbing, Inc.		Plumbing and A/C	1798 Pepper Villa Dr.	El Cajon	CA	92021	(619) 438-3267

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R & R Custom Builders		Contractor - Specialty	119 Aberdeen Dr #5	Cardiff By The Sea	CA	92007	760-436-0187
R F Mckenna Construction		Contractors	507 S Cedros Ave	Solana Beach	CA	92075	(858) 755-2290
R T D Construction, Inc.		Contractors	2216 Soto St	San Diego	CA	92107	(619) 225-0240
R. Montanez Contracting Inc. Dba		Contractor - Specialty	117 7th Street #A	Chula Vista	CA	91911	619-571-4755
R.E. Hughes Construction Inc.		Contractors	1556 Cerro De Orro	Vista	CA	92084	(760) 727-4125
R.E. Johnson Inc. Dba Solana Mar Landscape		Landscape Service	239 N Acacia Ave.	Solana Beach	CA	92075	
R.J.A. Masonry		Masonry	10057 Pebble Beach Dr	Santee	CA	92071	(619) 449-4573
R.L.P. Company, Inc.		Contractor - Specialty	3246 F Street	San Diego	CA	92102	619-231-9377
Ramona Pacific Plumbing Inc		Plumbing and A/C	1171 Ash St	Ramona	CA	92065	(760) 518-8889
Ranch & Coast Security, Inc.		Electrical	9540 Waples St #D	San Diego	CA	92121	(858) 657-9100
Ranch Catering, Inc.		Catering	3560 Mount Acadia Blvd	San Diego	CA	92111	(858) 492-9100
Rancho Environmental Services, Inc.		Environmental Services	PO Box 3372	Vista	CA	92085	(760) 726-2405
Rancho Santa Fe Stone & Garden	Dba Santa Fe Water Gardens	Masonry	16081 San Dieguito Rd #G1A	Rancho Santa Fe	CA	92067	(858) 759-7553
Rancho Solar, Inc.		Roofing	13354 Tining Dr.	Poway	CA	92064	(858) 677-6527
Randy's Landscaping		Landscape Service	817 Via Barauero	San Marcos	CA	92069	
Rapid Plumbing Inc		Plumbing and A/C	1036 W Taft Ave	Orange	CA	92865	(800) 997-2743
Rassac Air Systems		Plumbing and A/C	4734 Lowell Ave	La Crescenta	CA	91214	(818) 957-2970
Ray F. Brookhart Concrete, Inc.		Masonry	2911 State St P	Carlsbad	CA	92008	(760) 434-3082
Ray White Cement		Masonry	3108 Highway 76	Fallbrook	CA	92028	(760) 728-0170
RC Roofing		Roofing	132 N El Camino Real #285	Encinitas	CA	92024	(858) 274-8920
RCHS Dba Doggy Day Care		Pet Grooming	389 Requeza St	Encinitas	CA	92024	(760) 436-3311
Rec Solar Inc.		Contractor - Specialty	8545 Arjons Dr #H	San Diego	CA	92126	619-727-2981
Redflex Traffic Systems, Inc.		Contractors	23751 N 23Rd Ave Ste # 150	Phoenix	AZ	85085-1854	(480) 998-8431
Reef Concrete Inc.		Masonry	3646 Cheshire Ave	Carlsbad	CA	92010	(760) 613-3361
Rens Mansory Inc		Masonry	PO Box 461210	Escondido	CA	92046	(760) 738-8827
RG Bar Services		Food Service - Delivery	247 Rancho Dr #C	Chula Vista	CA	91911	(858) 395-3043
Richard Thaisz Construction		Contractors	1403 Caminito Septimo	Cardiff	CA	92007	(760) 635-1640
Richardson Construction		Contractors	1421 Devin Drive	Fallbrook	CA	92028	(760) 644-0571
Richardson Steel. Inc.		Contractor - Specialty	9102 Harness St	Spring Valley	CA	91977	619-697-5892
Rigo's Garden Maintenance		Gardening		Solana Beach	CA	92075	760-942-1358
Rima Construction		Contractors	15791 Rockfield Blvd #A	Irvine	CA	92618	(949) 305-2930
Robert Buck Construction Corp.		Contractors	2620 Mallorca Pl	Carlsbad	CA	92009	(858) 449-3636
Robert's General Engineering		Contractors	2855 Progress Pl	Escondido	CA	92029	(760) 746-9935
Robinson Company Contractors		Contractors	8871 Troy St	Spring Valley	CA	91977	(619) 697-6040
Roel Construction Co.		Contractors	3366 Kurtz St	San Diego	CA	92110	(619) 297-4156
Rolling Wheel Restaurant Inc.	Dba Wagon Wheel	Catering	427 W Mission Ave	Escondido	CA	92025	(760) 745-3227
Romeo Villarreal Dba Baja Sessions	Catering	Catering	462 W Los Angeles Dr	Vista	CA	92083	(760) 639-6439
Ron Lea Construction		Contractor - Specialty	1453 Buena Vista Way	Carlsbad	CA	92008	760-230-8942
Ronnie's Repair Service		Handymen	9286 Colorama Wy	Lakeside	CA	92040	(619) 390-3117
Rotisserie Affair Catering		Catering	PO Box 927473	San Diego	CA	92192	(858) 578-8891
Royal Industries, Inc.	Dba Royal Cabinets	Woodworking	1299 E Phillips Blvd	Pomona	CA	91766	(909) 629-8565
Royalty Staffing		Catering	1528 India Street Suite 318	San Diego,Ca	21	-2466	619-940-7524
RSI Roofing		Roofing	8285 Buckhorn St	San Diego	CA	92111	(858) 278-7200
RT Chimney Sweeping		Plumbing and A/C	11376 Camarosa Ct	San Diego	CA	92126	(858) 566-8599
Rubio Turf, Inc		Landscaping	10531 4S Commons Dr #465	San Diego	CA	92127	877-271-1697
Russell Handy Painting		Painting	2056 Belrush Ln	Cardiff By The Sea	CA	92007	(858) 414-8423
Rwp Plumbing		Contractor - Specialty	9216 Birchcrest Blvd	Santee	CA	92071	619-719-3834
S.F. Electrical Services, Inc.		Electrical	2337 Catalina Ave	Vista	CA	92084	(760) 724-3666
S.O.S. Rooter		Plumbing and A/C	3485 Pickwick St	San Diego	CA	92102	(619) 231-6670
Saddleback Waterproofing		Coatings	22521 Avenida Empresa # 125	Rancho Santa Margarita	CA	92688	(949) 589-3422

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Sal Hernandez Tree Service		Gardening	2014 Montecito Road	Ramona	CA	92065	760-525-3247
Sammy's Woodfired Pizza		Catering	12925 El Camino Real	San Diego	CA	92130	(858) 456-8018
Sampo Engineering, Inc.		Contractor - Specialty	1034 Second Street	Encinitas	CA	92024	760-436-0660
San Diego Catering Concepts		Catering	570 Marina Pkwy	Chula Vista	CA	91910	(619) 223-1722
San Diego Construction Welding		Welding Or Ironwork	1167 Sweetwater Ln	Spring Valley	CA	91977	(619) 462-9087
San Diego Fence Co., Inc.		Fencing	7920 Engineer Rd	San Diego	CA	92111	(858) 279-8442
San Diego Fume Works Company		Pest Control	PO Box 4542	Oceanside	CA	92052	760-758-1869
San Diego Greencare Inc.	Dba Western Tree Service	Landscape Service	6549 Mission Gorge Rd # 336	San Diego	CA	92120-2306	(619) 421-7119
San Diego Paella		Catering	14531 Yukon St	San Diego	CA	92129	858-204-0413
San Diego Stucco, Inc.		Contractors	625 North Avenue	Vista	CA	92083	(619) 238-0455
San Diego Welding Services		Welding Or Ironwork	1815 Main St Ste B	San Diego	CA	92113	(619) 994-6098
San Gabriel Insulation, Inc	Dba Usi Of San Diego	Insulation Services	930 Armorlite Dr	San Marcos	CA	92069	(760) 736-4115
Sanchez Roofing Co., Inc.		Contractor - Specialty	3528 Citrus Street	Lemon Grove	CA	91945	619-464-6137
Sancon Engineering, Inc.		Contractor - Specialty	5841 Engineer Drive	Huntington Beach	CA	92649	714-891-2323
Sandpoint Construction		Contractors	736 Van Nuys St	San Diego	CA	92109	(858) 488-2661
Santa Fe Plaster		Contractor - Specialty	620 Alpine Way	Escondido	CA	92029	760-747-9950
Santana Electric		Contractor - Specialty	PO Box 1231	El Cajon	CA	92022	619-252-1510
Schelect Inc. Dba Schmidt Electric		Electrical	203 S Rancho Santa Fe Rd	Encinitas	CA	92024	(760) 753-3855
Schilling Corporation		Contractors	697 Greenfield Dr	El Cajon	CA	92021	(619) 579-6500
Schnetz Landscape Inc.		Landscape Service	427 Venture St	Escondido	CA	92029	(760) 591-3453
Schott Roofing Inc.		Roofing	225 E Carmel St 1	San Marcos	CA	92078	(760) 744-6450
Schreiber Framing, Inc.		Contractor - Specialty	8657 Harbison Canyon Rd	Alpine	CA	91901	619-722-1230
Sean's Painting		Painting	300 Carlsbad Village Dr Ste 108A-257	Carlsbad	CA	92008	(760) 613-1336
Seaport Electric		Electrical	43185 Corte Almeria	Temecula	CA	92592	(951) 302-4500
Seaside Roofing		Contractor - Specialty	330 Barbara Ave	Solana Beach	CA	92075	858-481-4993
Secret Gardens Landscape		Landscape Service	2683 Via De La Valle G-703	Del Mar	CA	92014	(951) 212-0580
Secure Roof, Inc.		Roofing	976B andreasen Dr	Escondido	CA	92029	(760) 546-0254
Select Electric		Electrical	1425 Presioca St	Spring Valley	CA	91977	(619) 460-6060
Select Electric		Contractor - Specialty	PO Box 1457	Spring Valley	CA	91977	619-460-6060
Sequoia Environmental		Environmental Services	543 Nantucket Ct	Leucadia	CA	92024	(760) 753-9126
Sequoia Solar		Contractors	343 S Highway 101	Solana Beach	CA	92075	(858) 259-7659
Serrano Family Flooring & Design		Flooring	24116 Golden Mist Dr	Murrieta	CA	92562	(760) 716-6077
Servicemaster By Rapid Response		Contractor - Specialty	5780 Chesapeake Ct	San Diego	CA	92123	858-715-0842
Servpro Of Del Mar		Contractor - Specialty	2658 Del Mar Heights Rd #537	Del Mar	CA	92014	858-695-6242
Seth Hoenig		Contractors	2714 Madison St	Carlsbad	CA	92008	(760) 434-9668
Seven-Up Bottling Co.		Food Service - Delivery	5770 Morehouse Dr	San Diego	CA	92121	(858) 457-3177
Shane Masonry & Concrete Inc.		Masonry	10540 Burned Oak Lane	Escondido	CA	92026	(760) 743-0155
Sheldon Site Utilities, Inc		Contractors	12255 Kirkham Rd Ste 400	Poway	CA	92064	(858) 486-8004
Sherwood Mechanical, Inc.		Mechanical	6630 Top Gun St	San Diego	CA	92121	(858) 679-3000
Shoreline Landcare Inc	Dba Landcare Logic	Landscape Service	8148 Ronson Rd Ste A	San Diego	CA	92111	(858) 560-8555
Sigge Malkvist Inc.	Dba Sigge's Paving	Paving	4540 Kearny Villa Road Suite 202	San Diego	CA	92123	(619) 278-3444
Silver Carpet		Flooring	119 Aberdeen Dr Ste 1	Cardiff By The Sea	CA	92007	(760) 632-1770
Simplex Grinnell		Contractor - Specialty	3568 Ruffin Road South	San Diego	CA	92123	
Simply Unforgettable		Catering	9932 Mesa Rim Rd Ste A	San Diego	CA	92121	619-521-1000
Simunec Construction & Design, Inc		Contractors	10208 Prospect Ave	Santee	CA	92071	(619) 562-6266
Sin Nombre Inc. Dba Miho Gastro		Catering	4641 Ohio St. #205	San Diego	CA	92116	619-867-4295
Sirius Mechanical Inc		Mechanical	11824 Graham St	Moreno Valley	CA	92557	(951) 640-5098
Slice Of Heaven Catering		Catering	3830 Oceanic Drive Ste 411	Oceanside	CA	92056	(760) 721-1054
Smith Brothers Construction		Contractors	444 South Cedros Ave	Solana Beach	CA	92075	(858) 350-1445
Smokehouse Catering		Catering	1220 E Mission Road	San Marcos	CA	92069	800-737-3614

Firm Name	Firm Name (Addl)	Business Type	Firm Address	City	State	Zipcode	Phone Number
So Cal Construction & Consulting Service Inc	Dba So Cal Ccs	Contractors	1030 Knoll Park Ln	Fallbrook	CA	92028	(760) 723-8907
So Cal Jetting & Plumbing		Plumbing and A/C	38368 Via Calorin	Murrieta	CA	92562	(800) 377-9400
So.Cal.Soil & Testing, Inc		Engineering	6280 Riverdale St	San Diego	CA	92160-0627	(619) 280-4321
Son Energy Inc.		Contractor - Specialty	525 Opper St.	Escondido	CA	92029	760-738-4066
South Coast Cabinet, Inc		Contractor - Specialty	755 Pinefalls Avenue	Walnut	CA	91789	909-594-3089
South Coast Edible Garden Design		Landscape Service	460 Camino Del Mar #6	Del Mar	CA	92014	(858) 463-6007
South Coast Specialty Systems		Contractor - Specialty	7966 Arjons Dr Ste C	San Diego	CA	92126	858-673-7267
South Coast Waterproofing		Coatings	7966 Arjons Dr Ste C	San Diego	CA	92126	(858) 673-7267
Southcoast Heating and Air		Plumbing and A/C	2664 Vista Pacifica Dr	Oceanside	CA	92056	(760) 941-7000
Southwest Millwork, Inc.		Woodwork	7925 Dunbrook Rd Ste A & B	San Diego	CA	92126	(858) 578-4640
Southwest Signal Service		Contractor - Specialty	397 Raleigh Ave	El Cajon	CA	92020	619-442-3343
Spanky's Portable Services, Inc.		Environmental Services	555 Enterprise Street	Escondido	CA	92029	(760) 731-5252
Specialized Painting Services		Painting	2737 Windmill View Rd	El Cajon	CA	92020	(619) 258-7234
Specified Resistant Coatings		Contractor - Specialty	630 Faith Avenue	Cardiff By The Sea	CA	92007	760-942-8353
Spring Valley Insulation Contr		Contractor - Specialty	3151 Bancroft Dr	Spring Valley	CA	91977	619-463-0266
Star Of India Restaurant		Catering	3860 Valley Centre Drive # 401	San Diego	CA	92130	858-792-1111
Statewide Stripes		Paving	7320 Mission Gorge Rd	San Diego	CA	92120	(858) 560-6887
Stauffer's Landscape Inc		Landscape Service	411 Business Center Ct	Redlands	CA	92373	(909) 798-1391
Steele Roofing Inc.		Roofing	227 Pawnee Street/ 101	San Marcos	CA	92078	(760) 744-3400
Stephanie Emerson Catering		Catering	144 S Orange	El Cajon	CA	92020	(619) 218-3658
Sterling Corporate Custom Elevator		Mechanical	340 W 26Th St Ste I	National City	CA	91950	(619) 477-9654
Steve Duich, Inc.	Dba H&D Construction Co.	Contractors	PO Box 12859	El Cajon	CA	92022	(619) 444-6118
Steve Maskal Construction		Contractors	29249 Hydrangea St.	Murrieta	CA	92563	(760) 505-0297
Stillman Aire Serv Heating & A/C Inc.		Plumbing and A/C	7200 Ponto Dr. Ste. A	Carlsbad	CA	92011	(760) 431-8266
Stir Fresh		Catering	17120 Bernardo Center Dr	San Diego	CA	92128	(858) 385-0020
Stratton Specialty Coatings		Coatings	5280 Riley Street	San Diego	CA	92110	(619) 294-2600
Stremicks Heritage Foods Llc		Food Service - Delivery	2790 Kurtz St	San Diego	CA	92110	(714) 775-5000
Strickland Bros Carpet Cleaning		Carpet Cleaning	5504 Gala Ave	San Diego	CA	92120	(619) 234-1591
Stumpmasters Tree Service		Landscape Service	13826 Little Pond Rd	Valley Center	CA	92082	(760) 749-5330
Sullivan Solar Power		Roofing	7964 Arjons Dr.	San Diego	CA	92126	(858) 271-7758
Sun Coast Drywall		Drywall	4401 Twain Ave Ste 3	San Diego	CA	92120	(619) 641-7695
Sundancer Pools N Spas		Contractor - Specialty	728 Inspiration Ln	Escondido	CA	92025	760-489-5850
Sundown Plumbing		Contractor - Specialty	6965 El Camino Real	Carlsbad	CA	92009	760-942-3696
Sunrise Landscape		Landscape Service	140 7Th St	Del Mar	CA	92014	(619) 602-3181
Sunset Lawn & Sprinklers		Landscaping	3233 Via Arcilla	San Diego	CA	92111	858-277-1855
Sunset Roofing Co., Inc.		Contractor - Specialty	8721 Magnolia Ave #C	Santee	CA	92071	619-258-7015
Sunshine Mobile Dog Grooming		Pet Grooming	3355 Bernardo Ln	Escondido	CA	92029	(760) 480-6739
Sunstone Durante Lessee, Inc		Catering	120 Vantis #350	Aliso Viejo	CA	92656	858-792-5200
Sunwest Electric, Inc.		Contractor - Specialty	3064 E Miraloma Avenue	Anaheim	CA	92806	714-630-8700
Superior Ready Mix Concrete, L.P.		Masonry	1508 W Mission Rd	Escondido	CA	92029	(760) 745-0556
Supreme Catering & Events		Catering	1512 29th St	San Diego	CA	92102	619-549-4228
Sure-Fit Screens & Services Llc		Contractors	130 Calle Del Pacifico	San Clemente	CA	92672	(949) 498-9412
Susan R. Landers		Landscape Service	306 N W. El Norte Prkwy # 469	Escondido	CA	92026	(760) 580-4253
Sutherlin Contracting, Inc.		Contractors	2007 Muira Lane	El Cajon	CA	92019	(619) 588-8895
Sutton Tree Service Inc		Landscape Service	2236 S Santa Fe Ave	Vista	CA	92084	(760) 941-3992
Sweig General Contracting, Inc		Contractors	5328 Metro St	San Diego	CA	92110	(619) 325-6333
Swinson Electric		Electrical	4885 Ronson Ct Ste L	San Diego	CA	92111	(858) 874-2920
Sylvester Roofing Co., Inc.		Roofing	812 W Washington St	Escondido	CA	92025	(760) 743-0048
System Paving Inc.		Paving	7925 Silverton Ave Ste 501	San Diego	CA	92121	(949) 263-8300

Firm Name	Firm Name (Addl)	Business Type	Firm Address	City	State	Zipcode	Phone Number
T S Stone And Tile Inc.		Contractor - Specialty	14677 Via Bettona Ste 110 #232	San Diego	CA	92127	
T.N. Janitorial Services		Contractor - Specialty	1150 Camino Del Mar #D	Del Mar	CA	92014	858-792-7416
T.R. Stevens Construction		Plumbing and A/C	1004 E Walnut # C	Fullerton	CA	92831	
Tacos El Gordo De Tijuana Bc, Inc.		Catering	1351 Third Ave	Chula Vista	CA	91911	(619) 424-7465
Tacos El Panson		Catering	4433 El Cajon Blvd.	San Diego	CA	92115	619-241-2222
Tazz Lighting , Inc.		Contractor - Specialty	6179 El Camino Real , Suite 100	Carlsbad	CA	92011	760-603-2020
Tegriscape		Landscape Service	1310 Park Hill Ln	Escondido	CA	92025	(760) 743-8857
Tekton Master Builders		Contractors	1010 So. Coast Hwy. 101 Suite 108 Bldg.A	Encinitas	CA	92024	(760) 436-3333
Telford Jones, Inc.		Contractor - Specialty	25920 Iris Ave. Ste.13A -400	Moreno Valley	CA	92551	951-486-0337
Terra Aqua, Inc.		Contractor - Specialty	3691 54Th Street	San Diego	CA	92105	619-795-8800
Terra Restaurant& Catering		Catering	1270 Cleveland Ave Ste K	Del Mar	CA	92014	(619) 293-7088
Test America Drilling Corp.		Contractors	7888 Othello Ave	San Diego	CA	92111	(858) 496-9654
The Abbey Catering		Catering	3361 Sandrock Rd.	San Diego	CA	92103	(619) 218-1970
The Brickman Group, Ltd		Contractor - Specialty	6218 Fairmount Ave	San Diego	CA	92120	619-281-8887
The Crest Company, Inc	Dba Crest Pools	Pool Or Spa Care	1265 Rubenstein Ave	Cardiff By The Sea	CA	92007	(760) 942-5391
The Culinary Wizard, Llc		Catering	PO Box 230350	Encinitas	CA	92024	760-479-1746
The Flavor Chef		Catering	6753 Corintia St	Carlsbad	CA	92009	760-685-2433
The French Gourmet, Inc.	Dba: French Gourmet	Catering	960 Turquoise St	San Diego	CA	92109	(858) 488-1725
The French Tradition		Contractor - Specialty	13700 Crenshaw Blvd	Gardena	CA	90249	310-719-9977
The Jason Jarvis Building Corp		Contractor - Specialty	16856 Saintsbury Glen	San Diego	CA	92127	858-206-1799
The Masonry Group Ca So, Lp		Masonry	8188 Lincoln Ave # 100	Riverside	CA	92504	(951) 509-5300
The Pool Doctor		Contractor - Specialty	PO Box 114	Bonsall	CA	92003	760-745-9069
The Wild Thyme Company		Catering	7163 Construction Ct Ste B	San Diego	CA	92121	(858) 527-0226
Thomas Construction		Contractors	11835 Carmel Mountain Rd Ste 1304-210	San Diego	CA	92128	(619) 778-5929
Thyssen Elevator Corporation		Mechanical	5745 Kearney Villa Rd Ste B	San Diego	CA	92123	(858) 569-9091
TLB Construction		Contractors	30354 Twain Dr	Menifee	CA	92584	(619) 954-6314
TLC Plumbing Inc.		Contractor - Specialty	4569 Mission Gorge Place E	San Diego	CA	92120	619-667-0234
T-Mar Construction Inc	Dba: Martin Corporation	Contractors	2340 Meyers Ave	Escondido	CA	92029	(760) 489-7010
Toast		Catering	7000 Saranac Street #72	La Mesa	CA	91942	858-208-9422
Tom Nelson, General Contractor		Contractors	236 24Th St.	Del Mar	CA	92014	(858) 735-6857
Tony Keller Custom Painting		Contractor - Specialty	40086 Cannes Court	Temecula	CA	92591	619-885-6958
Tony'S Landscaping		Landscaping	9941 Lake Canyon Ct	Santee	CA	92071	619-854-3111
Torrey Pines Landscape Co., Inc		Landscape Service	5560 Eastgate Mall	San Diego	CA	92121	(858) 454-1433
Town & Country Landscape		Landscaping	PO Box 231561	Encinitas	CA	92024	760-744-5090
Town & Country Tile		Masonry	3684 Via Baldona	Oceanside	CA	92056	(619) 972-8040
Traveline Woodworks, Inc.		Woodworking	3810 Oceanic Dr Ste 207	Oceanside	CA	92056	(760) 757-0200
Tree Of Life Tree Service, Inc.		Landscape Service	4591 Mt La Platta Pl	San Diego	CA	92117	(619) 560-6622
Tri City Fence Company, Inc.		Fencing	825 W Washington St	Escondido	CA	92029	(760) 233-9890
Trueline Woodworks, Inc.		Contractor - Specialty	3810 Oceanic Dr Ste 207	Oceanside	CA	92056	760-757-0200
Truewall Builders		Contractor - Specialty	7794 San Benito Street	Highland	CA	92346	909-793-0721
Trugreen Landcare #6241	A General Partnership	Landscape Service	770 Metcalf St	Escondido	CA	92025	(901) 597-8229
Truly Nolen Of America, Inc.		Pest Control	913 Rancheros Dr	San Marcos	CA	92069	(760) 744-7631
Turner Construction Company		Contractors	9330 Scranton Rd Ste 300	San Diego	CA	92121	(858) 320-4040
Turner Thomas Design Building, Inc.		Contractors	2010 Jimmy Durante 210	Del Mar	CA	92014	(858) 755-1662
U. S. Foodservice, Inc.	San Diego Division	Food Service - Delivery	1201 Park Center Dr	Vista	CA	92083	(760) 599-6220
Ulitmate Xscapes Pool & Spa		Contractors	301 Santa Helena	Solana Beach	CA	92075	(858) 717-2815
Underwater Earth Movers, Inc.		Contractor - Specialty	2410 Ne 106Th Street	Vancouver	WA	98686	360-573-2160
United Drywallers Inc		Contractor - Specialty	PO Box 1083	Lakeside	CA	92040	619-270-7201
United Pacific Services		Landscaping	120 E La Habra Blvd Suite 107	La Habra	CA	90631	562-691-4600
United Subcontractors Inc.		Contractor - Specialty	930 Armorlite Drive	San Marcos	CA	92069	760-736-4115

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Universal Construction		Contractors	5745 Kearny Villa Road	San Diego	CA	92123	(858) 278-3320
V & H Perry, Inc.		Contractor - Specialty	205 W 35th St #K	National City	CA	91950	619-472-2112
Valleycrest Landscape Maint		Landscape Service	8500 Miramar Pl	San Diego	CA	92121	(858) 458-1900
Vanguard Fire Protection Inc		Contractor - Specialty	925 Poinsettia Avenue #11	Vista	CA	92081	760-727-8540
Vet2You, Inc		Pet Grooming	13546 Mango Dr	Del Mar	CA	92014	(619) 997-9789
Viemeister Construction		Contractors	1607 Tennis Match Wy	Encinitas	CA	92024	(858) 204-7684
Vina & Co.		Catering	1444 Pioneer Way #11	El Cajon	CA	92020	619-888-4495
Vinyl Pro Fence		Fencing	8440 Eastgate Ct #233	San Diego	CA	92121	(800) 605-4029
Vista Plumbing Inc		Contractor - Specialty	623 S Santa Fe #C	Vista	CA	92083	760-758-2345
Visual Mobile Detailing		Auto Detailing	13644 Catawba Dr	Poway	CA	92064	(858) 212-1438
Visual Tint & Detail		Auto Detailer	12604 Carmel Country Rd #15	San Diego	CA	92130	858-212-1438
Vulcan Materials Co. - Western Div		Paving	3200 San Fernando Rd	Los Angeles	CA	90065	(213) 258-2777
Walt Wehsener Dba Think Electric		Electrical	5002 Santa Fe St Ste B	San Diego	CA	92109	(858) 274-1150
Walter Anderson		Contractor - Specialty	1150 N Marshall Ave	El Cajon	CA	92020	619-449-3852
Wanke, Industrial, Commerical,		Contractor - Specialty	PO Box 1150	Cathedral City	CA	92235	760-327-8641
Wardell Builders, Inc.		Contractors	649 Valley Ave Ste A	Solana Beach	CA	92075-2429	(858) 793-4190
Wasserman Masonry & Stone		Contractor - Specialty	7529 Draper Avenue	La Jolla	CA	92037	858-551-7096
Waters Fine Catering		Catering	1105 W Morena Blvd	San Diego	CA	92110	(619) 276-8803
Watersedge Landscape, Inc.		Landscape Service	4255 Ruffin Rd			92125	(760) 858-1112
Weatherby Diversified Inc. Dba		Contractor - Specialty	10843 Los Vaqyeros Circle	Los Alamitos	CA	90720	
Werhanowicz Window & Door, Inc.		Windows	40678 E Benton Rd.	Hemet	CA	92544	(951) 767-3025
West Coast Appliance Service,		Contractor - Specialty	1282 Fayette St	El Cajon	CA	92020	619-557-0446
West Coast Electric Solutions Inc		Electrical	3121 Skipper St	San Diego	CA	92123	(858) 565-7897
West Coast General Corp.		Contractor - Specialty	13700 Stowe Drive Suite 100	Poway	CA	92064	619-561-4200
West Coast Undergrounding		Contractors	7929 Silverton Ave #613	San Diego	CA	92126	(858) 689-7900
Western Fire Protection, Inc		Contractor - Specialty	13630 Danielson St	Poway	CA	92064	858-513-4949
Western Foundations & Shoring, Inc.		Contractors	10875 Highway 67	Lakeside	CA	92040	(619) 561-3510
Whillock Contracting Inc		Contractors	346 Front St	El Cajon	CA	92020	(619) 579-0700
Wichert Tile, Inc.		Masonry	1925 Encino Dr	Escondido	CA	92025	(760) 703-0947
Wildflower Catering		Catering	780 2nd Ave	El Cajon	CA	92021	619-442-7880
William J. Olson Masonry		Masonry	1510 Spring Creek Ln.	Oceanside	CA	92057	(760) 518-9184
William's Window Cleaning Co.		Power Washing/Window Cleaning	2550 E Valley Pkwy 117	Escondido	CA	92027	(760) 484-4081
Willis Contractors		Contractors	19843 Mt Israel Pl	Escondido	CA	92029	(760) 741-7118
Winfield Floor & Window		Contractor - Specialty	7031 Carroll Rd	San Diego	CA	92121	858-587-9007
Wirtz Tile & Stone, Inc.		Masonry	7932 Armour St	San Diego	CA	92111	(858) 569-3816
Woodchuck Flooring Inc		Flooring	7166 Convoy Ct	San Diego	CA	92111	(858) 279-4677
Wurfl Construction		Contractors	3413 Carleton St	San Diego	CA	92106	(858) 353-9755
Xl Plastering Inc.		Contractor - Specialty	2240 S Susan Street	Santa Ana	CA	92704	714-241-7004
Yapos Home Catering		Catering	4783 Jutland Dr	San Diego	CA	92117	(858) 581-0518
Yasuda Landscape, Inc.		Landscape Service	2419 Erie St	San Diego	CA	92110	(619) 276-5280
Your Castle Installations		Contractor - Specialty	35156 Golden Poppy Ct	Winchester	CA	92596	951-809-8035
Your Chef Robert		Catering	728 Crest Rd	Del Mar	CA	92014	(858) 837-2736
Zallar Plumbing, Inc.		Plumbing and A/C	10757 Oak Creek Dr	Lakeside	CA	92040	(619) 443-1009
Zeis Construction		Contractors	PO Box 226	Solana Beach	CA	92075	(858) 481-8003
Zimms Detail		Auto Detailing	7546 Gibraltar St A	Carlsbad	CA	92009	(760) 717-2185

OTHER WATER CONSERVATION AND POLLUTION PREVENTION TECHNIQUES

NATIVE VEGETATION AND MAINTENANCE

"California Friendly" plants or native vegetation can significantly reduce water use. These plants often require far less fertilizers and pesticides. Replacing "thirsty" plants and grasses with water efficient native plants is a great way to save water and reduce the need for potentially harmful pesticides and fertilizer.

WEED FREE YARDS

Weeds are water thieves. They often reproduce quickly and rob your yard of both water and nutrients. Weed your yard by hand if possible. If you use herbicides to control the weeds, use only the amount recommended on the label and never use it if rain is forecasted within the next 48 hours.

SOIL AMENDMENTS

Soil amendments such as green waste (e.g. grass clippings, compost, etc.) can be a significant source of nutrients and can help retain soil moisture. However, green waste can cause algae blooms and oxygen depletion if allowed to decompose in our waterways. It is important to apply soil amendments more than 48 hours prior to a predicted rainfall and till amendments into the topsoil.

IRRIGATE EFFICIENTLY

Smart Irrigation Controllers

Smart Irrigation Controllers have internal clocks as well as sensors that will turn off the sprinklers in response to environmental changes. If it is raining, too windy or too cold, the smart irrigation control sprinklers will automatically shut off.

- ***Aim your sprinklers at your lawn/gardens, not the street***
  By simply adjusting the direction of your sprinklers you can save water, prevent water pollution from runoff, keep your lawn healthy and save money.
- ***Set a timer for your sprinklers***
  Lawns/gardens absorb the water they need to stay healthy within a few minutes of turning on the sprinklers. Time your sprinklers; when water begins running off your lawn / garden, you can turn them off. Your timer can be set to water your lawn for this duration every time and prevent excess runoff.
- ***Use Low Flow Irrigation***
  Switching to low flow irrigation (drip) can help control flows and direction of irrigation runoff. It also uses less water.

City of Del Mar
Clean Water Program
www.delmar.ca.us
(858) 755-9313
Del Mar Municipal Code Section 11.30

A FRIENDLY REMINDER

Dear Resident: This is not a citation, however pollutants were found in your neighborhood storm drain / and or adjacent to your property.

Clean Water Program staff observed the following in the storm drain system (curb, street, gutter) near your home:

- ☐ Over irrigation usage / Nuisance water
- ☐ Motor oil / Antifreeze / Transmission fluids
- ☐ Cooking Grease
- ☐ Detergents / Solvents / Degreaser
- ☐ Paint / Paint products
- ☐ Home improvement / Construction debris
- ☐ Sewage
- ☐ Animal waste
- ☐ Yard waste (grass clippings, leaves, etc.)
- ☐ Uncovered dirt and / Or loose gravel piles
- ☐ Trash / Litter
- ☐ Other _____

YOU CAN PREVENT POLLUTION!

Storm Water Pollution is a problem that affects all of us in Del Mar. Rain water and urban runoff flows from our streets and yards and carry pollutants into local storm drains. These pollutants are carried untreated directly to our lagoons and beaches.

Remember:
Less Runoff = Cleaner Beaches and Oceans

WHAT HAPPENS WITH WATER RUNOFF?

Residential activities can result in water pollution.

What happens here... *...generates pollutants here.*

Pollutants accumulate on the ground (dirt, non-visible bacteria, trash, lawn clippings, oil, etc.)

Water hits the ground (rain, over-irrigation, hosing, car washing)

Water picks up the pollutants from the ground

Water carrying pollutants gets into the street/curb & gutter/ditch/storm drain

Water flows through pipes carrying pollutants

The wet dark pipes are a breeding location for bacteria

Water and pollutants exit pipes and enters the ocean/lagoon water

In heavy rain conditions, the slime/bacteria that has built up in the pipes is scoured and washes out into the ocean/lagoons, carrying bacteria

HOW CAN I HELP?

Several residential activities can result in water pollution. Here are some of the common pollutants for which you can be part of the solution:

1 Pet Waste

Pet waste carries bacteria through our watersheds that is eventually washed out to the ocean. This can pose a health risk to swimmers and surfers.

The Solution: Pick up after your pets!

2 Pesticides and Fertilizer

The same pesticides that are designed to be toxic to pests can have an equally lethal impact on our marine life. The same fertilizer that promotes plant growth in lawns and gardens can also create nuisance algae blooms. Algae can remove oxygen from the water and clog waterways when it decomposes.

The Solution: Never use pesticides or fertilizer within 48 hours of an anticipated rainstorm. Use only as much as is directed on the label, till it into the soil, and keep it off driveways and sidewalks.

3 Dirt and Sediment

Dirt or sediment can impede the flow of the stormwater and negatively impact stream habitats as it travels through waterways and deposits downstream. Pollutants can attach to sediment, which can then be transported through our waterways.

The Solution: Protect dirt stockpiles by covering them with tarps or secure plastic sheets to prevent wind or rain from washing dirt or sediment into the storm drain system. Mulch your yard.

4 Trash and Debris

Trash and debris can enter waterways by wind, littering and careless maintenance of trash receptacles. Street sweeping collects some of this trash; however, much of what is not captured ends up in our storm drain system where it flows untreated out to the ocean.

The Solution: Don't litter. Make sure trash containers are properly covered. It is far more expensive to clean up the trash in our waterways than it is to prevent litter in the first place.

5 Motor Oil / Vehicle Fluids

Oil and petroleum products are toxic to people, wildlife and plants.

The Solution: Fix any leaks from your vehicle and keep up the maintenance on your car. Use absorbent material such as cat litter on oil spills, then sweep it up and dispose of it in the trash. Recycle used motor oil at a local Household Hazardous Waste Collection Center.

6 Metals

Metals and other toxins present in car wash runoff can harm important plankton. These plankton are at the base of the aquatic food chain.

The Solution: Take your car to a commercial car wash where the wash water is captured and treated at a local wastewater treatment plant.

See back for more ways to help...