VI. Assessment of Program Effectiveness

1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form.

The City of Hermosa Beach is in full compliance with permit requirements.

2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program.

A number of measures as well as observations by City field staff and its contractors are used to evaluate the effectiveness of the City's stormwater management program. These include:

- results of restaurant and industrial/commercial inspections
- rates of Used Oil and Household Hazardous Waste collected at local roundups and certified collection centers
- rates of pet waste collection at pet waste stations installed in City parks and the greenbelt
- tracking of the amount of trash collected in catch basins and filters
- baseline survey through the South Bay Stormwater Program website will allow us to track changes in public understanding of pollution prevention and targeted pollutants of concern in the watershed
- reports of water quality at our beaches

3. A summary of the strengths and weaknesses of your agency's storm water management program.

The City of Hermosa Beach is a small, historic beach town that encompasses only 1.4 square miles, fronts two miles of popular beaches and is home to over 19,500 residents. As a coastal city focused on surfing and other ocean-oriented activities as well as tourism, maintaining high water quality is an important issue for the City of Hermosa Beach.

Hermosa Beach has a small tightly-knit staff that works closely together yet provides the full service typical of a larger City. While NPDES MS4 permit requirements affect many aspects of city services, key departments involved in implementing these requirements are the Public Works and Community Development Departments. The Department of Public Works has the lead responsibility for coordinating implementation of the MS4 NPDES permit requirements within the City. The Public Works Department is responsible for the maintenance and operation of all city facilities and properties, including the beach. This responsibility extends to and includes engineering services, streets, public buildings, park grounds, streetlights, traffic control services, sewage collection and storm drain management. The Community Development Department is responsible for new development and redevelopment including construction site inspections and code enforcement. The Community Development Department coordinates many environmental outreach programs to residents and businesses and serves as staff to the City's Green Task Force.

Strengths

- The City of Hermosa Beach is an athletic, beach-focused community with strong policies and ordinances that mandate clean streets, commercial areas and beaches.
- The City's residents are strongly supportive of proactive environmental measures and actions taken to protect water quality and the environment.
- Our small staff size affords excellent communication and responsiveness with little bureaucracy.
- City staff is progressive, innovative and strongly committed to protecting water quality.

Weaknesses

- The City is built-out and redevelopment tends to occur on small parcels with limited opportunity for retrofitting with structural BMPs.
- Limited fiscal resources.
- Large transient population of tourists, beachgoers and renter population complicates educational efforts

4. A list of specific program highlights and accomplishments.

Notable accomplishments this year include:

A new city ordinance (H.B.M.C. Section 8.40.020) established smoke-free zones at: all public parks; Pier Plaza, the heart of the city's downtown; the Hermosa Beach Pier; outdoor dining areas, including within five feet of the outdoor dining areas; the Strand, which is the sidewalk and bike path adjacent to and running the full length of the beach; the Greenbelt, which is the pedestrian path running the length of the City between Valley Drive and Ardmore Avenue, and City-owned public parking lots. Smoking had already been prohibited on the beach, in city buildings and inside of restaurants.

The City of Hermosa Beach has secured a $410,000 grant from the state's Strategic Growth Council to create a comprehensive, long-term plan for reducing and eventually eliminating the city's carbon footprint. The funding will be used to hire experts who will **update and integrate the city's General Plan and Coastal Land Use Plan** to create a "Comprehensive Blueprint for Sustainability and a Low Carbon Future." The grant will fund a 3-year planning effort that will seek to:

- Advance the objectives of new California laws (SB 375 and AB 32) that seek to reduce greenhouse gases and create a sustainable, low carbon future. With transportation producing the majority of greenhouse gases in the South Bay, the city will work with other cities and governmental organizations in the area to develop transportation strategies to reduce greenhouse gases.

- Build a model for the General Plan of the Future by creating an interactive online E-Plan that can be customized to the users of the information and will link policy and action to budget tools, adopted codes and resources.

- Create a comprehensive vision linking sustainability with economic vitality. The plan will link the city's evolving plans for the Pacific Coast Highway corridor, strategic city facility and downtown planning, upper Pier Avenue improvements to demonstrate how to increase economic vitality while also showcasing sustainability and coastal resource protection and enhancement.

- Craft climate adaptation strategies to protect against sea level rise that could threaten the city.

- Demonstrate the improved integration of general plans and coastal plans to holistically protect the watershed and marine environment.

- Engage the public through education and information.

The City has completed the final report on the **Phase I Hermosa Strand Infiltration Trench**, an award-winning full-scale pilot project to evaluate the effectiveness of subsurface infiltration on the beach as an alternative to low flow diversions to the sanitary sewer for compliance with Bacteria Total Maximum Daily Loads. The system effectively removes the bacteria load from the diverted runoff thereby eliminating the bacterial load to the shoreline from the diverted runoff and eliminating REC-1 exceedances associated with discharges from the storm drain during dry weather so long as the system is operating properly. During the first twelve months of operation, alone, the Phase I Hermosa Strand Infiltration Trench system diverted and filtered more than 1.6 million gallons of dry weather and some wet weather runoff from the relatively small but intensely developed drainage area of the Pier Avenue storm drain, effectively removing 100% of the bacteria load from the diverted water. A presentation on the project's effectiveness was delivered at the annual Headwaters to Ocean Conference in May 2012 held in San Diego.

The City completed the effectiveness assessment report on the **Pier Avenue Improvement Project**, a "green" multi-benefit streetscape improvement which retrofits the City's main street to capture and treat stormwater/urban runoff from residential areas and commercial development in the downtown corridor (36-acre drainage area). It was determined from monitoring data that dry weather flows were eliminated through infiltration in both subwatersheds, except where they bypassed the units due to topography. Wet weather flows were also estimated to be reduced by as much as 71% across both subwatersheds combined.

The City installed **certified trash full capture exclusion devices** on 14 City-owned catch basins within the downtown commercial area (four years in advance of the first milestone in the newly adopted Santa Monica Bay Nearshore and Offshore Marine Debris TMDL).

Highlights of our ongoing NPDES and environmental programs include:

In 2010 the City adopted **low impact development (LID) requirements** as a customized amendment to the California Green Building Code. These LID requirements apply to new development commercial and residential projects regardless of size (i.e., even new

development projects not subject to SUSMP under the MS4 Permit are subject to these requirements) and include the following provisions:

- Residential projects are required to utilize water permeable surfaces on at least 50% of exterior surface areas excluding the building footprint, must direct runoff from impermeable surfaces onto permeable areas, or must utilize a subsurface infiltration system to infiltrate the volume of runoff from impermeable surfaces produced by a 0.75 inch storm event.

- Non-residential new development projects must demonstrate no net increase in rate and quantity of stormwater runoff over predevelopment conditions or for redevelopment projects must achieve at least a 25 percent decrease in runoff rate and quantity for the SUSMP design storm or a 25 percent decrease in site impermeability. In addition post construction treatment control BMPs must mitigate the SUSMP design storm with an expressed preference for infiltration.

Hermosa Beach adopted a Water **Conservation and Drought Management Plan Ordinance** and a **Water Efficient Landscape Ordinance** that far exceeds State requirements. The City enforces the water conservation ordinance as part of the Illicit Connections Illicit Discharge program. Implementation of these ordinances will reduce dry weather runoff to Santa Monica Bay as a result of the reduction in outside water use and waste by:

- Limiting outside watering to 15 minutes per day
- Encouraging use of drip and below-ground irrigation systems
- Hand watering must utilize hand-held hose with automatic shut-off nozzle and restaurants must use water brooms for cleaning patio areas
- Leaks, waste, overwatering, overspray and runoff are prohibited
- Residents washing their own cars must use a hand held hose with automatic shut-off nozzle or a bucket system

The City of Hermosa Beach has instituted a **Green Matrix** of requirements for special events in the City. The requirements are phased in over three years and are tiered based on the size of the event. The requirements include measures to:

- Reduce waste and single-use items
- Limit and reduce the size of handouts and flyers
- Control litter, contain wastes and prohibit hosing of surfaces
- Increase recycling and solid waste diversion rates
- Provide educational outreach to the public

The section of Hermosa Avenue which runs parallel to the beach from 27th to 35th Streets has been retrofit with a series of seven (7) **filter/infiltration boxes** designed by the City's engineering staff to intercept, filter, and infiltrate low flows conveyed down side streets from the areas east of Hermosa Avenue prior to entry into catch basin inlets on Hermosa Avenue.

The City's **Dog Regulations** include a leash law for all public and private property. Owners are required to carry a visible doggie bag when walking their dogs and must

immediately remove and properly dispose of feces. The City has installed and maintains dispensers for pet waste collection bags in municipal parks and along the linear greenbelt. Dogs are prohibited on the beach.

The City has installed **Drain Pac® inserts** on 31 City-owned catch basins plus an additional 10 County-owned basins. The City cleans both the City-owned catch basins and the ten County-owned basins equipped with Drain Pac®.

The County through grant funding has installed **debris excluders** on 35 high priority catch basins in the City's commercial district along Hermosa Avenue and Pier Avenue. This has reduced the accumulation of trash and debris in the catch basins and the frequency of required catch basin cleaning. The debris excluders also increase the effectiveness of street sweeping.

The City plumbing code requires **grease removal systems** for food service establishments (FSEs) and provides for annual inspection of the grease recovery systems. Only facilities which do no frying of food can be exempted, e.g., coffee shops, or sandwich shops with no grilling.

The City of Hermosa Beach implements the **Clean Bay Restaurant Program** targeting food service establishments with exposure to stormwater. The food service establishments are inspected against a comprehensive 28-point storm water inspection checklist that requires 100% compliance in order for the facility to be awarded a Clean Bay Restaurant Certificate by the Santa Monica Bay Restoration Commission—this checklist far exceeds the minimum requirements of the MS4 NPDES Permit and also requires compliance with the City's grease control ordinance.

The City has placed over 100 recycling bins for beverage containers throughout the City, at all bus stops, in heavily-used pedestrian areas and parks. The City provides curbside recycling of yard waste as well as paper, plastic and aluminum recyclables.

The City has a successful **Adopt-a-Storm Drain** program.

5. A description of water quality improvements or degradation in your watershed over the past fiscal year.

The City of Hermosa Beach is not aware of any water quality degradation within the watershed during the reporting year and as discussed below, most shoreline monitoring sites in the City have maintained consistently higher water quality than the reference beach. All three Santa Monica Bay shoreline monitoring locations adjacent to the City of Hermosa Beach received "A" grades for Summer Dry Weather in Heal the Bay's 2011-12 Annual Beach Report Card, and either "A" or "B" for Winter Dry Weather.

The Santa Monica Bay Beaches TMDL was not incorporated into the permit during this reporting year. Although TMDL monitoring is still taking place, it is not appropriate to determine the effectiveness of the program through comparison to the TMDL standards

until the revised TMDL is approved and incorporated into the MS4 Permit. Other standards may be more appropriate during this time.

The current MS4 NPDES Permit defines *Water Quality Standards and Water Quality Objectives to mean: water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.*[1]

The Los Angeles Basin Plan, Chapter 3 describes water quality objectives for waters in the Los Angeles Region; and with respect to ocean waters, the Los Angeles Basin Plan states that the State Board's Water Quality Control Plan for Ocean Waters of California (Ocean Plan) shall also apply to all ocean waters of the Los Angeles Region. Thus, it is the California Ocean Plan water quality standards that are applicable to the Santa Monica Bay. Water quality standards for full-body water contact recreation beneficial use (REC-1) are based on three different types of indicator bacteria densities:

30-day Geometric Mean:

- *Total coliform density shall not exceed 1,000 per 100 mL*
- *Fecal coliform density shall not exceed 200 per 100 mL*
- *Enterococcus density shall not exceed 35 per 100 mL*

Single Sample Maximum:

- *Fecal coliform density shall not exceed 400 per 100 mL*
- *Enterococcus density shall not exceed 104 per 100 mL*
- *Total coliform density shall not exceed 10,000 per 100 mL*
- *Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1*

It should be noted that although the Ocean Plan REC-1 objectives are established to describe the quality of water desirable for recreational use, natural waters do not necessarily meet these objectives at all times and so the mere occurrence of exceedances of the REC-1 objectives does not necessarily implicate storm drain discharges as the cause or even urban development as the cause. The Los Angeles Regional Board staff acknowledged this issue in selecting a "reference beach/antidegradation approach" in establishing the Santa Monica Bay Beaches Bacteria TMDLs (SMBBB TMDLs). The reference beach selected under the SMBBB TMDL is located at Leo Carillo beach (SMB 1-1) at the outlet of Arroyo Sequit Canyon which is a freshwater creek having a drainage area of approximately 12 square miles and is almost entirely undeveloped open space (98% of land use).

The Regional Board staff also acknowledged a relatively higher frequency of exceedances of the REC-1 standards during wet weather periods in comparison with dry periods in natural systems. During the period from November 2004 through October 2010, data collected under the SMBBB TMDL at the reference beach

[1] Los Angeles Regional Water Quality Control Board. Order No. 01-182 as amended in 2001, 2006, 2007, 2009, 2010 and 2011. Part 5. Definitions

indicated a 10% exceedance rate during dry weather and a 22% exceedance rate during wet weather of the REC-1 single-sample objectives. [2]

Due to technical problems with the method for calculation of the geometric mean described under the current SMBBB TMDL, inconsistency between the Ocean Plan and the SMBBB TMDL with respect to the method for calculating the geometric mean, and pending changes to the method of calculation of the geometric mean values as part of the reconsideration of the SMBBB TMDL and Chapter 3 of the Los Angeles Basin Plan, geometric mean values for indicator bacteria are not presented.

Results of shoreline monitoring data collected at sites adjacent to the City of Hermosa Beach are discussed in the following sections in the context of REC-1 single-sample bacterial objectives. These results are compared with the reference beach during the current reporting year as well as previous reporting years under the SMBBB TMDL monitoring program.

Santa Monica Bay Shoreline Monitoring Site SMB 5-4: 26th Street Extended in Hermosa Beach

The open beach shoreline monitoring location at the extension of 26th Street in Hermosa Beach, SMB 5-4, is considered to be an anti-degradation site as it has historically exhibited a lower rate of exceedances than the reference beach. The reference site at Leo Carillo Beach was selected by Regional Board staff during development of the Santa Monica Bay Beaches Bacteria TMDLs as being representative of natural background water quality from coastal creeks or runoff from undeveloped areas.The reference beach at Leo Carillo beach (SMB 1-1) is an almost entirely undeveloped watershed with 98% of the land use as undeveloped open space. .

The Los Angeles County Department of Health Services conducts shoreline monitoring at SMB 5-4 once per week on Mondays.

During the FY2011-12 reporting year there were two (2) exceedances of the single-sample REC-1 bacterial objectives at SMB 5-4 out of 52 sampling days for this site, which like the reference beach is monitored once per week, 52 weeks per year. This amounts to an exceedance rate of 3.8% based on year-round wet and dry weather sampling combined at SMB 5-4 during FY2011-12. By contrast the reference beach had 8 exceedance days out of 52 sampling days which is a 15% exceedance rate for combined year-round wet and dry weather monitoring. Thus overall the shoreline monitoring site at SMB 5-4 exhibited an exceedance rate that was 1/4th that of the reference beach site during FY2011-12.

On October 24, 2011 the shoreline monitoring sample collected by Los Angeles County Department of Health Services (DHS) at SMB 5-4 exhibited an

[2] Los Angeles Regional Water Quality Control Board, May 2012. Staff Report: Reconsideration of Certain Technical Matters of the Santa Monica Bay Beaches Bacteria TMDLs; the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL; and the Los Angeles Harbor Inner Cabrillo Beach and Main Ship Channel Bacteria TMDL. Table 3.

enterococcus density of 160 MPN/100 mL in comparison with the REC-1 single-sample objective of 104 MPN/100 mL, while the other three bacterial indicators were below REC-1 objectives. This was a dry weather day as there had been no rainfall for the two weeks prior. The nearby storm drain outfall is terminated approximately 300 feet from the shoreline so no flow typically reaches the shoreline from this outfall during dry weather. In the accelerated follow up sample collected by DHS two days later on October 26th the enterococcus density was below the detection limits. On October 24th, the day of the exceedance, 17 out of 41 samples (41%) collected by DHS on that dry weather day, including the reference site, exceeded the REC-1 objective for enterococcus; this suggests that there may have been natural shoreline and/or ocean conditions across the South Santa Monica Bay that may have been the cause of the exceedances.

On March 19, 2012 the shoreline monitoring sample collected by DHS at SMB 5-4 exhibited an enterococcus density of 146 MPN/100 mL in comparison with the REC-1 single-sample objective of 104 MPN/100 mL, while the other three bacterial indicators were below REC-1 objectives. This was considered to be a wet weather day since two days before on Saturday, March 17, 2012 the rain gauge at LAX recorded 0.53 inches of rainfall. Accelerated follow up sampling is not conducted for wet weather exceedances of the REC-1 objectives.

Table 1 shows the history of summer dry and winter dry weather exceedances at SMB 5-4 in comparison with the reference beach at Leo Carillo Beach, SMB 1-1, which are both monitored once per week by DHS. Review of this data clearly shows that the shoreline monitoring location at SMB 5-4 has maintained its historically high water quality and there has been no degradation over the past seven years during either summer dry weather or winter dry weather periods and that the site continues to exhibit fewer exceedances than the reference beach.

TABLE 1 SANTA MONICA BAY BEACHES BACTERIA (SMBBB) TMDL EXCEEDANCE RATES SMB 5-4 26th STREET EXTENDED SAMPLING STATION COMPARED WITH REFERENCE SITE						
SUMMER DRY WEATHER – Apr 1-Oct 31				WINTER DRY WEATHER – Nov 1- Apr 30		
Summer	Single-Sample Exceedance Days at SMB 5-4	Single-Sample Exceedance Days at Reference Beach		Winter	Single-Sample Exceedance Days at SMB 5-4	Single-Sample Exceedance Days at Reference Beach
2005	0	7		**2005-06**	0	1
2006	0	11		**2006-07**	1	1
2007	1	0		**2007-08**	0	2
2008	0	2		**2008-09**	0	0
2009	0	0		**2009-10**	0	0
2010	0	0		**2010-11**	1	1
2011	1	5		**2011-12**	0	3
Total	2	25			2	8

Santa Monica Bay Shoreline Monitoring Site SMB 5-5: Hermosa Pier—50 Yards South

The open beach shoreline monitoring location 50 yards south of Hermosa Pier in Hermosa Beach, SMB 5-5, is also considered to be an anti-degradation site as it has historically exhibited a lower rate of exceedances than the reference beach. This shoreline monitoring site has been monitored twice per week since July 2005. Michelson Laboratory under contract to Jurisdictional Groups 5 & 6 samples the site on Mondays in accordance with the SMBBB TMDL Coordinated Shoreline Monitoring Plan, and City of Los Angeles Environmental Monitoring Division (EMD) samples the site on Tuesdays in accordance with the Monitoring and Reporting Program CI 6948 under the MS4 Permit.

During the FY2011-12 reporting year there were eight (8) exceedances of the single-sample REC-1 bacterial objectives at SMB 5-5 out of 104 sampling days for this site which is monitored two days per week, 52 weeks per year. This amounts to an exceedance rate of 7.7% based on year-round wet and dry weather sampling combined. By contrast the reference beach had 8 exceedance days out of 52 sampling days for combined year-round wet and dry weather sampling which is a 15% exceedance rate. Thus overall the shoreline monitoring site at SMB 5-5 exhibited an exceedance rate that was half that of the reference beach site.

> On Tuesday, October 11, 2011 in the sample collected by City of LA EMD at SMB 5-5, the enterococcus and E.Coli (equivalent to fecal coliform) densities were above the REC-1 objectives. This was a dry weather day as the last rainfall event had occurred six days earlier. The nearest storm drain outfall to SMB 5-5 is the

Hermosa Pier storm drain which is fully diverted to the Hermosa Strand Infiltration Tench during dry weather, and LA County Flood Control Districts (LACFCD) staff verified that the diversion was indeed operational on October 11, 2011.

On Tuesday, October 25, 2011 the indicator bacteria density in the sample collected by City of LA EMD at SMB 5-5 for enterococcus and E. coli were above the REC-1 standard. This was a dry weather day and LACFCD verified that the Hermosa Strand Infiltration Trench low flow diversion was fully operational on that day. It is noteworthy that all nine of the shoreline monitoring stations sampled by City of LA Environmental Monitoring Division (EMD) from Dockweiler beach southward also exceeded the REC-1 objectives on October 25th. The field blank QA/QC data provided by City of LA EMD indicated no evidence of contamination, so it appears that natural shoreline and/or ocean conditions across the South Santa Monica Bay may have been the cause of the exceedance.

The accelerated follow up sample collected on Thursday, October 27, 2011 by City of LA EMD at SMB 5-5 exceeded the REC-1 objective for enterococcus, while all three other single-sample objectives were met. Again, any flow from the nearby Pier Avenue storm drain was fully diverted. Two days later in the follow up sample collected on October 29, all bacterial indicators were below the REC-1 objectives.

A major storm event occurred on Sunday, November 20, 2011 wherein the LAX rain gauge recorded 0.9 inches of rain and the Redondo Beach rain gauge recorded 1.03 inches of rain. On November 22, 2011 the sample collected at SMB 5-5 exhibited exceedances of the enterococcus single sample objectives. Eight out of nine shoreline monitoring stations sampled by City of LA EMD from Dockweiler beach southward also exceeded the REC-1 objectives on November 22, 2011 on this wet weather day.

On December 12th another significant rain event occurred wherein 0.65 inches of rain was recorded at LAX rain gauge and 0.75 inches at Redondo Beach. The next day the sample collected at SMB 5-5 exceeded three of the four indicator bacterial objectives. Accelerated follow up sampling is not conducted for wet weather exceedances.

On January 31, 2012 the indicator bacteria density in the sample collected at SMB 5-5 exceeded the REC-1 objective for enterococcus, all other bacterial indicators were below detection limits in the sample. Flow from the nearby Pier Avenue storm drain was fully diverted by the Hermosa Strand Infiltration Trench.

On February 7, 2012 a rainfall event occurred wherein 0.03 inches of rain was recorded at LAX and three times that amount, 0.09 inches was recorded at the Redondo Beach rain gauge (almost a qualifying event). Two of the bacterial indicators were above the single-sample REC-1 objective in the sample collected at SMB 5-5 on that day. LACFCD verified that the nearby Pier Avenue storm drain diversion to the Hermosa Strand Infiltration Trench was operational so that storm drain discharge from this small wet weather event was diverted. It is notable that

seven out of eleven shoreline monitoring samples collected from Dockweiler Beach southward exceeded one or more REC-1 objectives on that day.

On Tuesday, May 22, 2012, the sample collected by City of LA EMD at SMB 5-5 exhibited enterococcus density above the REC-1 objective, though the other three bacterial indicators were below detection limits. LACFCD staff verified that the diversion at the nearby Pier Avenue storm drain was fully operational.

To place these data in perspective, Table 2 compares the frequency of exceedances at SMB 5-5 adjacent to the Hermosa Beach Pier with the frequency of exceedances at the reference beach at Leo Carillo beach (SMB 1-1) an almost entirely undeveloped watershed with 98% of the land use as undeveloped open space. Since the two shoreline monitoring locations are sampled at different frequencies, a relevant comparison of the data requires a normalization to express the data as a percentage of exceedance days out of total number of days sampled. The table lists the absolute number of days on which a shoreline water quality sample exceeded one or more of the three indicator bacteria single-sample targets (single-sample exceedance days). The exceedance rates in Table 2 are calculated by dividing the number of single-sample exceedance days by the number of sampling days in the summer season. There are 214 days during the summer period April 1st through October 31st which equates to 61 sampling days for a site like SMB 5-5 which is monitored twice per week [214 /7 x 2=61] and 31 sampling days for a site like the reference beach which is monitored just once per week [214/7=31]. Based on the exceedance rates calculated as described in the foregoing, the water quality at SMB 5-5 is on average better by more than a factor of five than the water quality at the reference site at Leo Carrillo Beach during summer dry weather, i.e., over the seven summers of data collected since 2005, the exceedance rate at SMB 5-5 has averaged 2.3% whereas the exceedance rate at the reference beach SMB 1-1 has averaged 11%. . Since summer dry weather flows from the nearby storm drain are fully diverted, the infrequent exceedances of the bacterial objectives at SMB 5-5, like those at the reference beach, are attributed to non-point sources such as presence of ocean debris, birds, dead birds or marine mammals, heavy surf, increased wave height and wind speed[3] and recreational swimming and surfing at this very popular beach. There is clearly some natural variability in the frequency of exceedances at both the reference beach and SMB 5-5; however, no long-term trend evidencing either an increase or decrease in water quality is evident at this point. Thus there is no evidence to suggest that the few exceedances are caused by MS4 discharges and no further modification to the City's already aggressive clean water program is needed.

[3] February 2008 Los Angeles County Department of Public Works. Santa Monica Bay Beaches Bacterial Indicator TMDL Compliance Study-Final Report, prepared by Weston Solutions.

TABLE 2

SANTA MONICA BAY BEACHES BACTERIA (SMBBB) TMDL
EXCEEDANCE RATES
SMB 5-5 HERMOSA PIER (50 YDS SOUTH) MONITORING SITE
COMPARED WITH REFERENCE BEACH SITE

SUMMER DRY WEATHER – April 1-Oct 31

Summer	SMB 5-5 at Hermosa Pier 50 yards south: Single-Sample Exceedance Days	SMB 5-5 at Hermosa Pier 50 yards south: Exceedance Rate based on 61 estimated sampling days per summer (two days/wk)	SMB 1-1 Reference Beach: Single-Sample Exceedance Days	SMB 1-1 Reference Beach: Exceedance Rate based on 31 sampling days per summer (one day/wk)
2005	1	1.6%	7	23%
2006	2	3.3%	11	35%
2007	1	1.6%	0	0%
2008	1	1.6%	2	6.4%
2009	1	1.6%	0	0%
2010	1	1.6%	0	0%
2011	3	4.9%	5	16%
AVG		2.3%		11%

Similarly, Table 3 summarizes the winter dry weather data for the past seven years at SMB 5-5 collected 50 yards south of Hermosa Pier and compares it with data for the reference site at Leo Carillo beach. The exceedance rates in Table 3 are calculated by dividing the number of single-sample exceedance days by the number of sampling days in the winter season. There are 151 days during the winter dry weather period November 1st through March 30th (152 days during a leap year) which equates to 43 sampling days for a site like SMB 5-5 which is monitored twice per week [151 /7 x 2] and 22 sampling days for a site like the reference beach which is monitored just once per week [151/7]. Based on the exceedance rates calculated as described in the foregoing, the water quality at SMB 5-5 has remained slightly better than the reference beach during winter dry weather and has not been degraded

TABLE 3

SANTA MONICA BAY BEACHES BACTERIA (SMBBB) TMDL
EXCEEDANCE RATES
SMB 5-5 HERMOSA PIER (50 YDS SOUTH) MONITORING SITE
COMPARED WITH REFERENCE BEACH SITE

WINTER DRY WEATHER – November 1- April 30

		SMB 5-5 at Hermosa Pier 50 yards south			SMB 1-1 Reference Beach	
Winter		**Single-Sample Exceedance Days**	**Exceedance Rate based on 43 estimated sampling days per winter (five days/wk)**		**Single-Sample Exceedance Days**	**Exceedance Rate based on 22 sampling days per winter (one day/wk)**
2005-06		0	0%		1	4.5%
2006-07		0	0%		1	4.5%
2007-08		1	2.3%		2	9.1%
2008-09		1	2.3%		0	0%
2009-10		1	2.3%		0	0%
2010-11		1	2.3%		1	4.5%
2011-12		2	4.6%		3	14%
AVG			2.0%			5.2%

Santa Monica Bay Shoreline Monitoring Site SMB 6-1: Herondo

The SMB 6-1 shoreline monitoring site located at the zero point of the Herondo storm drain outfall is being sampled five days per week. Sampling and analysis at SMB 6-1 is conducted by Los Angeles County Department of Health Services (DHS) on Mondays under the SMBBB TMDL Coordinated Shoreline Monitoring Plan. Additionally, under the Monitoring and Reporting Program (CI 6948) of the MS4 Permit, additional routine monitoring on four other days of the week (Tues-Fri) has been conducted at monitoring site SMB 6-1 by the City of Los Angeles Environmental Monitoring Division. In contrast, the reference beach monitoring site is sampled just once per week under the Coordinated Shoreline Monitoring Plan.

The Herondo storm drain collects runoff from a large area of land including area in the Cities of Torrance, Redondo Beach, Hermosa Beach and Manhattan Beach. Land areas within the City of Hermosa Beach tributary to the Herondo storm drain comprise approximately 287 acres or just 10% of the total Herondo drainage area; most of the tributary area of the Herondo storm drain is within the cities of Redondo Beach and Torrance. The total drainage area to the Herondo storm drain varies from (3,042 to 2,644 acres) depending on how the discharge from the Amie Sump, a flood control basin in the City of Torrance, is being operated.

The Herondo storm drain was retrofit in 2005 with a low flow diversion to the sanitary sewer. Beginning in November 2009, operation of the Herondo low flow diversion was modified to allow operation 12 months per year and 24-hours per day during dry weather instead of just during the off-peak hours from 6pm-6am during the summer dry period. The maximum permitted pumping rate of the Herondo low flow diversion is 60 gallons per minute during peak use and 120 gallons per minute off-peak. Because the Herondo storm drain is tidally influenced, in order to prevent the diversion of sea water to the sanitary sewer during high tide, the low flow diversion is located approximately ¼ mile from the outfall. One storm drain lateral draining a small 47-acre area of the City of Hermosa Beach connects to the Herondo storm drain downstream of the diversion so that it is not intercepted by the diversion because it is within the tidally-influenced section of the Herondo storm drain system. The City is investigating what options might be feasible for addressing this storm drain.

There are two means of discharge from the Amie Sump flood control basin in the City of Torrance: during the summer months the discharge is pumped to a storm drain leading to the Dominguez Channel, however during the winter months when the force main storm drain line to the Dominguez Channel is hydraulically limited under wet weather conditions, discharge from the Amie Sump is pumped to the Herondo storm drain via a force main with a larger capacity. The City of Torrance staff has stated that it is their policy to pump dry weather summer season flows from the Amie Basin to the Dominguez Channel and wet weather winter season flows to the Herondo storm drain by switching force mains. The Amie Pump Station has two pumps, one 100HP and the other 150HP. The 100HP pump has a capacity of 1370 GPM at 82.5 Ft. TDH. The 150HP pump has a capacity of 2245 GPM at 106 Ft. TDH. Since the maximum permitted pumping rate of the Herondo low flow diversion is 60 gallons per minute during peak use and 120 gallons per minute off-peak,

post-storm flows can exceed the diversion capacity. According to City of Torrance staff, pumping from the Aime Basin typically occurs for three (3) to five (5) days after a rainfall event depending on the size of the storm and which of the pumps is online. This could result in discharge from the Herondo outfall that would appear to be dry weather non-stormwater discharges but in reality is from stormwater runoff originating in the City of Torrance. Several documented instances of this are discussed below.

During the FY2011-12 reporting year there were 38 exceedance days of the single sample REC-1 bacterial objectives at SMB 6-1 out of results from 260 sampling days on a year-round wet and dry weather basis for this site which is monitored five days per week, 52 weeks per year. This is an effective exceedance rate of 15%. By contrast the reference beach had 8 exceedance days out of 52 sampling days for combined year-round wet and dry weather sampling which is also a 15% exceedance rate. Thus overall the shoreline monitoring site at SMB 6-1 exhibited an exceedance rate that was equivalent to that of the reference beach site even though the much greater quantity of data collected at SMB 6-1 gives the impression that SMB 6-1 has a higher exceedance rate.

There were no exceedances of the REC-1 bacterial objectives in samples collected at SMB 6-1 during July, August or September 2011 or during May or June 2012 which is the peak summer recreational period covered by this FY11-12 Annual Report.

On Wednesday, October 5, 2011 the Redondo Beach rain gauge recorded rainfall of 0.25 inches while the rain gauge at LAX and USC recorded 0.61 and 1.15 inches, respectively. The next day on October 6, 2011 the sample collected at SMB 6-1 exhibited indicator bacterial densities above the REC-1 objective for enterococcus and Total Coliform.

On October 25th and 26th samples collected at SMB 6-1 exhibited indicator bacterial densities above the REC-1 objective for enterococcus and on the 25th also for E. coli objective. On October 25th there was no flow observed from the Herondo storm drain outfall at the time of sampling, and on the 26th the outfall was buried in sand with no observed flow. Other observations made at the time of sampling included moderate seaweed on the beach on the 25th, and a dead bird along with moderate quantities of ocean debris and seaweed on the 26th. On both days the low flow diversion (LFD) was operational. In addition, it is noteworthy that all nine of the shoreline monitoring stations sampled by City of LA Environmental Monitoring Division (EMD) from Dockweiler beach southward also exceeded the REC-1 objectives on October 25th, while the field blank QA/QC data provided by City of LA EMD indicated no evidence of contamination. Thus it appears that natural shoreline and/or ocean conditions across the South Santa Monica Bay may have been the cause of the exceedance.

Two rainfall events occurred nearly back-to-back when on Friday, November 4th 0.26 inches of rainfall was recorded at the Redondo Beach rain gauge (LAX and USC recorded 0.14 and 0.16, respectively), and on Sunday, November 6th there

was 0.34 inches recorded at the Redondo Beach rain gauge (LAX and USC recorded 0.42 and 0.36, respectively. Samples collected at SMB 6-1 from Monday, November 7th through Wednesday, November 9th exceeded the REC-1 objective for enterococcus.

On November 10th and 11th, 2011 there were exceedances of all four REC-1 bacterial indicators in samples collected at SMB 6-1. There was ponded water observed at the outfall, but no flow was observed to the shoreline and because of the tidal nature of this outfall, it is not obvious whether the ponded water is storm drain discharge or trapped tidal water. Other observations made at the time of sampling included heavy bird excrement on the beach both days, as well as ocean debris and beach refuse on November 10th. Los Angeles County Flood Control Districts (LACFCD) staff confirmed that the low flow diversion was operational on both days so it had been reset following the wet weather events on November 4th and 6th.

On November 16, 2011 there was an exceedance of the enterococcus objective in the sample collected at SMB 6-1. The field sampling crew noted that there was ponded water observed at the outfall, but no flow was observed to the shoreline. Other observations made at the time of sampling included heavy ocean debris and seaweed and moderate quantities of bird excrement on the beach.

A major storm event occurred on Sunday, November 20, 2011 wherein the Redondo Beach rain gauge recorded 1.03 inches of rain (USC and LAX recorded 0.9 and 0.98 inches, respectively). There were exceedances of the REC-1 objectives on each of the following five days, November 21-25, 2011. LACFCD advised that the LFDs were reactivated and operational on November 24th and 25th, that is, beginning on the fourth day after the storm. Observations of the outfall on November 24th and 25th indicated that there was ponded water but no flow to the wave wash; there were also moderate amounts of ocean debris on the beach both days.

On Thursday, December 8, 2011 there was an exceedance of the enterococcus objective in the sample collected at SMB 6-1. Observations at the time of sampling noted that there was water ponded at the outfall but no flow to the shoreline. LACFCD staff advised that the LFD was operational.

On December 12th another significant rain event occurred wherein 0.75 inches was recorded at the Redondo Beach rain gauge (LAX recorded 0.65 inches and USC recorded 0.79 inches). An additional 0.08 inches of rain was recorded the following day on December 13th at the Redondo Beach rain gauge (LAX recorded 0.18 inches). A third small rainfall event occurred on December 15th with .04 inches recorded at Redondo Beach, 0.02 at LAX and 0.04 at USC rain gauges. This series of rain days was associated with wet weather exceedances of one or more of the bacterial indicator objectives at SMB 6-1 on December 12, 13 and 14, 2011 and again on December 16th 2011 Low flow was observed from the outfall at the time of sampling on December 16th. It is also notable that the Aime sump pumps were

operational on and off on December 16th effectively extending the wet weather runoff period.

On January 7, 2012 there was an exceedance of the enterococcus objective in the shoreline monitoring sample collected at SMB 6-1. Although the LFD was operational, medium flow was observed at the outfall at the time of sampling. It is also notable that the 5 CFS flood pump at the Aime sump was cycling on and off during this period, potentially causing flows in excess of the LFD.

Two major rainfall events occurred nearly back-to-back when on January 21st, 2012 there was 0.62 inches of rain recorded at LAX and 0.61 inches at Redondo Beach, and on January 23rd there was 0.56 inches at LAX and 0.35 inches at Redondo Beach. Samples collected at SMB 6-1 from January 21st through January 23rd exhibited exceedances of the REC-1 bacterial single-sample objectives (these were all considered to be wet weather days associated with the twin storms).

On February 3rd, 2012 three of the four bacterial indicators in the sample collected at SMB 6-1 exceeded the REC-1 objective. Water was observed ponded at the outfall with no flow reaching the shoreline. The LFD was operational.

On February 10th, 2012 the single-sample enterococcus objective was exceeded in the sample collected at SMB 6-1. The storm drain outfall was dry with no flow at the time of sampling and the LFD was operational.

On February 15th, 2012 the Redondo Beach rain gauge recorded 0.12 inches of rain, with USC and LAX recording similar quantities of rainfall. The sample collected at SMB 6-1 on that day exceeded the REC-1 single-sample objective for enterococcus, but none of the other bacterial objectives were exceeded. On Friday, February 17th, still within the wet weather period, all four bacterial objectives were exceeded in the sample collected at SMB 6-1.

On March 25th, 2012 a significant storm event occurred with intensity apparently centered on the South Bay such that the Redondo Beach rain gauge recorded 1.64 inches of rainfall while LAX and USC recorded 0.98 inches and 0.91 inches, respectively. Additional rain also fell on March 26th. The official wet weather period extended through March 28, 2012 with exceedances of the REC-1 bacterial objectives on each of these days. Samples collected at SMB 6-1 exceeded the REC-1 objectives on March 29 and 30, 2012 and although the LFD was operational, so were the Aime sump pumps which operated continuously during this period effectively extending the wet weather period.

On April 3, 2012 the sample collected at SMB 6-1 exceeded the REC-1 objective for enterococcus. At the time of sampling heavy flow was observed from the storm drain reaching the wave wash. Although the LFD was operational, the City of Torrance reported that the Aime sump pumps had not been redirected to the Dominguez channel and that Pump 2 had been running continuously since the

rainfall event that occurred on March 31, 2012 with 0.09 inches of rainfall at Redondo Beach rain gauge and 0.12 inches at LAX rain gauge.

A significant rain event occurred on April 11, 2012 followed closely by another rain event on April 13th. The Redondo Beach rain gauge recorded 0.32 inches of rain on 4/11 and 0.51 inches on 4/13 (LAX and USC rain gauges had similar records). Samples collected at SMB 6-1 on April 11, 12, and 13, 2012 exceeded the REC-1 objectives for indicator bacteria on these wet weather days.

On Friday, April 20, 2012 the sample collected at SMB 6-1 exceeded the REC-1 objectives for indicator bacteria. Low flow was observed reaching the wave wash from the Herondo storm drain. The LFD was operational however Aime sump Pump 2 was reportedly operating continuously at 3CFS and flow was not redirected away from Herondo to the Dominguez Channel until April 26, 2012.

On April 26, 2012 the Redondo Beach rain gauge recorded 0.13 inches of rain (LAX and USC recorded 0.12 and 0.29 inches, respectively). The sample collected at SMB 6-1 on April 26, 2012 exhibited exceedances of the REC-1 objectives for all three indicator bacteria on this rain day.

Because of the daily frequency of sampling at the SMB 6-1 location and the large quantity of data collected, comparison of data between the reference beach SMB 1-1 (which is only monitored once per week) and SMB 6-1 at Herondo necessitates a normalization of exceedance days expressed as a percentage of exceedance days out of total number of days sampled in order to make a relevant and informed comparison of the water quality at the two sites. Table 4 summarizes comparative data for seven summers at SMB 6-1 and the reference site at Leo Carillo beach. The table lists the absolute number of days on which a shoreline water quality sample exceeded one or more of the three indicator bacteria single-sample targets (single-sample exceedance days). The table also compares exceedance rates for SMB 6-1 with the reference site at Leo Carillo beach. The exceedance rates in Table 4 are calculated by dividing the number of single-sample exceedance days by the number of sampling days in the summer season. There are 214 days during the summer dry weather period April 1st through October 31st which equates to 153 sampling days for a site like SMB 6-1 which is monitored Monday through Friday [214 /7 x 5=153] and 31 sampling days for a site like the reference beach which is monitored just once per week [214/7=31]. Dividing the number of exceedance days by the number of sampling days at each respective site yields a normalized exceedance rate.

Based on the exceedance rates calculated as described in the foregoing, the water quality at SMB 6-1 is on average better by a factor of seven (7) than the water quality at the reference site at Leo Carrillo Beach during summer dry weather, i.e., over the seven summers of data collected since 2005, the exceedance rate at SMB 6-1 Herondo has averaged 1.7% whereas the exceedance rate at the reference beach SMB 1-1 has averaged 11.5%. Thus, the normalized data substantiate that the shoreline monitoring site SMB 6-1 has exhibited a frequency of exceedances that is on average lower by a factor of ten than the reference beach so that the low flow diversion appears to be effective in mitigating the summer dry weather low flows from the Herondo outfall.

TABLE 4						
SANTA MONICA BAY BEACHES BACTERIA (SMBBB) TMDL EXCEEDANCE RATES SMB 6-1 SAMPLING STATION COMPARED WITH REFERENCE BEACH						
SUMMER DRY WEATHER – April 1-Oct 31						
		SMB 6-1 at Herondo			**SMB 1-1 Reference Beach**	
Summer		**Single-Sample Exceedance Days**	**Exceedance Rate based on 153 estimated sampling days per summer (five days/wk)**		**Single-Sample Exceedance Days**	**Exceedance Rate based on 31 sampling days per summer season (one day/wk)**
2005		4	2.6%		7	23%
2006		6	3.9%		11	35%
2007		1	0.6%		0	0%
2008		2	1.3%		2	6.4%
2009		1	0.6%		0	0%
2010		1	0.6%		0	0%
2011		4	2.6%		5	16%
AVG			1.7%			11.5%

The SMB 6-1 shoreline monitoring site located at the zero point of the Herondo outfall is being sampled five days per week during the winter as well as the summer periods. Again, comparison of data between the reference beach SMB 1-1 and SMB 6-1 at Herondo necessitates a normalization of exceedance days expressed as a percentage of exceedance days out of total number of days sampled in order to make a relevant and informed comparison of the water quality at the two sites. Table 5 summarizes data for seven winters under the Coordinated Shoreline Monitoring Plan at SMB 6-1 in comparison with the reference site at Leo Carillo beach. There are 151 days during the winter dry weather period April 1st through October 31st (152 days during a leap year) which equates to 108 sampling days for a site like SMB 6-1 which is monitored Monday through Friday [151 /7 x 5] and 22 sampling days for a site like the reference beach which is monitored just once per week [151/7]. Dividing the number of exceedance days by the number of sampling days at each respective site yields a normalized exceedance rate.

Based on the exceedance rates calculated as described in the foregoing, Table 5 demonstrates that the water quality at SMB 6-1 is exhibiting a winter dry weather exceedance rate that appears to be somewhat higher than the reference beach. However, as described in several instances above, it appears that the operation of the

Aime flood control sump may be extending the wet weather runoff period following storms creating what appear to be non-stormwater discharges when they are actually stormwater discharges associated with post-rainfall flood pumping. In other words, it is likely that the extended discharge of storm water from Aime (often days after a storm event) perpetuate wet weather conditions on "dry" days by continuing to discharge stormwater from the Aime detention basin at rates that exceed the capture capacity of the low-flow diversion.

TABLE 5

SANTA MONICA BAY BEACHES BACTERIA (SMBBB) TMDL
EXCEEDANCE RATES
SMB 6-1 SAMPLING STATION COMPARED WITH REFERENCE BEACH

WINTER DRY WEATHER – November 1- April 30

		SMB 6-1 at Herondo			SMB 1-1 Reference Beach	
Winter		**Single-Sample Exceedance Days**	**Exceedance Rate based on 108 sampling days per winter (five days/wk)**		**Single-Sample Exceedance Days**	**Exceedance Rate based on 22 sampling days per winter (one day/wk)**
2005-06		13	12%		1	4.5%
2006-07		4	3.7%		1	4.5%
2007-08		10	9.3%		2	9.1%
2008-09		7	6.5%		0	0%
2009-10[4]		5	4.6%		0	0%
2010-11		12	11%		1	4.5%
2011-12		12	11%		3	14%
AVG			8.3%			5.2%

[4] Low Flow Diversion on Herondo storm drain began operation year-round during dry weather

6. Interagency coordination between cities to improve the storm water management program.

The City expended $70,000 of its limited funds to jointly fund implementation activities under the Jurisdictional Groups 5 and 6 (J5&6) Implementation Plan which in combination with contributions from other J5&6 agencies totaled $591,028 in joint implementation activities focused on the two high priority storm drain systems, the Herondo storm drain and 28th street storm drain in Manhattan Beach. The J5&6 Implementation Plan is a three-pronged approach incorporating programmatic/institutional elements, source identification and control, and structural BMP siting. Among the implementation activities which have been funded by this effort are:

- An evaluation of the potential for sewer system exfiltration as the cause for elevated fecal indicator bacteria concentrations at Santa Monica Bay Beaches Bacteria (SMBBB) TMDL compliance monitoring locations SMB-5-2 and SMB-6-1 has been conducted by Geosyntec Consultants. The findings of this study indicate that groundwater is not the likely source of dry-weather indicator bacteria concentrations causing exceedances at high priority shoreline monitoring locations SMB 5-2 and SMB 6-1.
- Geosyntec Consultants conducted a source identification study of the two high priority drainage areas tributary to SMB 5-2 and SMB 6-1 consistent with USEPA Illicit Discharge Detection and Elimination field methods. Based on the results of the source identification study, Geosyntec Consultants has made recommendations for additional source controls to address both dry weather and wet weather sources of bacteria.
- A structural BMP siting study has been conducted by Geosyntec Consultants to identify optimal locations for structural BMPs that utilize infiltration systems to address wet weather and dry weather Bacteria TMDL compliance within the 28th Street storm drain and Herondo storm drain tributary areas. Structural BMP concepts for the optimally sited BMPs were developed to the 10% design phase and a quantitative analysis was conducted using the EPA Storm Water Management Model (SWMM) Version 5 and the 10 year rainfall period between 1990 thru 1999 to analyze the level of compliance with the wet weather Bacteria TMDL that could be achieved if all nine structural BMP projects were installed. Geosyntec Consultants also assessed the integrated water resources benefits of the structural BMP project concepts.
- Public outreach programs directed at dry weather runoff and bacterial load reductions have been developed and are being implemented jointly by Jurisdictional Groups 5 &6. A key component of that effort is the joint website www.southbaystormwaterprogram.com which is being used to disseminate programmatic information as well as a means for obtaining feedback for effectiveness assessment. The Jurisdictional Groups 5 & 6 agencies jointly conducted a survey posted on the South Bay Stormwater Program website to evaluate the baseline knowledge of residents and target audiences as the foundation for the joint public outreach program. Results of the survey included:

- 100% of those who responded agreed that urban runoff is an environmental issue
- 94% of those who responded knew that rain carries pollution directly to the ocean
- 77.9% of respondents agreed that irrigation over-spray causes water pollution
- When asked to rank a list of thirteen activities from highest to lowest the top ranking activities as a cause of ocean and beach water pollution were: plastic bags or water bottles, littering, over fertilizing, cigarette butts, and take-out or fast food containers.

The City of Hermosa Beach cooperates with other agencies on a number of initiatives including:

- Promoting Ocean Friendly Landscaping Workshop in cooperation with the South Bay Environmental Services Center (a non-profit center established by the South Bay Council of Governments), West Basin Municipal Water District and Surfrider Foundation.

- Hosting of an annual joint household hazardous waste and electronic waste collection event with the County of Los Angeles and promotion of City of Los Angeles' permanent collection centers.

- Supporting the joint Clean LA campaign headed by the County of Los Angeles

The City's representative participates in the monthly Executive Advisory Committee of the Los Angeles County Municipal Stormwater Permittees, the quarterly Santa Monica Bay-Ballona Creek WMC meetings, the quarterly countywide public education coordination meetings, and the monthly Jurisdictional Group 5 & 6 coordination meetings to ensure that the City stays abreast of important storm water/NPDES issues.

The City of Hermosa Beach is also an active participant in the South Bay Cities Council of Governments and its committees, working groups, task forces and other special meetings.

The City is a voting member of the Santa Monica Bay Restoration Commission Watershed Advisory Council, and the Mayor of Hermosa Beach is currently serving as an alternate member of the Governing Board of the Santa Monica Bay Restoration Commission.

7. Future plans to improve your agency's storm water management program.

The City of Hermosa Beach is a built-out community so in-fill construction and occasional redevelopment typify most development projects. The City has codified low impact development (LID) requirements in its Green Building ordinance for all new development in the City, regardless of size. The City will continue to be proactive in requesting that infiltration of stormwater be incorporated into redevelopment projects wherever feasible, even if not technically required by SUSMP or the City's Green Building LID requirements.

The City of Hermosa Beach will continue to find opportunities and grant funding to implement LID retrofit and infiltration BMPs in capital improvement projects. The City has just completed monitoring of the Phase I Hermosa Strand Infiltration Trench project—findings and recommendations of this study will inform future stormwater mitigation projects.

The Flood Control District of Los Angeles County was a key partner in the Phase I Hermosa Strand Infiltration Trench and is a continuing partner in the operation and maintenance. We believe their continued involvement in stormwater mitigation projects is essential as the operator of the trunk lines of the flood control system.

The City has also completed the final Pier Avenue Improvement Project documenting the effectiveness of the system in reducing stormwater runoff and pollutant loading to Santa Monica Bay. Findings from this study will inform future capital improvement projects within the City.

The City Council has approved an ordinance to ban take-out polystyrene food containers.

City staff is increasing enforcement and abatement of commercial facilities that are creating illicit discharges through poor containment or management of solid waste by the operator or inadequate containment facilities or pickup service.

8. Suggestions to improve the effectiveness of your program or the County model programs.

The City will continue to work actively with the Jurisdictional Group 5 & 6 agencies to implement programmatic and source control solutions in a consistent manner throughout the south Santa Monica Bay area and to seek funding for structural BMPs.