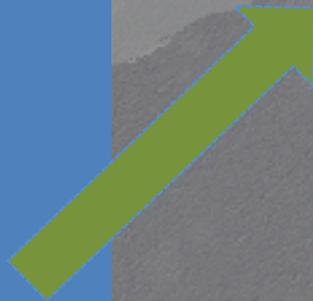


# Hermosa Beach Stormwater Program and Water Quality issues



PREPARED BY KATHLEEN MCGOWAN, P.E.  
FOR THE  
HERMOSA BEACH GREEN TASK FORCE  
JANUARY 11, 2010





**Stormwater  
runoff enters curb  
& gutter and then  
flows to ocean via**

**Municipal Separate Storm Sewer  
System (MS4)**

# City of Hermosa Beach



**Storm Drain Lines**

- City
- County

August 2009





## Santa Monica Bay Beneficial Uses

Water Quality Objectives for these beneficial uses are found in the California Ocean Plan and the Los Angeles Basin Plan.

## Coastal and Near-shore Zones in Hermosa Beach are designated for beneficial uses of:

- navigation
- contact- and non-contact water recreation (REC-1 & REC-2)
- commercial and sport fishing
- marine habitat
- wildlife habitat
- shellfish harvesting and
- as a potential beneficial use for spawning, reproduction and/or early development of fish.





## Santa Monica Bay Impairments:

Under Section 303d of the Federal Clean Water Act, the State Water Resources Control Board is required to maintain a list of impaired water bodies and the pollutants for which each water body is impaired.

- Santa Monica Bay beaches are listed as impaired for human body contact recreation beneficial use due to exceedances of coliform bacteria (indicators for the presence of pathogens).
- Monitoring during three conditions:
  - Summer dry weather
  - Winter dry weather
  - Wet weather



## Santa Monica Bay Impairments:

Under Section 303d of the Federal Clean Water Act, the State Water Resources Control Board is required to maintain a list of impaired water bodies and the pollutants for which each water body is impaired.

- Santa Monica Bay offshore/nearshore areas are also listed as impaired for
  - Marine debris (includes trash)
  - DDT in tissue and sediment centered on the Palos Verdes Shelf
  - PCBs in tissue and sediment
  - sediment toxicity and
  - are subject to fish consumption advisory.

# Pollutant Limits (TMDLs) for Santa Monica Bay



**BACTERIA—IN EFFECT**  
**MARINE DEBRIS (TRASH)—IN DEVELOPMENT**  
**DDT & PCB—COMING SOON**

## Heal the Bay's 2008-2009 Beach Report Card (for indicator bacteria)

Grades are calculated based on formulas developed by Heal the Bay but based on shoreline monitoring data collected by municipalities for bacteria TMDL compliance



## Grades for Bacteria

- Hermosa Beach at 26<sup>th</sup> Street:
  - Summer dry weather—A+
  - Year-round dry weather—A
  - Wet Weather—B
- Hermosa Beach Pier:
  - Summer dry weather—A
  - Year-round dry weather—A
  - Wet Weather—D
- Herondo Street Storm Drain:
  - Summer dry weather—A
  - Year-round dry weather—A
  - Wet Weather—F



## Total Maximum Daily Loads (TMDLs)

Section 303d of Clean Water Act

- Waterbody-specific pollutant impairment
- Sets numerical limits on the discharge of specific pollutants
- California requires development of implementation plan
- Deadlines for Bacteria TMDL compliance:
  - Summer dry weather July 2006
  - Winter dry weather November 2009
  - Wet weather 10% reduction November 2009, 100% by 2021

# Municipal Stormwater Permit



## NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

Issued by the  
Los Angeles Regional Water Quality Control Board  
to LA County and 84 cities  
Mandated by: Federal **Clean Water Act** and  
the California **Porter-Cologne Act**.

# Municipal Stormwater (MS4) NPDES Permit



- **Requires measures to prevent pollution in stormwater runoff**
- **Prohibits non-stormwater discharges to the MS4**
- **Requires action to correct illegal discharges**
- **Enforces specific pollutant limits -Total Maximum Daily Loads (TMDLs)—bacteria, trash**



# City Responsibilities under Permit



## Best Management Practices (BMPs) in 7 areas:

- Public education
- Public works and maintenance
- Industrial & commercial facilities inspection
- New development & redevelopment standards
- Construction oversight
- Eliminate illegal discharges
- *Additional measures for specific pollutants for Santa Monica Bay*



## Hermosa Beach Legal Authority

Stormwater permit requires that cities maintain legal authority to prohibit non-stormwater discharges and to carry out and enforce the permit provisions.

- Chapter 8.44 of the Hermosa Beach Municipal Code - Stormwater and Urban Runoff Pollution Control Ordinance
- Supported by other parts of the municipal code, e.g.,
  - Chapter 15.16 070 Retrofitting Existing Commercial Kitchens With Grease Recovery Systems
  - *Draft* Water conservation ordinance
  - *Draft* Water Efficient Landscaping ordinance

# Public Information and Participation



**BEACH CLEAN-UPS, HHW ROUNDUPS, GREEN WEBSITE,  
STORM DRAIN MARKERS, GREEN TASK FORCE. . .**



# Public Works Maintenance



## BEST MANAGEMENT PRACTICES



# Best Management Practices (BMPs)

17

- Sewage system operation & maint.

- Public construction activity

- Vehicle maintenance, material storage, city yard

- Landscape and recreational facilities



- Storm drain operation & maint.

- Streets and roads maintenance

- Parking facilities

- Emergency procedures

# Industrial & Commercial Facilities



## **IN HERMOSA BEACH MOSTLY AUTO SHOPS AND RESTAURANTS**

Facilities are inspected at least twice during five-year permit period.

Restaurants are inspected annually as part of bacteria TMDL implementation program.

# Clean Bay Restaurant Certification

- 28-point storm water inspection checklist
- Perfect score required for certificate award:
  - FY 2006-07: 70% certified
  - FY 2007-08: 80% certified
  - FY 2008-09: 70% certified
- Fats Oils and Grease (FOG) ordinance—100% of restaurants now in compliance



# New Development & Re-development

## INCLUDING CAPITAL IMPROVEMENT PROJECTS

the city of  
Hermosa Beach, CA  
Upper Pier Avenue  
Streetscape Improvement



# Planning Objectives:



- Minimize stormwater impacts on biological integrity of natural drainage systems and water bodies
- Protect environmentally sensitive areas (ESAs)—coastal waters
- Permanent measures to minimize pollutant loads from developed areas and paved surfaces
- Maximize pervious surfaces
- Ensure long term maintenance of structural systems

## Numerical Design Standards apply to:

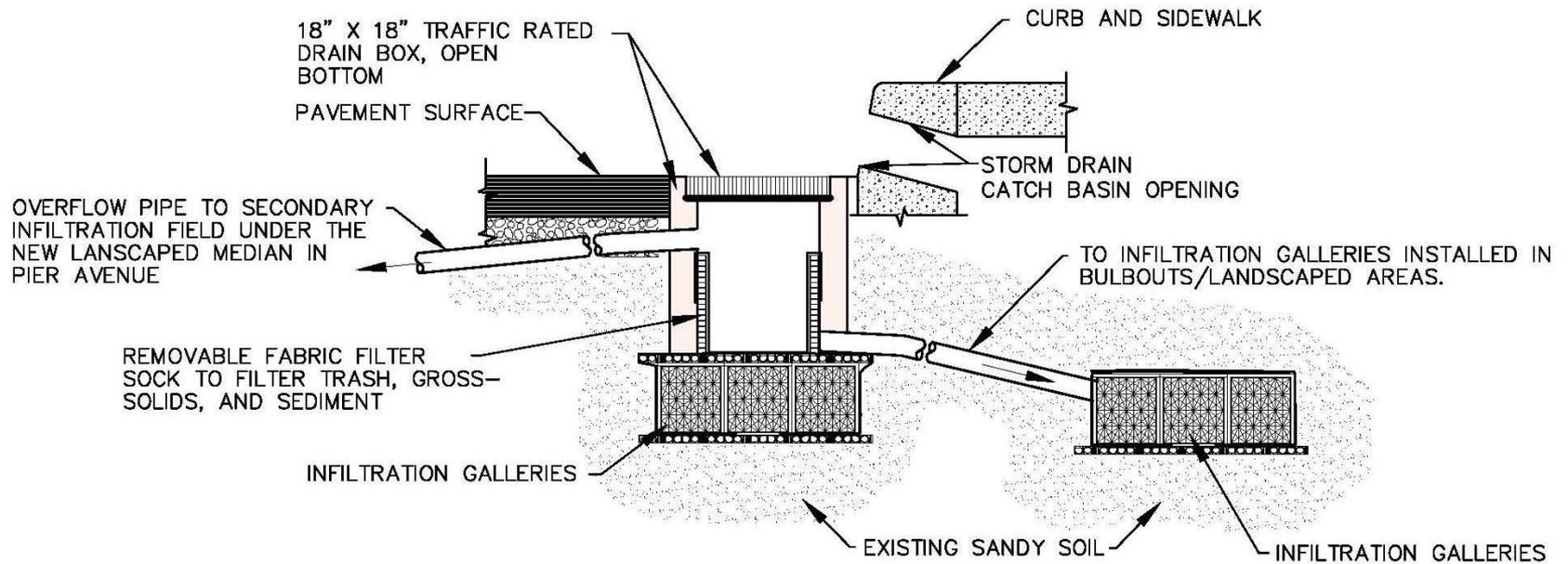


- **New single-family hillside 1+ acre**
- Housing developments of 10+ units
- Industrial or commercial 1+ acre
- Automotive service facilities of 5,000+ sq. ft.
- Retail gasoline outlets of 5,000+ sq. ft.
- Restaurants 5,000+ sq. ft.
- Parking lots 5,000+ sq. ft. or w/25+ parking spaces
- *projects adjacent or discharging directly to environmentally sensitive area, lower thresholds applies (2,500+ sq.ft.)*

# Pre-manufactured Infiltration Systems



# Pier Avenue Improvement (also Hermosa Ave)

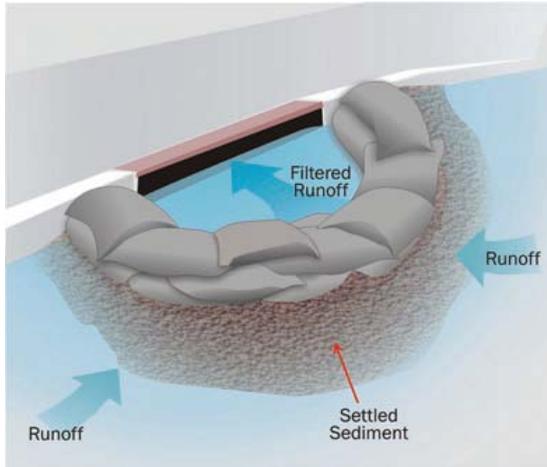


**INFILTRATION UNITS**

# Construction Program



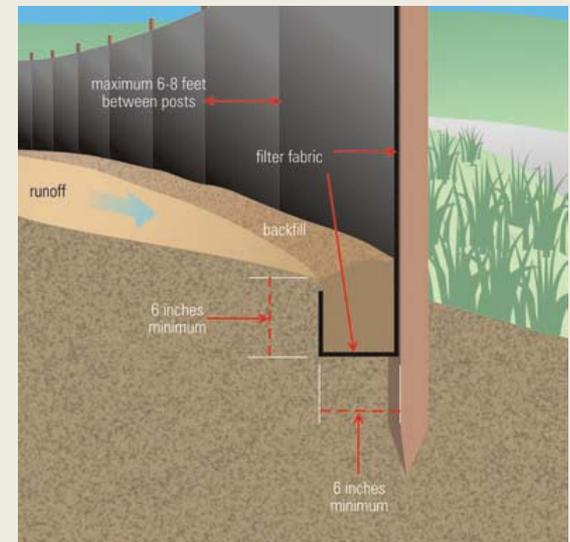
## BEST MANAGEMENT PRACTICES (BMPS)



# Oversight of construction projects:



- Retain sediments w/BMPs
- Prevent discharge of materials, wastes, spills or residues
- No discharge of wash water
- Control erosion
- Inspect sites 1+ acre during routine inspections a **minimum** of once during wet season





# City of Hermosa Beach

## REGULATIONS

### BEST MANAGEMENT PRACTICES

***Storm water runoff from construction sites has been shown to be a major source of water pollution. The following represents the minimum standards of good housekeeping, which must be implemented on all construction sites regardless of size:***

- I. Contractors shall review the City's Stormwater Ordinance, understand, and comply fully.
- II. All persons working at the site should obtain, read, and understand the best management practices pamphlets for the type(s) of construction being done.
- III. Stockpiles of soil, demolition, debris, cement, sand, topsoil, etc. must be covered with a waterproof material or bermed to prevent being washed off site.
- IV. Fuels, oils, paints, solvents, and other liquid materials must be kept inside bermed areas. Spills must not be washed into the street.
- V. Waste concrete must not be washed into the street, storm drain catch basins, or public right-of-way. All dust and slurry from concrete saw cutting must be removed using a wet-dry vacuum or equivalent and be disposed of legally.
- VI. Trash and other construction solid wastes must be placed in a covered trash receptacle.
- VII. Eroded soil from disturbed slopes must be contained using berms, silt fences, settling basins, or good erosion management practices such as reseeded.
- VIII. Wash water from cleaning construction vehicles and equipment must be kept on-site within a containment area.
- IX. Concrete and other street and road maintenance materials and waste shall be managed to prevent discharge into the City Storm Drain System.

### STATEMENT

*We, the undersigned, hereby state that we have received the checked pamphlets, we have read, understand and will comply with all rules and regulations of Storm Water Runoff Pollution Prevention (SWRPP) stipulated thereto to the satisfaction of the City.*

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
PRINT NAME

\_\_\_\_\_  
DATE

\_\_\_\_\_  
STATE CONTRACTOR LICENSE NUMBER

# Statewide General Stormwater Permit for Construction Activity



- Applies to all projects (**public or private**) of 1 acre or more
- Requires preparation of Stormwater Pollution Prevention Plan (SWPPP)
- City Building & Safety must verify coverage before issuing grading or building permit
- Revised statewide permit goes into effect July 1, 2010 still **only regulates sites 1 acre or more**

# Illicit Discharges and Illegal Connection Elimination

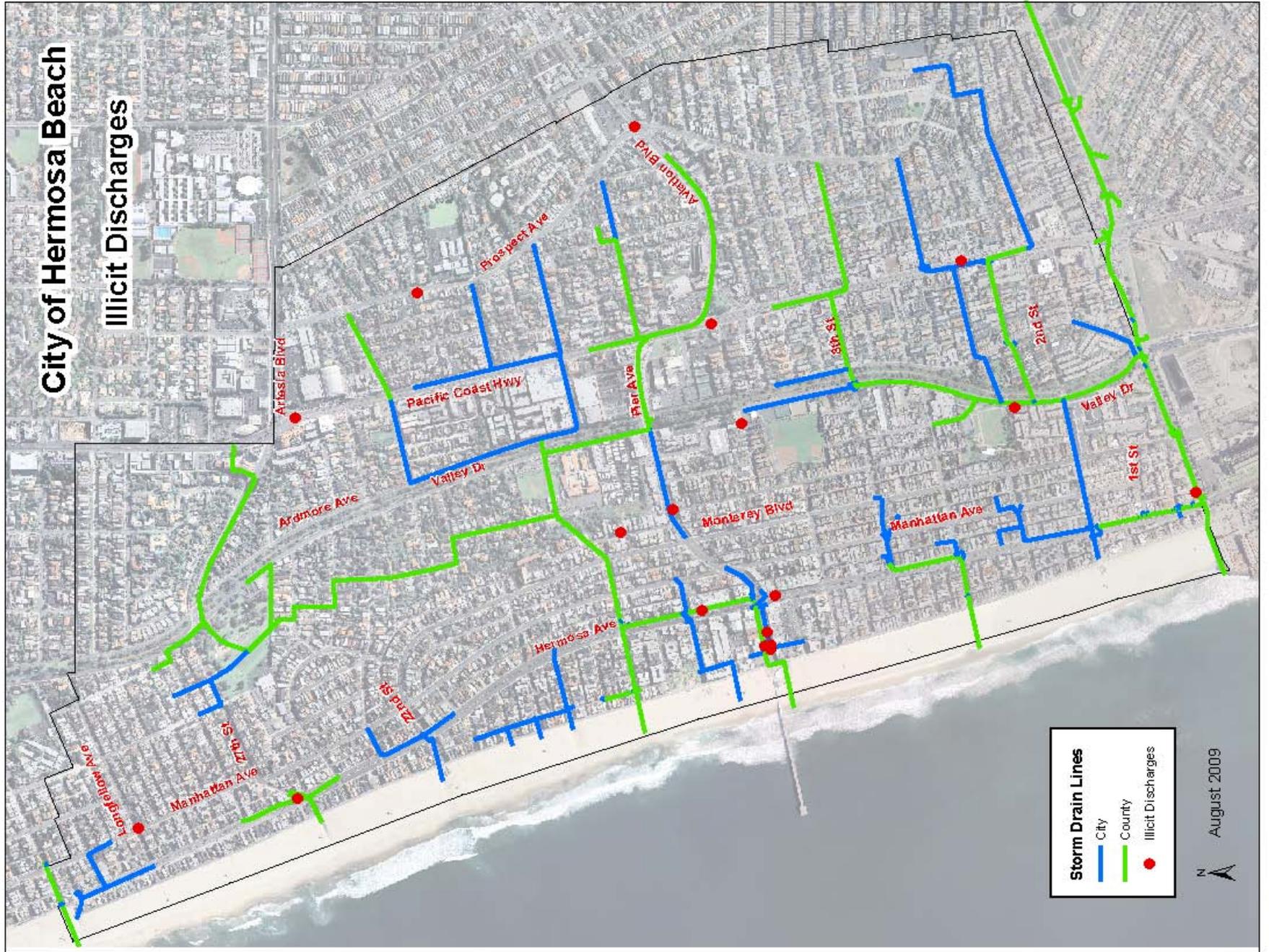


## CHAPTER 8.44 OF THE HERMOSA BEACH MUNICIPAL CODE - STORMWATER AND URBAN RUNOFF POLLUTION CONTROL ORDINANCE



# City of Hermosa Beach

## Illicit Discharges



### Storm Drain Lines

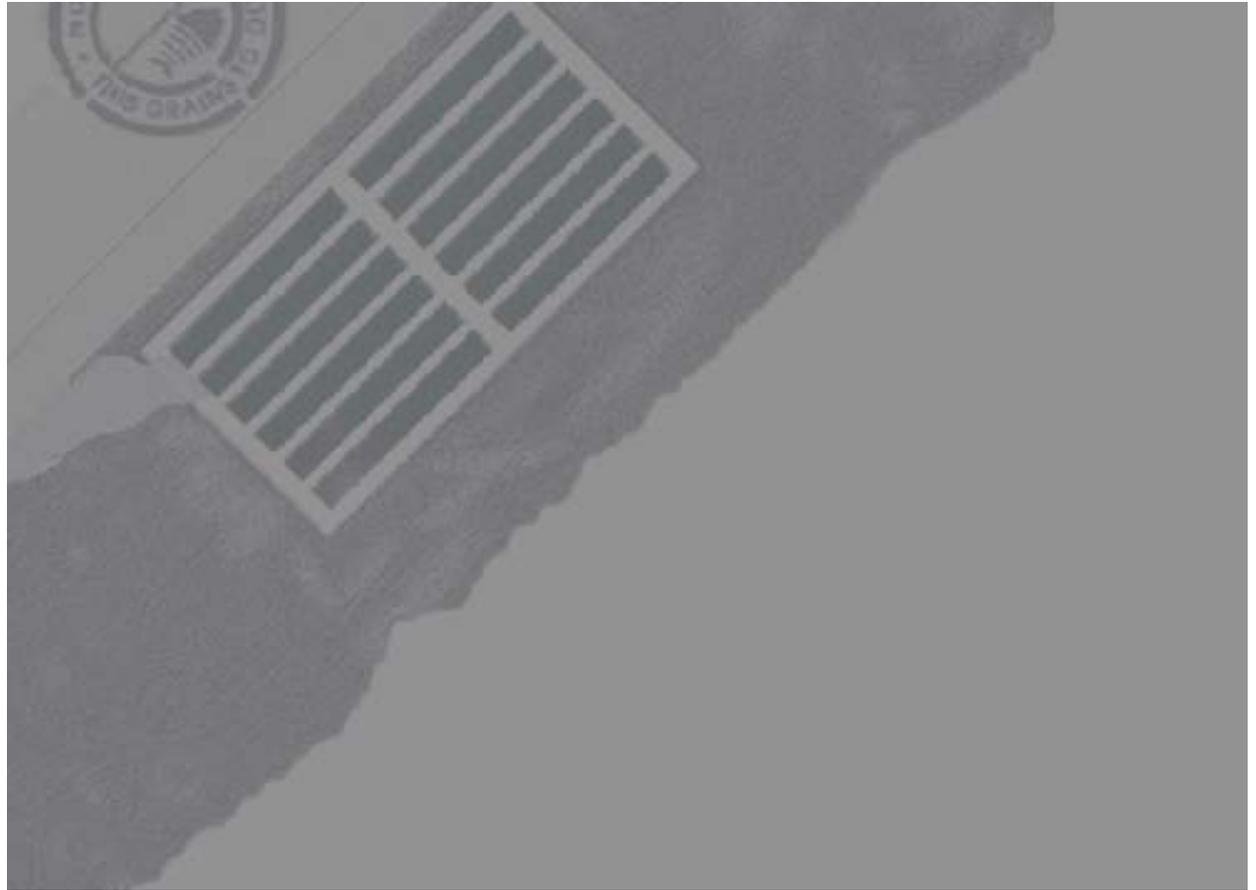
- City
- County
- Illicit Discharges



August 2009

Current Permit is overdue for renewal, expect to see a draft revision for public comment before the end of the fiscal year.

Ventura County stormwater permit was renewed in May 2009, we expect to see similar provisions in our next permit.



## NPDES MS4 Permit Renewal

# Jurisdictional Groups 5 & 6

joint planning/coordination  
Bacteria TMDL Implementation



- **J5: MANHATTAN BEACH (LEAD) PLUS**
  - HERMOSA BEACH
  - EL SEGUNDO
  - CALTRANS
- **J6: REDONDO BEACH (LEAD) PLUS**
  - HERMOSA BEACH
  - MANHATTAN BEACH
  - TORRANCE
  - CALTRANS
- **LA COUNTY FLOOD CONTROL DISTRICT**

# Low Flow Diversions



Storm drain low flow diversions to sanitary sewer or to infiltration systems to meet the dry weather bacteria TMDL

- Low flow diversions operating in City:
  - Herondo Storm Drain (collects runoff from Monterey eastward) now operating year-round 24/7 during dry weather
  - *Hermosa Pier infiltration trench construction in progress*
- Pier Avenue Improvement Project will infiltrate dry and wet weather low flows



## Wet Weather Bacteria TMDL Compliance-- difficult challenge requiring multiple strategies

Key is to reduce flows discharged from storm drain system during storm events by increasing overall permeability of the developed areas

- Larger infiltration systems sited in strategic locations
- Distributed infiltration systems in public right-of-way
- Infiltration/mitigation requirements for redevelopment
- Source controls on hot-spot sources
- Public Education jointly among Beach Cities, e.g.,
  - ✦ Ocean-friendly landscape
  - ✦ Water conservation
  - ✦ Pet waste

# Marine Debris (trash) TMDL

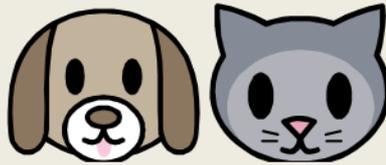


- Certified full-capture devices will be required in the storm drain system to meet zero trash discharge standard
  - Pier Avenue Improvement is being designed to be certified
- Non-storm drain sources of trash to beach will also require controls
  - Cigarette butts key issue for Heal the Bay
  - Already have covered trash cans on beach
  - May have to conduct monitoring of trash on beach and routine clean ups beyond beach raking
  - Plastic, styrofoam, smoking bans are possible tools

# Things Residents Can Do

36

- Dispose of pet waste in trash



- Don't over use fertilizers and pesticides (esp. not in wet weather)
- Don't water the street--maintain/adjust sprinklers, use drip irrigation

- Porous paving driveways and patios
- Divert roof drains away from curb-and-gutter
- Wash cars at commercial carwash
- Fix oil/fluid leaks
- Keep eye on contractors