Beach Cities Enhanced Watershed Management Program, Machado Lake enhanced watershed management program

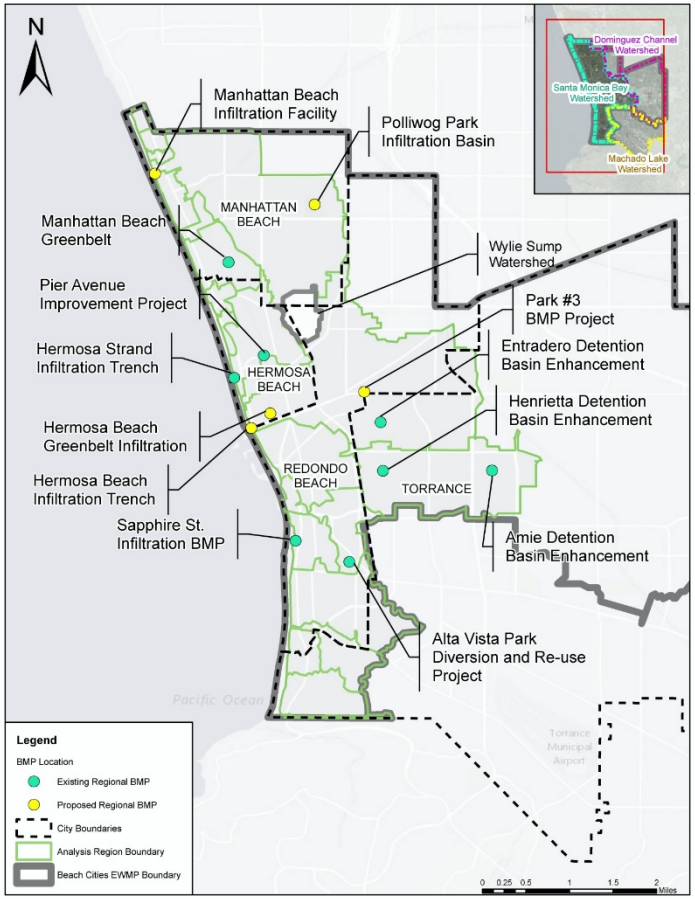
BMP Updates: 7/12/18

Water Quality Priorities

Category	Water Body	Pollutant	Final Compliance Deadlines (Category 2 deadlines are proposed)
1: Highest Priority (Total Maximum Daily Loads [TMDLs])	Santa Monica Bay Beaches	Bacteria (wet and dry weather)	2021
	Santa Monica Bay	Trash and plastic pellets	2020
		DDT & PCBs (Toxics)	N/A
	Dominguez Channel (including Torrance Lateral)	Toxics and metals	2032
	Machado Lake	Trash	2016
		Toxics	2021
		Algae	2018
		Eutrophic	2018
		Odor	2018
2: High Priority (303[d] listings)	Dominguez Channel (including Torrance Lateral)	Indicator bacteria	2032
	Wilmington Drain	Metals	N/A
		Bacteria	N/A

Structural BMPs Completed

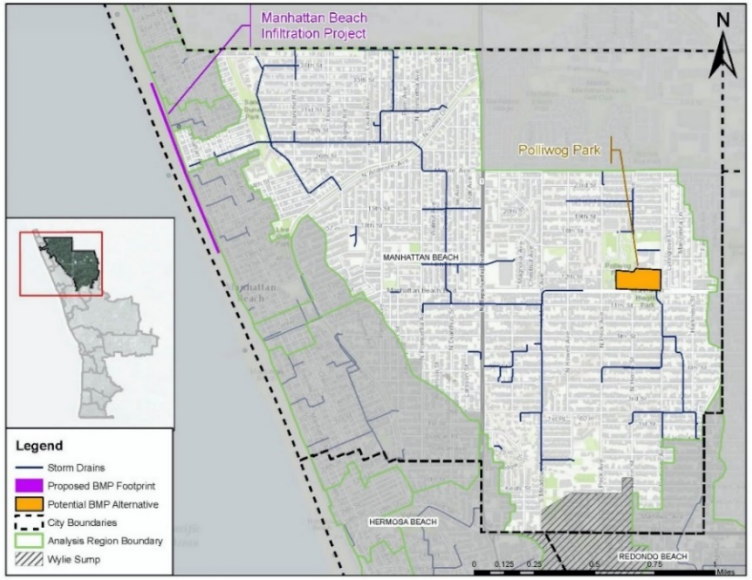
- City of Hermosa Beach
  - Pier Avenue Improvement Project (Green Street)
  - Hermosa Strand Infiltration Trench
- City of Manhattan Beach
  - Porous concrete paving project (City & Co. parking lots)
  - Greenbelt Infiltration Project
- City of Redondo Beach
  - Catch basin trash screening devices in the Esplanade Street Resurfacing Project
  - Alta Vista Park Diversion and Re-use Project
  - Sapphire Street Stormdrain Diversion and Infiltration Project
- City of Torrance
  - Bioswales for City Yard
  - Torrance Beach CDS Units
  - Machado Lake Trash TMDL Project (trash screens)
  - Stormwater Basin Enhancement Project (Entradero, Henrietta, Amie Basins) with trash screens



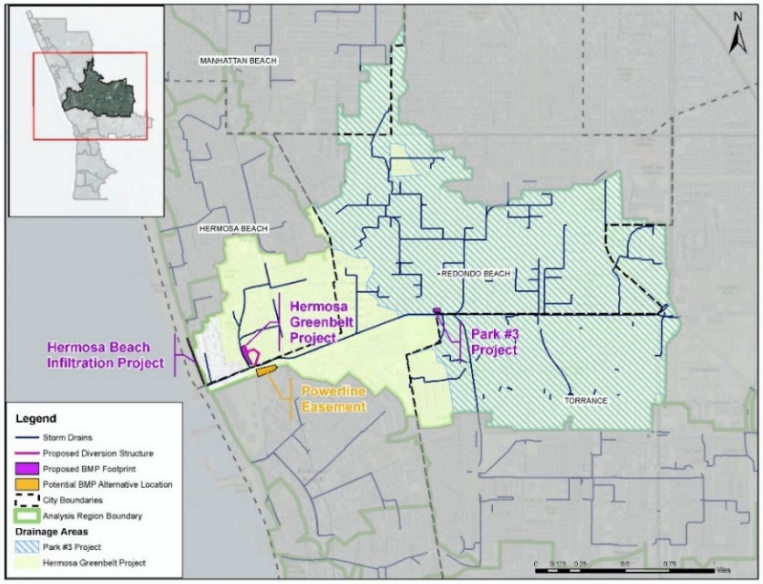
Structural BMPS Proposed

Santa Monica Bay

SMB 5-02

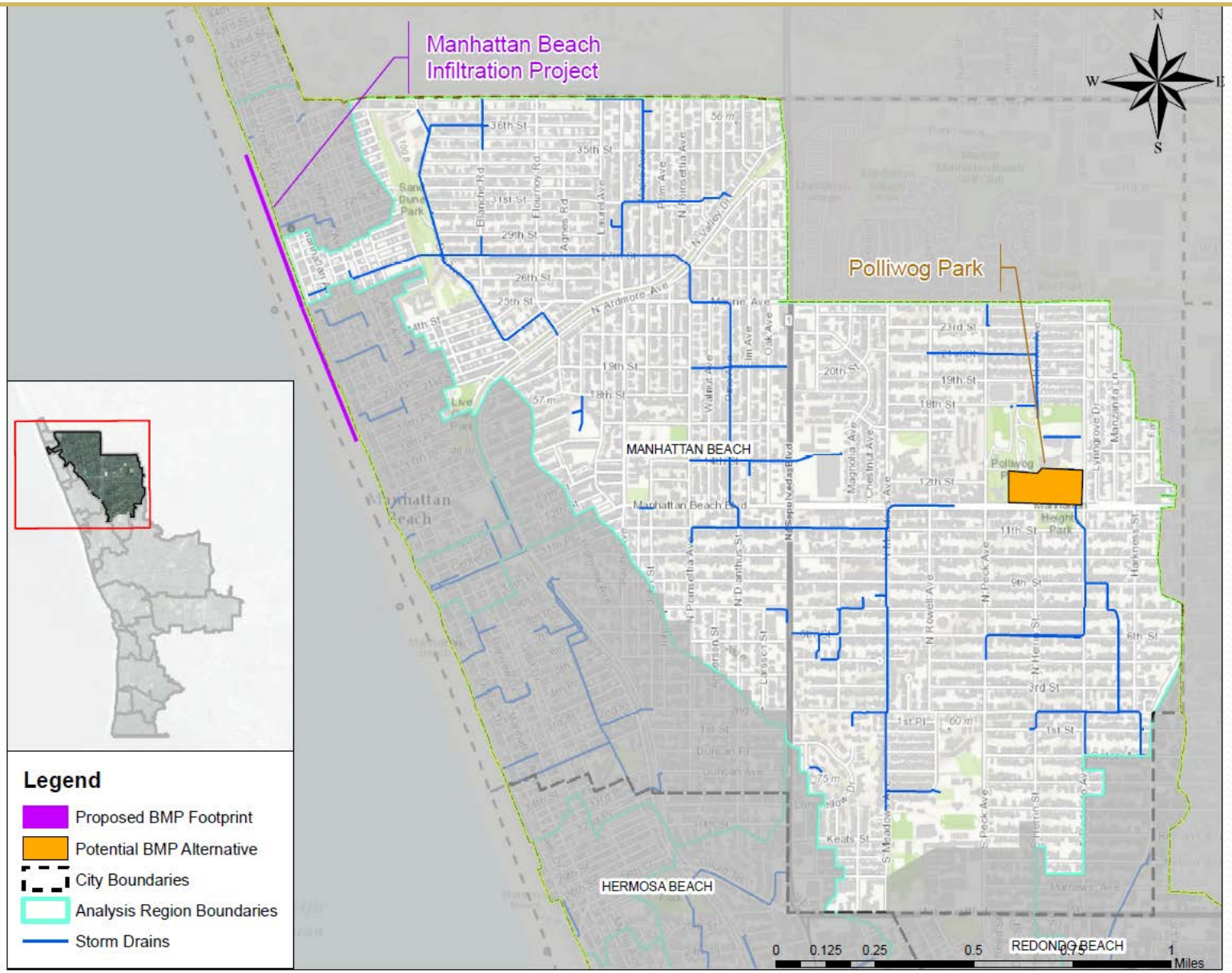


SMB 6-01



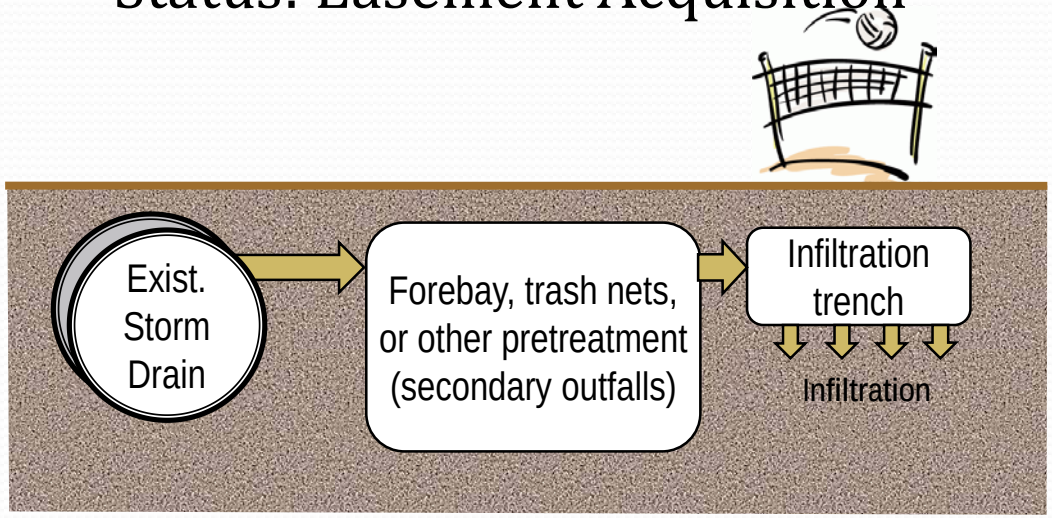
- Hermosa Beach, Manhattan Beach and Redondo Beach trash screen projects (Planning & Funding Phase
- Manhattan Beach Infiltration Project (unfunded)
- Hermosa Beach Infiltration Project (unfunded)
- Hermosa Beach Greenbelt Project (Design Phase w/ Grant and Beach Cities funding)
- Park #3 BMP Project (unfunded)
- Green Street BMP projects for each City (Planning & Funding Phase)

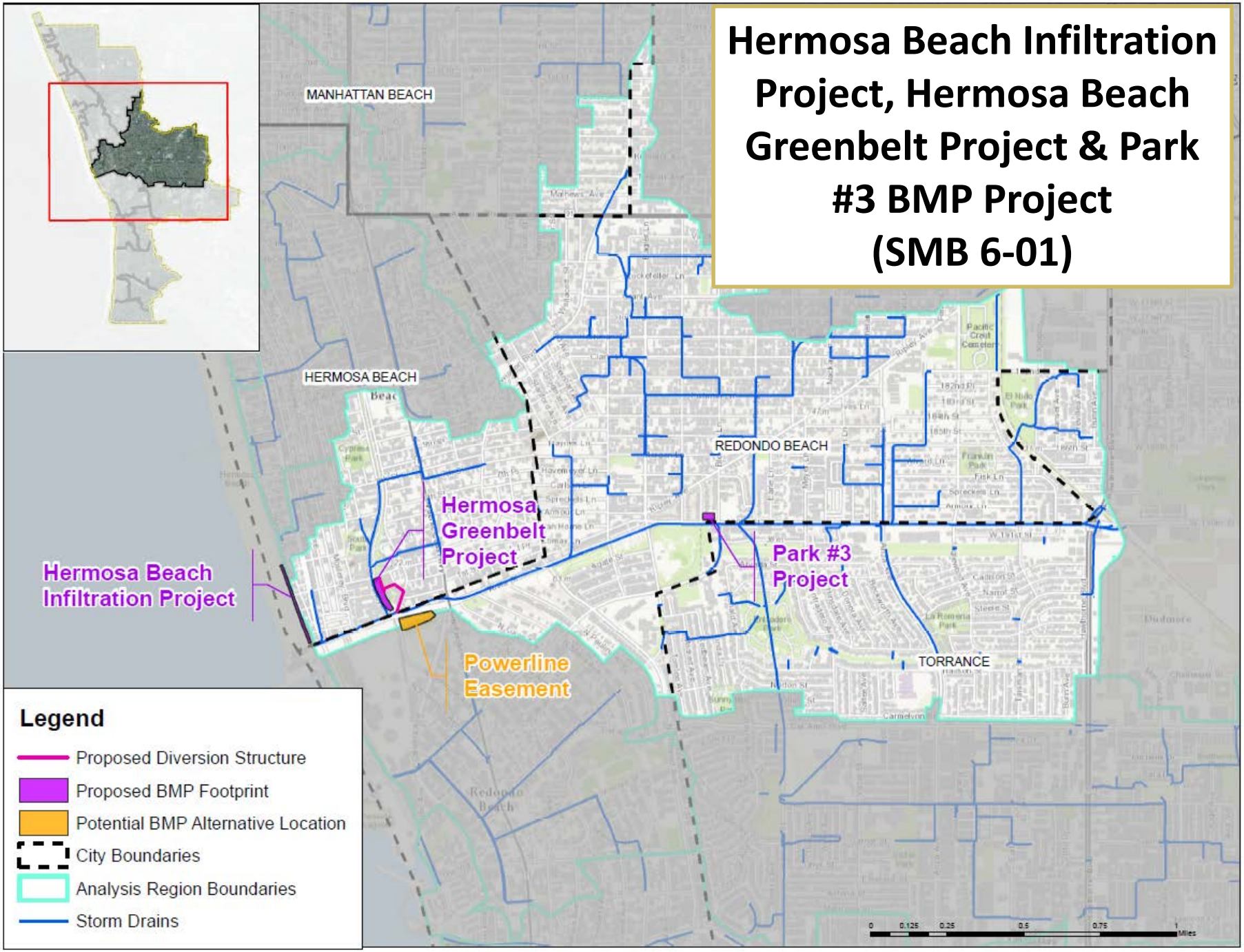
Manhattan Beach Infiltration Project (SMB 5-02)



Manhattan Beach Infiltration Project

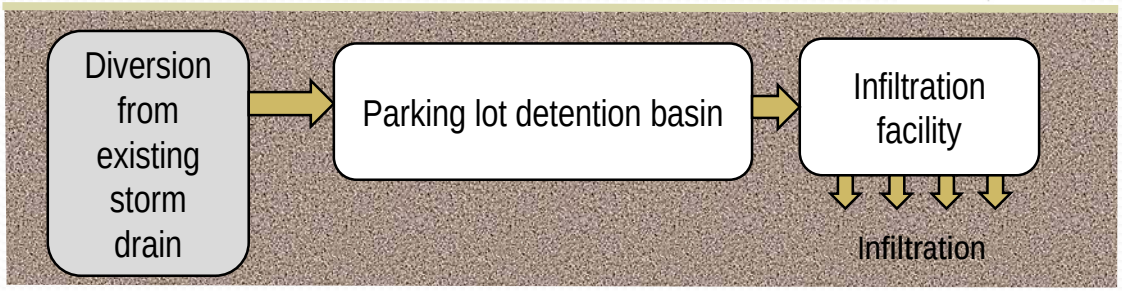
- Diverts wet and dry weather runoff from six outfalls to subsurface, linear infiltration trench
- Tributary area = 1,600 acres
- Predicted fecal coliform load reduction = 32.1-36.5%
- Major constraints: Hydraulics and sea level rise, funding
- Status: Easement Acquisition




Hermosa Beach Infiltration Project, Hermosa Beach Greenbelt Project & Park #3 BMP Project (SMB 6-01)
MANHATTAN BEACH
HERMOSA BEACH
REDONDO BEACH
TORRANCE
Hermosa Greenbelt Project
Park #3 Project
Hermosa Beach Infiltration Project
Powerline Easement
Legend
Proposed Diversion Structure
Proposed BMP Footprint
Potential BMP Alternative Location
City Boundaries
Analysis Region Boundaries
Storm Drains
0 0.125 0.25 0.5 0.75 1 Miles

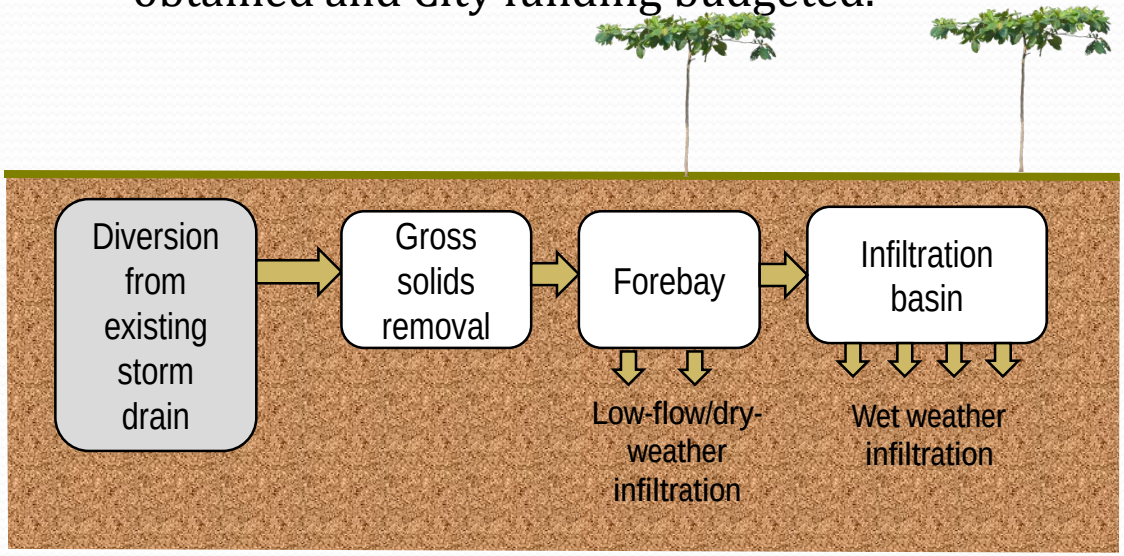
Hermosa Beach Infiltration Project

- Diversion from Herondo storm drain to subsurface infiltration facility
- Tributary area = 2,000 acres
- Predicted fecal coliform load reduction = 0.4%
- Major constraints: Hydraulics and sea level rise
- Status: unfunded



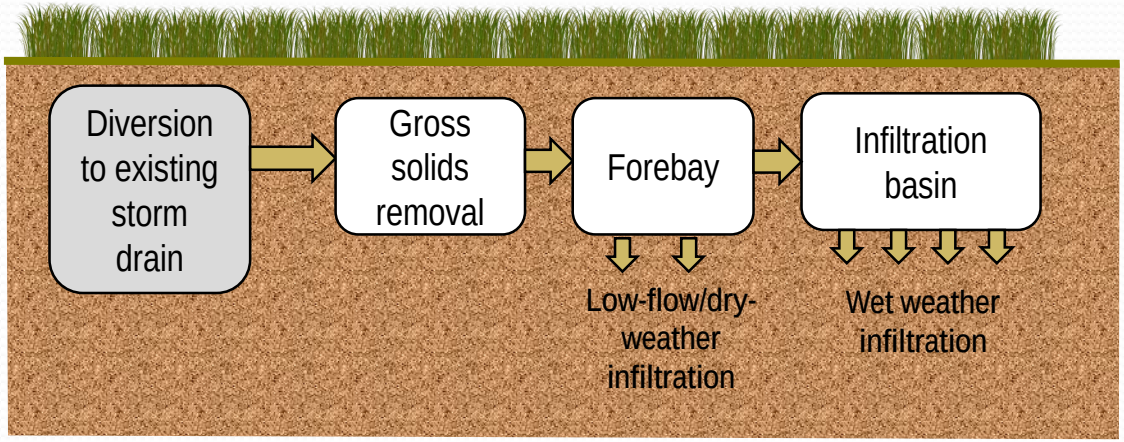
Hermosa Beach Greenbelt Project

- Upstream of proposed Hermosa Infiltration Project
- Diverts runoff from existing storm drain to subsurface storage and infiltration facility
- Tributary area = 1,800 acres
- Predicted fecal coliform load reduction = 15.1%
- Major constraints: Community Push Back due to tree removals, etc.
- Status: Investigating alternative designs, Grant obtained and City funding budgeted.



Park #3 BMP Project (Perry Allison Playfield)

- Upstream of proposed Hermosa Greenbelt and Hermosa Beach Infiltration Project
- Diversion to subsurface infiltration gallery
- Tributary area = 1,400 acres
- Predicted fecal coliform load reduction = 1.3%
- Major constraints: Invert elevation at diversion point, utility conflicts, funding
- Status: unfunded

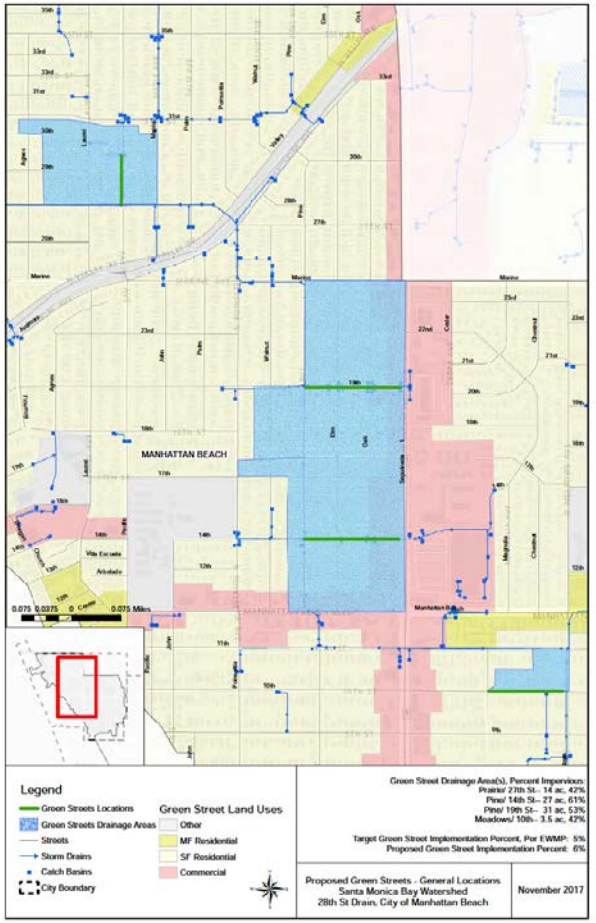


Hermosa Beach Green Streets

- Tributary area = 47 acres
- Project will divert dry & wet weather runoff from one of the most popular beaches in Los Angeles
- Status: Planning & Funding

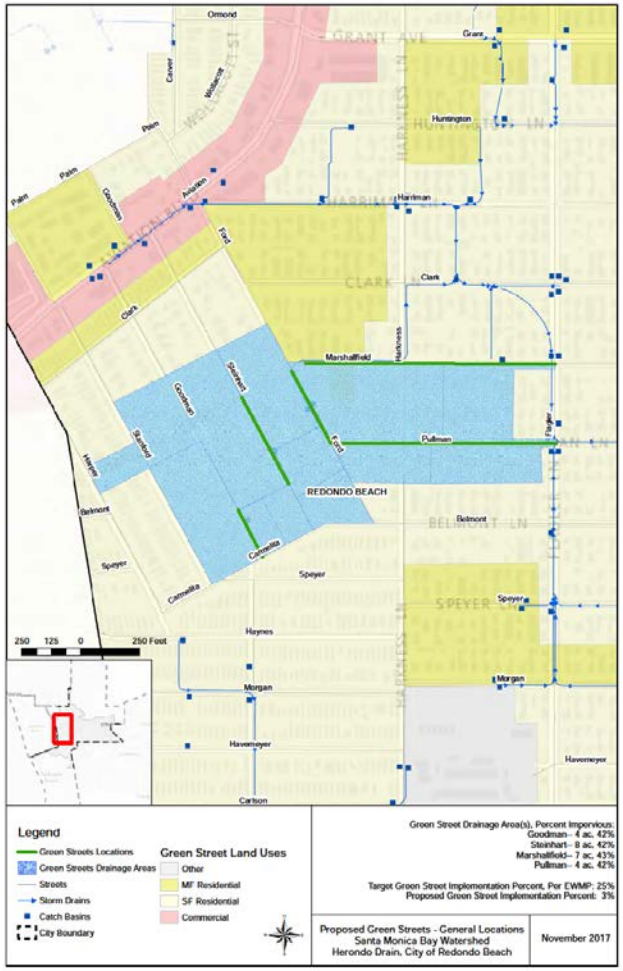
Manhattan Beach Green Streets

- Tributary area = 110 acres
- Project will divert dry & wet weather runoff from one of the most popular beaches in Los Angeles
- Status: Planning & Funding



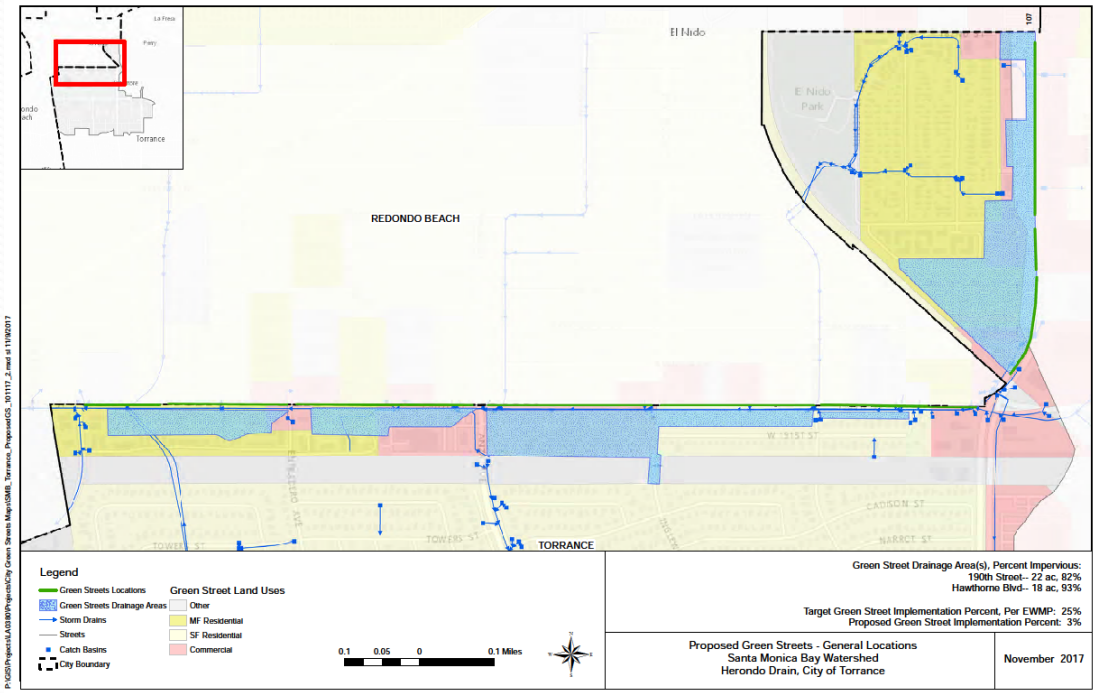
Redondo Beach Green Streets

- Tributary area = 23 acres
- Project will divert dry & wet weather runoff from one of the most popular beaches in Los Angeles
- Status: Planning & Funding



Torrance Green Streets

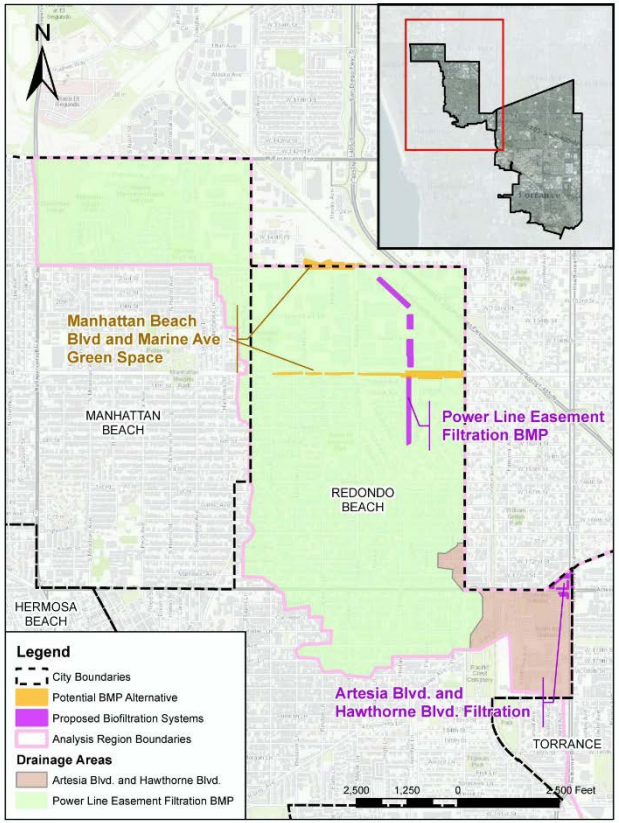
- Tributary area = 40 acres
- Status: Planning & Funding

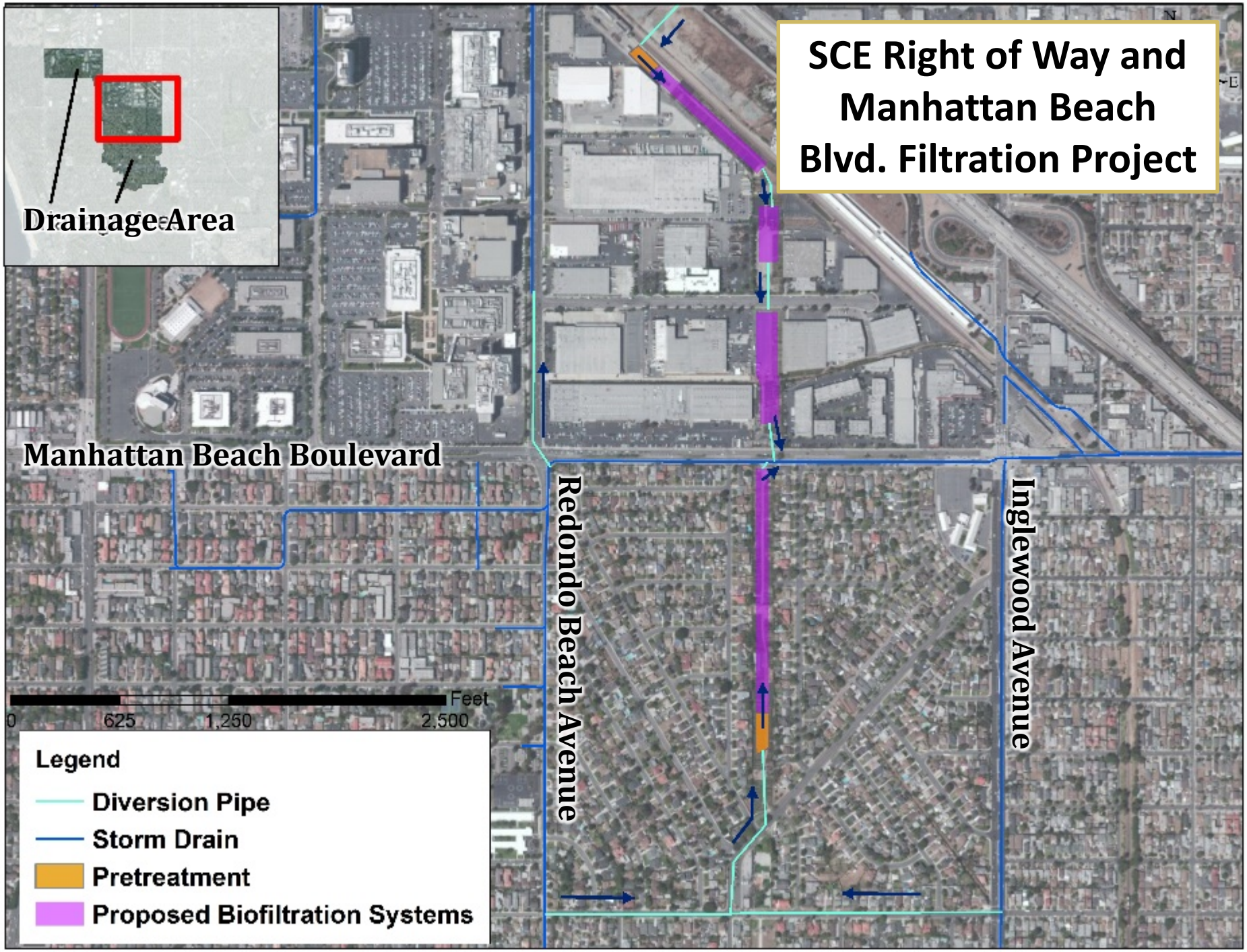


Structural BMPS Proposed
Dominguez Channel

- Dominguez Channel Dry weather bacteria TMDL:
  - SCE Right of Way and Manhattan Beach Blvd. Filtration Project (unfunded)
  - Artesia Blvd. and Hawthorne Blvd. Filtration Project (unfunded)
  - Redondo Beach Green Street Project (partially funded)

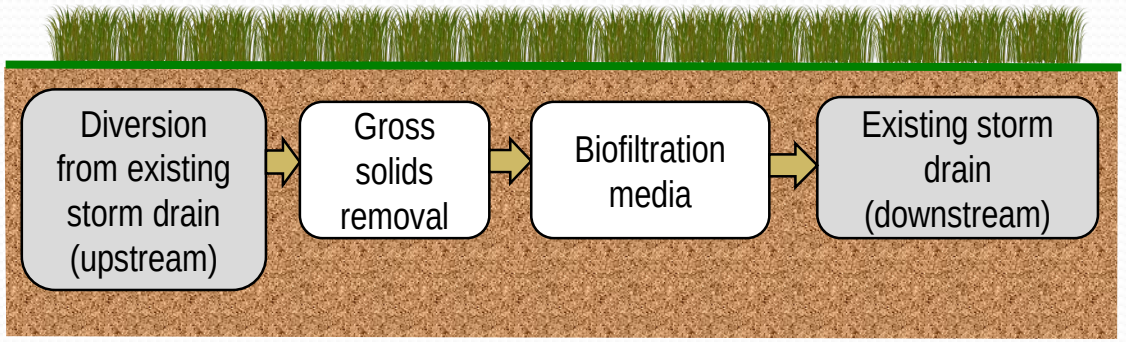
- Dominguez Channel Toxics TMDL:
  - Torrance Green Streets Project (unfunded)
  - Torrance Trash Screens Project (Planning & Funding Phase)

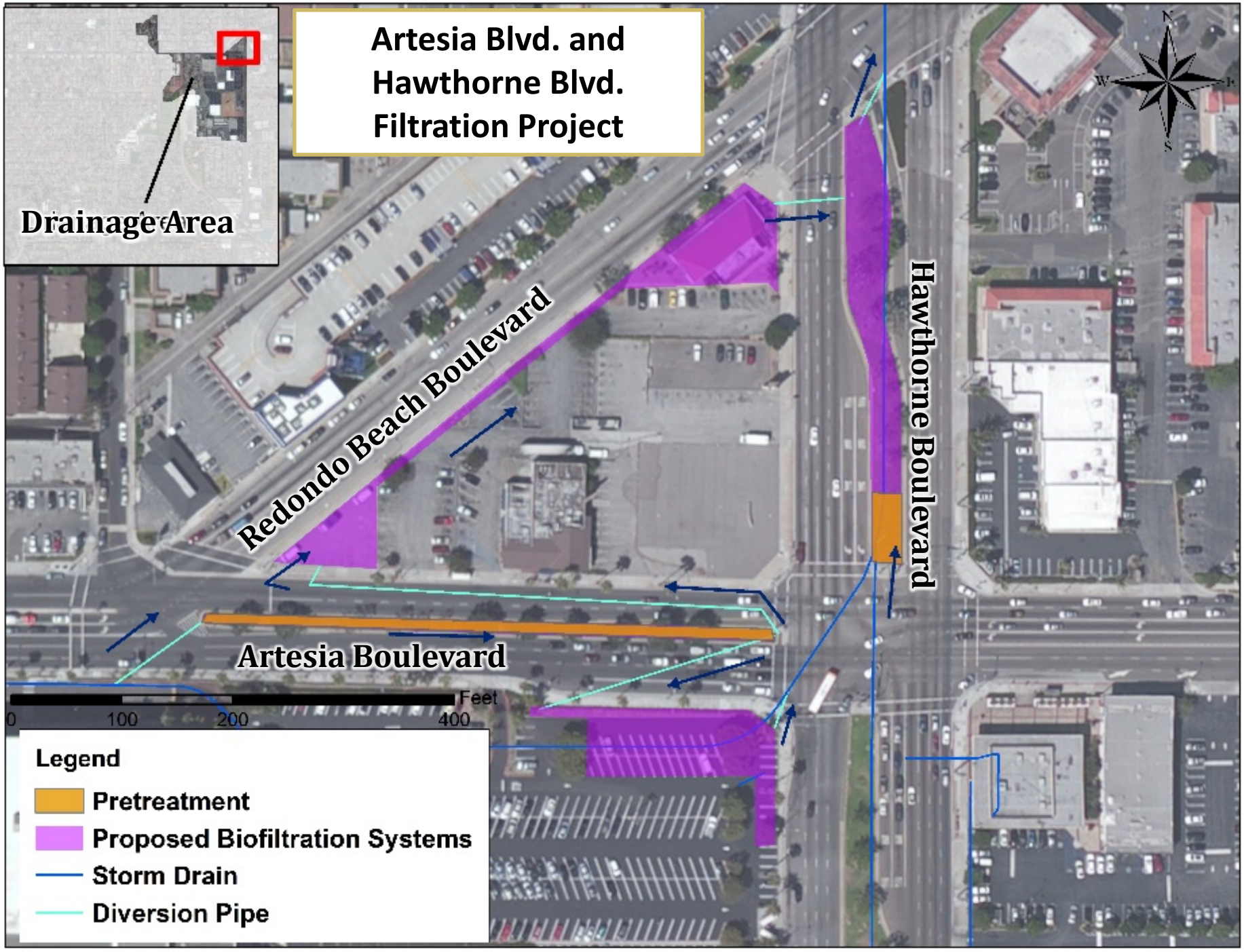



SCE Right of Way and Manhattan Beach Blvd. Filtration Project
Drainage Area
Manhattan Beach Boulevard
Redondo Beach Avenue
Inglewood Avenue
0
625
1,250
2,500
Feet
Legend
Diversion Pipe
Storm Drain
Pretreatment
Proposed Biofiltration Systems

SCE Right of Way and Manhattan Beach Blvd. Filtration Project

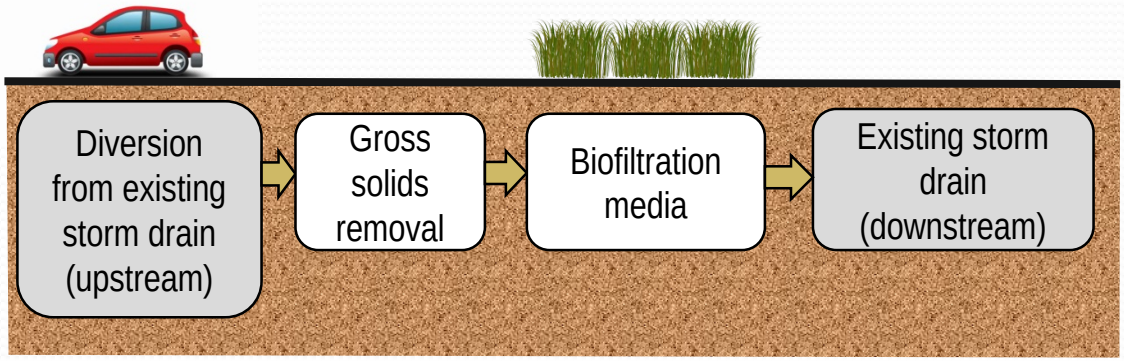
- Diversion to subsurface engineered biofiltration system
- Tributary area = 1,500 acres
- Predicted fecal coliform load reduction = 36%
- Predicted copper load reduction = 26%
- Predicted zinc load reduction = 34%
- Major constraints: Site Access, poor soil infiltration, required clearances from towers, and funding
- Status: unfunded




Artesia Blvd. and
Hawthorne Blvd.
Filtration Project
Drainage Area
Redondo Beach Boulevard
Hawthorne Boulevard
Artesia Boulevard
0
100
200
400
Feet
Legend
Pretreatment
Proposed Biofiltration Systems
Storm Drain
Diversion Pipe

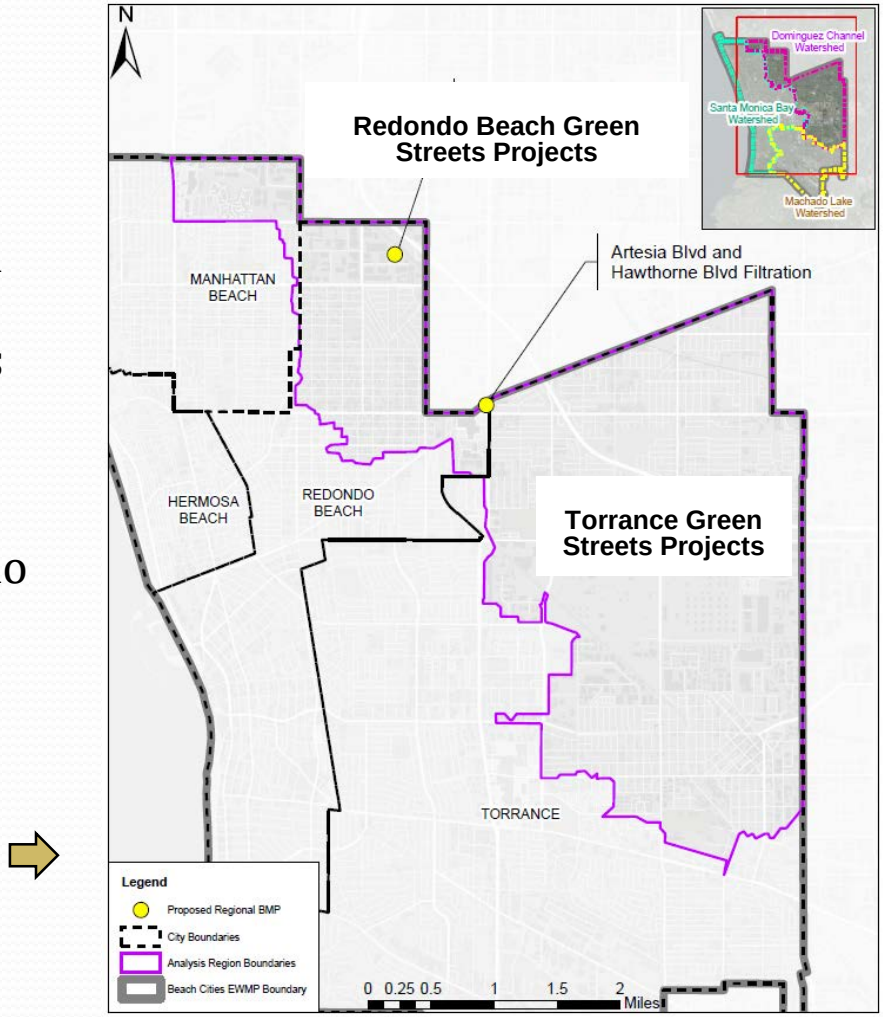
Artesia Boulevard and Hawthorne Boulevard Filtration Project

- Diversion to subsurface engineered biofiltration system
- Tributary area = 130 acres
- Predicted fecal coliform load reduction = 9%
- Predicted copper load reduction = 4%
- Predicted zinc load reduction = 5%
- Major constraints: Site access, poor soil infiltration, right-of-way, utility conflicts, hydraulics
- Status: unfunded



Redondo Beach and Torrance Green Streets Projects

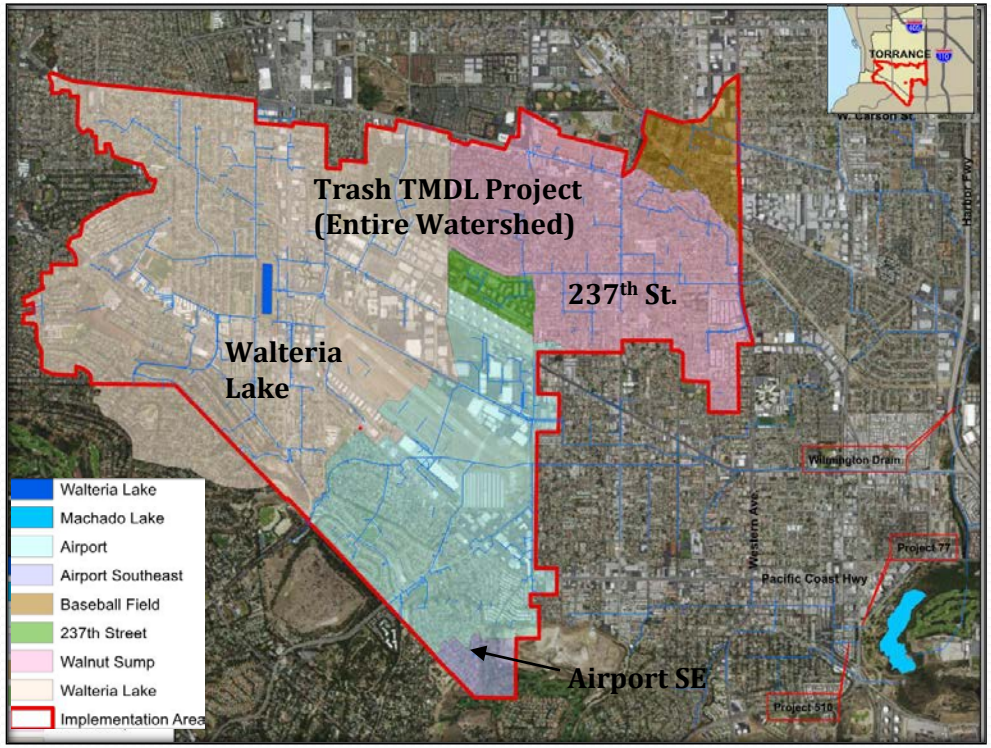
- Diversion to parkway infiltration or bio-filtration systems
- Study Area = approx. 5,000 acres
- Major constraints: Poor soil infiltration, right-of-way, utility conflicts, hydraulics
- Status: unfunded, except Redondo Beach funded pilot project



Structural BMPs Existing

Machado Lake

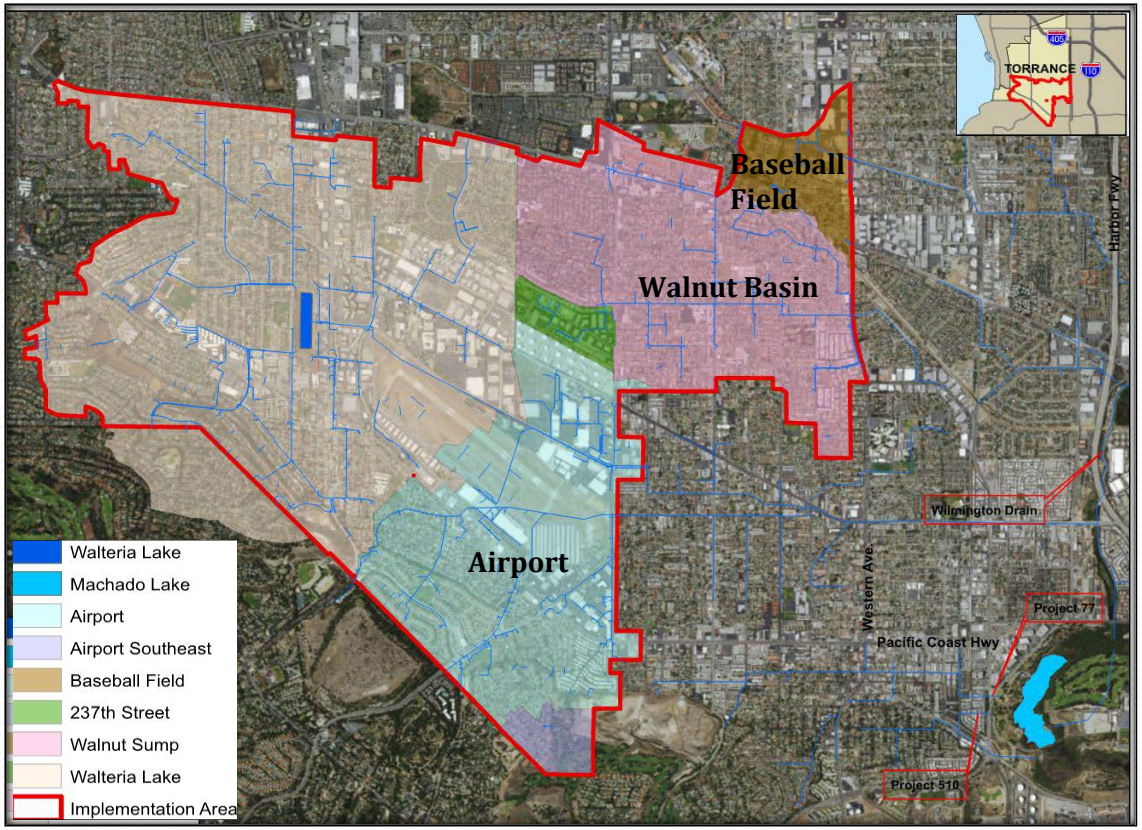
- Walteria Lake Basin (85% storm capacity)
- 237th Street Sump (85% storm capacity)
- Machado Lake Trash TMDL Project (trash screens)



Structural BMPs Proposed

Machado Lake

- Airport Basin Project, Phase 1 & 2 (Design: funded only for design)
- Walnut Basin, Phase 1 (Design: fully funded)
- Walnut Basin, Phase 2 (unfunded)
- Baseball Field Basin Project (unfunded)

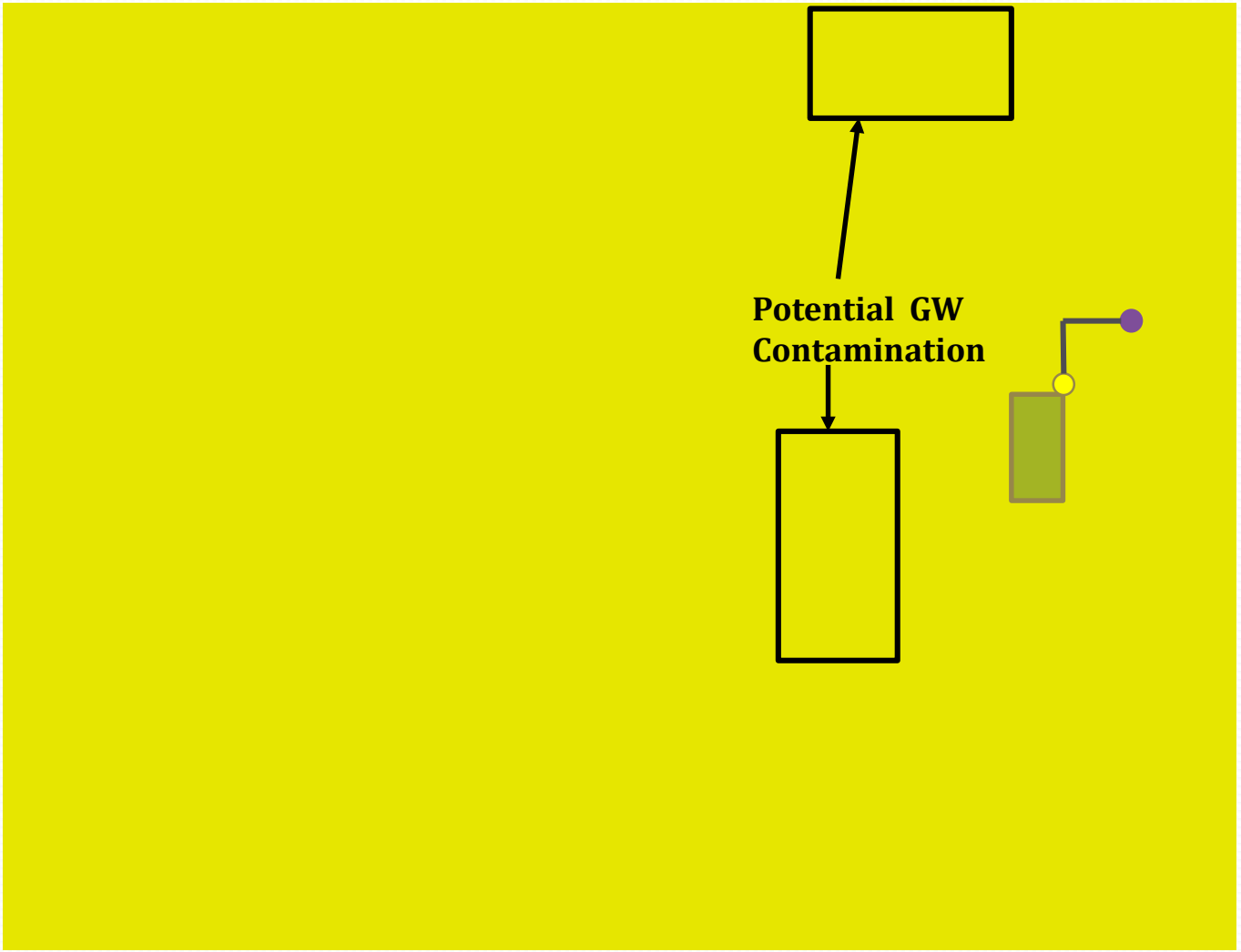


Airport Basin Project, Phase 1 & 2

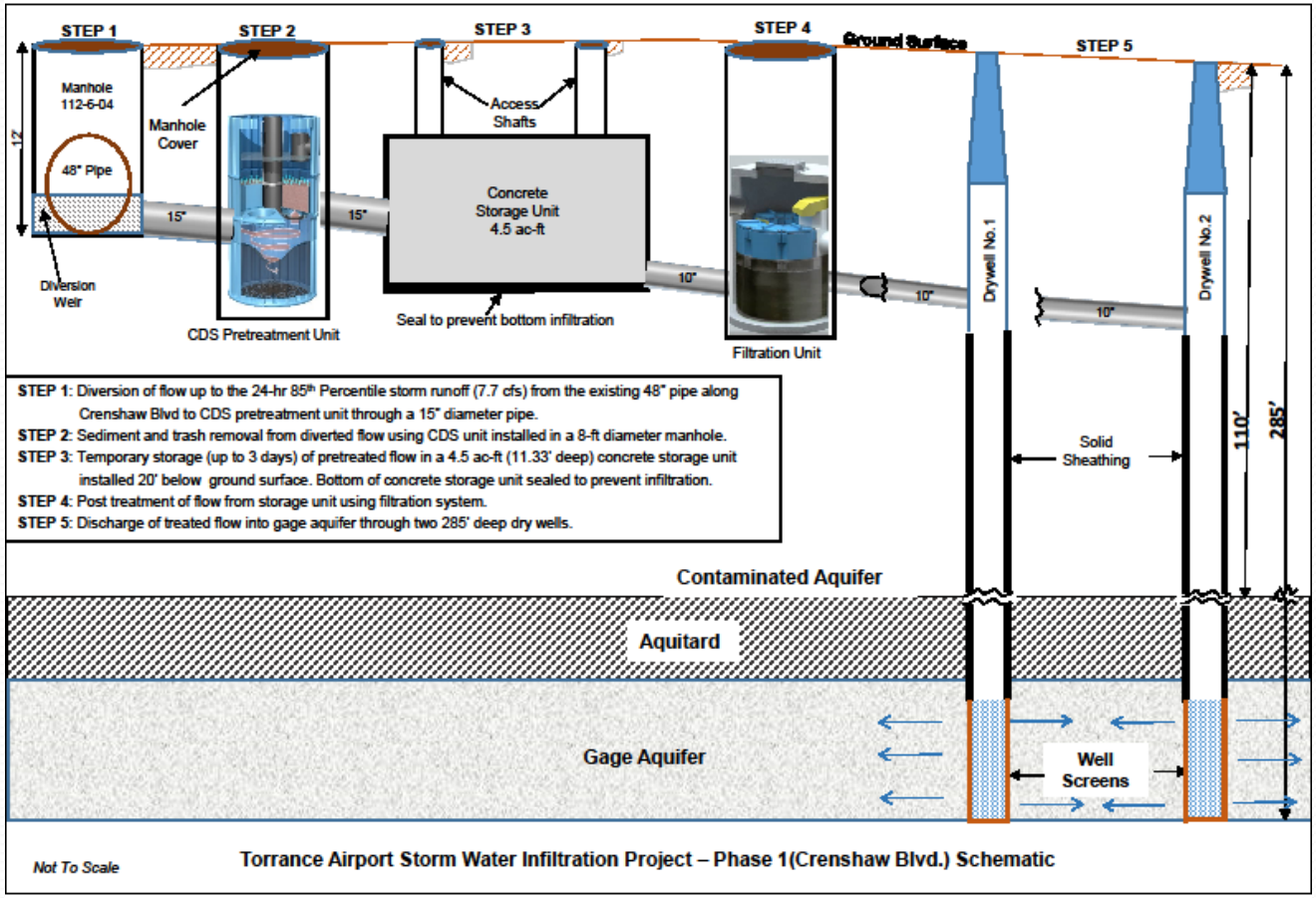
- Phase 1: City 48” SD = 249 Ac.
- Phase 2: LACFCD 2 9’x10’ RCB’s = 640 Ac., Plus 2,945 Ac. For Peninsula Cities

Challenges

- Groundwater Contamination
- 20-ft to LACFCD storm drain
- Construction on operating airport
- Expanding Project for Peninsula Cities
- Permitting



Airport Basin Project Proposed Dry Wells to By-Pass Groundwater Contamination



Walnut Basin, Phase 1

Diversion LACFCD 48” RCP to Walnut Basin
Tributary Area = 56 Ac.

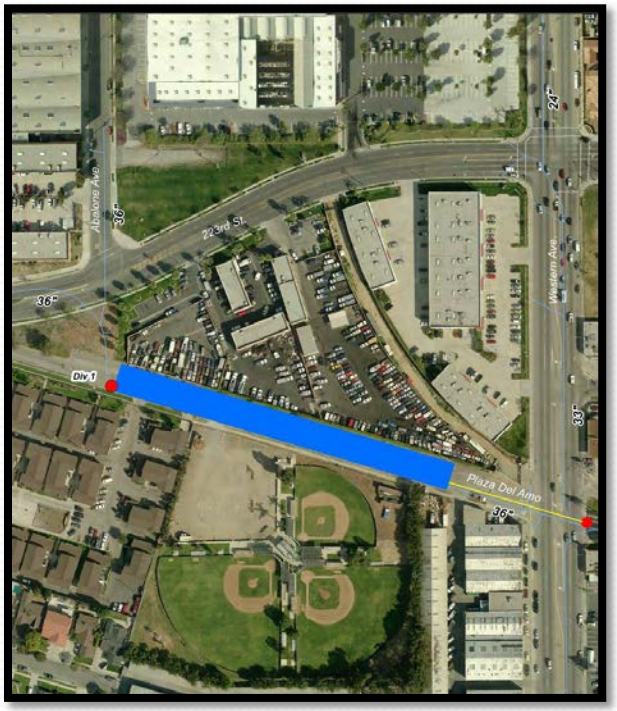
Walnut Basin, Phase 2

Diversion from LACFCD 9’ x 11’ RCB – with pump station at Sur La Brea Park

Tributary Area = 722 Ac.

Baseball Field Basin Project

- Diversion off City's 48" storm drain
- Tributary Area = 112 Ac.



Conclusion

- 9 out of 17 Structural BMPs identified in EWMPs are completed.
- Hermosa Beach Green Belt Project and Walnut Basin Project, Phase 1 are in Design with funding for construction budgeted.
- Airport Basin Project is in Preliminary Design with funding for Final Design and Torrance is applying for grant funding for construction, approximately $4 million for Phase 1 and $40 million for Phase 2.
- Beach Cities are Planning and budgeting for Trash Screen Projects for Santa Monica Bay & Dominguez Channel
- Beach Cities are Planning and applying for grant funds for Green Street Projects in each City.