City of Newport Beach
Water Quality/Coastal Tidelands Committee Meeting Minutes

Date: December 1, 2016
Time: 3:00 p.m.
Location: Crystal Cove Conference Room, 100 Civic Center Drive, Newport Beach, CA 92660

Meeting Minutes prepared by: Raymund Reyes

1. The meeting was called to order at 2:59 p.m. by Chairwoman Diane Dixon.

2. **Welcome/Self Introductions**

Committee Members present:
Mayor Diane Dixon, Chair
George Robertson
Lou Denger
Dennis Baker

Committee Members Absent:
Mike Melby
Councilman Duffy Duffield, Vice Chair
Tom Houston
Fred Galluccio
Carl Cassidy

Guests present:
Howard Cork, Newport Bay Conservancy
Nancy Gardner, Orange Coast River Park
Billy Dutton, Help Your Harbor
Darrel Ferguson, Surfrider Foundation
Nancy Skinner, SPON
Jack Skinner, SPON
Peter Bryant, Newport Bay Conservancy
Portia Bryant

Staff present:
John Kappeler, Senior Engineer
Bob Stein, Assistant City Engineer
George Murdoch, Municipal Operations Director
Shane Burckle, Water Conservation Coordinator
Hazel McIntosh, Student Aide
Raymund Reyes, Management Specialist

The agenda for the Water Quality/Coastal Tidelands Committee was posted at 2:35 p.m. on November 28, 2016, in the binder located in the entrance of the Council Chambers at 100 Civic Center Drive.

3. **Public Comment on Agenda Items**

None.

4. **Approval of Previous Meeting's Minutes**

DRAFT

Due to the lack of a quorum, a motion to approve the November 3, 2016 minutes was not made and moved to the next meeting.

5. Current Business

(a) Private Street Catch Basin Cleaning & Street Sweeping Program

George Murdoch provided an update on the City's catch basin cleaning and street sweeping requirements for private streets and Home Owners Associations (HOAs.) **Mr. Murdoch** provided background information on the City's storm drain system, sources of contamination and efforts to reduce contamination, and the City's procedures for catch basin cleaning. Of the 3,967 catch basins in the City, 421 were on private streets but serviced by the City. Furthermore, 2,371 basins located on private streets or apartment complexes were not serviced by the City. Most of the private systems were found to not be maintained. **George Murdoch** asked the committee's opinions on whether the City should continue to clean private streets, mandate that HOAs clean their basins, and clean additional catch basins.

Dennis Baker suggested the City do all three options, but would like to see a phased-in approach to charging HOAs that are getting free service currently. **Mr. Baker** also mentioned if the City could present HOAs with options and standards for operating independently or contracting through the City. **George Murdoch** replied, noting that the City could do an implementation plan. **Lou Denger** suggested that the City should clean all catch basins, and charge all HOAs for cleaning private basins. **Mr. Denger** inquired if it would be better for the City to clean the basins rather than having the HOAs do it since the City was already inspecting the catch basins. **George Murdoch** responded, noting that there were some policy issues that would need to be worked out. Other members suggested a performance based approach, and a resident asked if the City had any prior agreements with any HOAs for cleaning. **Shane Burckle** thought that a catch basin cleaning project could have a chance for Measure M Project grant funding.

Diane Dixon asked if there was something in the City's Municipal Code that could require that all private communities maintain their catch basins. **George Murdoch** indicated that it could be done, but a mechanism would have to be in place to establish standards and requirements. **Nancy Skinner** asked about private street access; **Mr. Murdoch** indicated that the City has a right to enter and inspect if the basins are connected to the City. At the conclusion of the discussion, **Diane Dixon** asked **George Murdoch** to come back to the committee with some additional options and an implementation plan over a yet to be determined number of years. **Chair Dixon** also recommended further data collection on debris and trash that ends up in the bay via catch basins, as well as some outreach to HOAs in order to get them to be part of the solution.

(b) Newport Bay Water Wheel

John Kappeler gave a presentation on the Newport Bay Water Wheel. The presentation covered methods of trash collection in Newport Bay, the upcoming Santa Ana Delhi

Regional Trash Facility and other collection methods, and 2015 TMDL requirements. Discussion then focused on the water wheel project. **Dennis Baker** inquired about project costs. **Lou Denger** and **Howard Cork** discussed alternate locations. **Diane Dixon** asked if any new water wheel projects had been installed in other locations. **Jack Skinner** asked about the wheel's true effectiveness during storm events. Further discussion continued on alternate methods, with Bob Stein agreeing that an upstream collection facility would be the most ideal. However, the Wheel was a good "Plan B" project. Mr. Stein suggested a dual pathways approach, lobbying stakeholders to draft a plan for a trash removal implementation program (including a regional facility,) as well as pursuing a facility in Upper Newport Bay.

(c) <u>Communications Sub-Committee</u>

As **Mike Melby** was unable to attend the meeting, the item was postponed to a later date. However, some discussion took place regarding an upcoming public service announcement on water quality in Newport Beach.

6. Old Business

(a) <u>Bay and Ocean Bacteriological Test Results</u>

A presentation on the monthly test results was led by **John Kappeler**, who provided updates to local conditions. Mr. Skinner provided information on a new test method which could detect the presence of human fecal bacteria. Diane Dixon asked if it might be possible to have a presentation on the method, and perhaps try a pilot program.

7. Committee Announcements or Matters which Members would like Placed on a Future Agenda for Discussion, Action or Report

Diane Dixon requested a heads up of new regulations regarding urban water runoff. Dennis Baker and Diane Dixon asked George Murdoch on an implementation timeline and when Council would take action. Mr. Murdoch explained that comments were being taken until December 16, 2016 on the draft implementation plan, with possible action in January. George Murdoch indicated that he would like further feedback from the committee on the item, and would be glad provide the committee with additional information.

In regards to recycled water and the Poseidon project, George Murdoch spoke to the Vice President of Poseidon, LLC and asked if he could update the committee on the project. Diane Dixon also asked Mr. Murdoch about what was going on in Carlsbad. Mrs. Skinner asked about an opposing viewpoint for Poseidon; however Diane Dixon noted that the presentation would only be an update to the committee. George Murdoch suggested that he could instead obtain the information from Poseidon, LLC and bring it back to the committee.

8. Public Comments On Non-Agenda Items

Mr. Skinner noted that he would like to see a presentation on human fecal coliform testing methods by Joe Guzman.

9. Set Next Meeting Date

The next meeting date was set for Thursday, January 5, 2017 at 3:00 pm in the Crystal Cove Conference Room, located at 100 Civic Center Drive, Newport Beach, CA 92660.

10. Adjournment

A motion to adjourn was made**.** The meeting was adjourned at 4:49 p.m.

_____

Chairwoman / Diane Dixon

City of Newport Beach Catch Basin Maintenance

Water Quality Coastal Tidelands Committee 12/1/2016

Storm Drain System

- Combination of City staff and contractors maintain:
  - Storm drain pipes
  - Catch basins
  - V-ditches
  - Tide valves
  - Continuous Deflection System (CDS) units

- Storm Drain Master Plan
  - Identification of type, age and condition of system
- Capital Improvement Projects (CIP)
  - Replacement of aging infrastructure
  - Improvements to performance

Sources of Contamination

- Bay and Ocean Water Quality can be affected by:
  - Sewer spills
  - Urban water runoff
  - Storm water runoff
  - Recreational use
- City is responsible for maintaining
  - Sewer system
  - Water system
  - Storm drain system

Efforts to Reduce Contamination

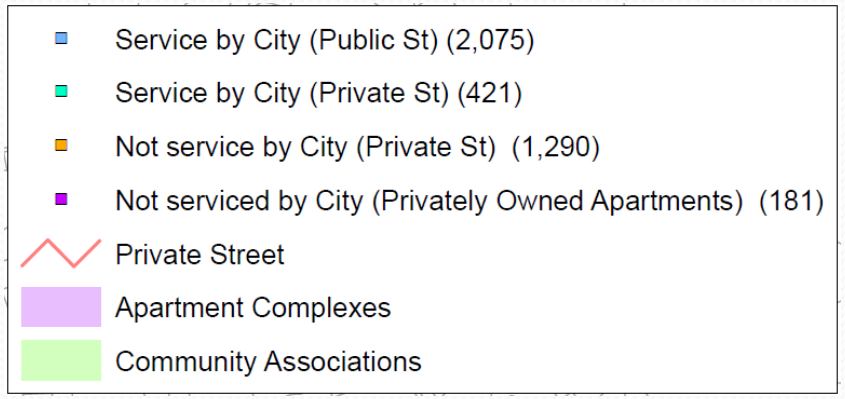
- Maintain a healthy sewer system
  - General Waste Discharge Requirements (GWDR)
  - Sewer System Management Plan (SSMP)
- Water conservation
  - Reducing urban water runoff
- Street sweeping
  - 655 miles of public streets
  - 33 miles of public alleys
- Storm drain operations
  - Storm drain pipe cleaning
  - V-ditch cleaning
  - Catch basin cleaning
  - Catch basin screens
  - Continuous Deflection System (CDS) unit cleaning
  - Emergency response to private spills

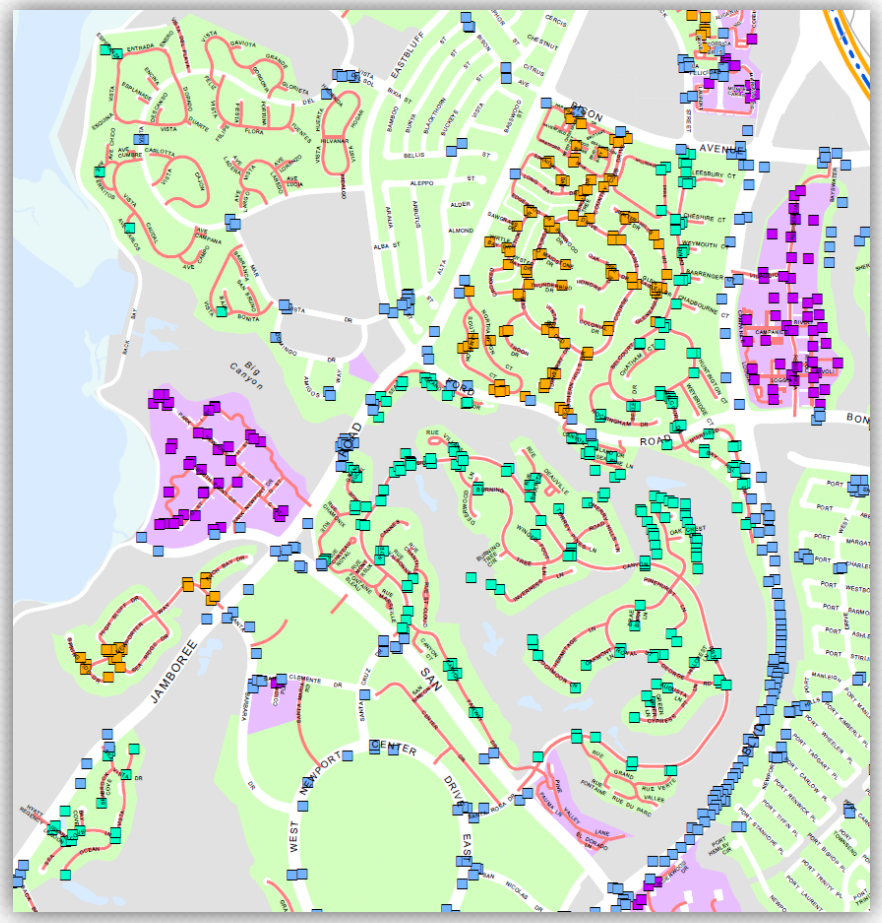
Catch Basin Cleaning

- City contracts with Downstream Services
- City owns one Vactor truck for emergencies
- 3,967 Catch Basins
  - Serviced by City (public streets) – 2,075
  - Serviced by City (private streets) – 421
  - Not serviced by City (private streets – 1,290
  - Not serviced by City (apartments) – 181

Who Does What?

- Staff spent several months mapping/investigating
- Street ownership typically determines catch basin ownership
- Apartments hard to access
- <u>Most private systems not maintained</u>





Full CB Map Full CDS Map

Options

- Public streets
  - Continue to maintain catch basins
- Private streets
  - Stop City service
    - Long history of City maintaining in some areas
  - Mandate HOAs to maintain under NBMC 14.36
    - Permits and right to inspect
    - Only applicable where private system ties to City system – Change or create code
  - City maintains private catch basins
    - Agreements with HOAs
    - Charge for service
    - Cost (next slide)

Costs

- Current operations cost
  - Approximately $220,000 annually
    - 2,075 public catch basins $78,850 ($38/each)
    - 421 private catch basins $15,998 ($38/each)
    - 20,579 feet of V ditches $10,289.50 ($0.50/foot)
    - 19 CDS units $18,050 ($950/each)
    - Structures/headworks (hourly as needed)
- Optional cost (City cleans additional private catch basins)
  - Approximately $64,405 annually
    - 1,290 private catch basins x $85 = $49,020
    - 181 Apartment catch basins x $85 = $15,385

Committee Thoughts

- Should the City continue to clean private catch basins? If so…
  - Should the City charge HOAs for cleaning?
- Should the City mandate HOAs to clean private catch basins? If so…
  - Should we change the NBMC for areas not discharging to City system?
- Should the City clean additional private catch basins? If so…
  - Should the City charge HOAs for cleaning?
  - City will need to enter into agreements with HOAs for access/rights

Questions?

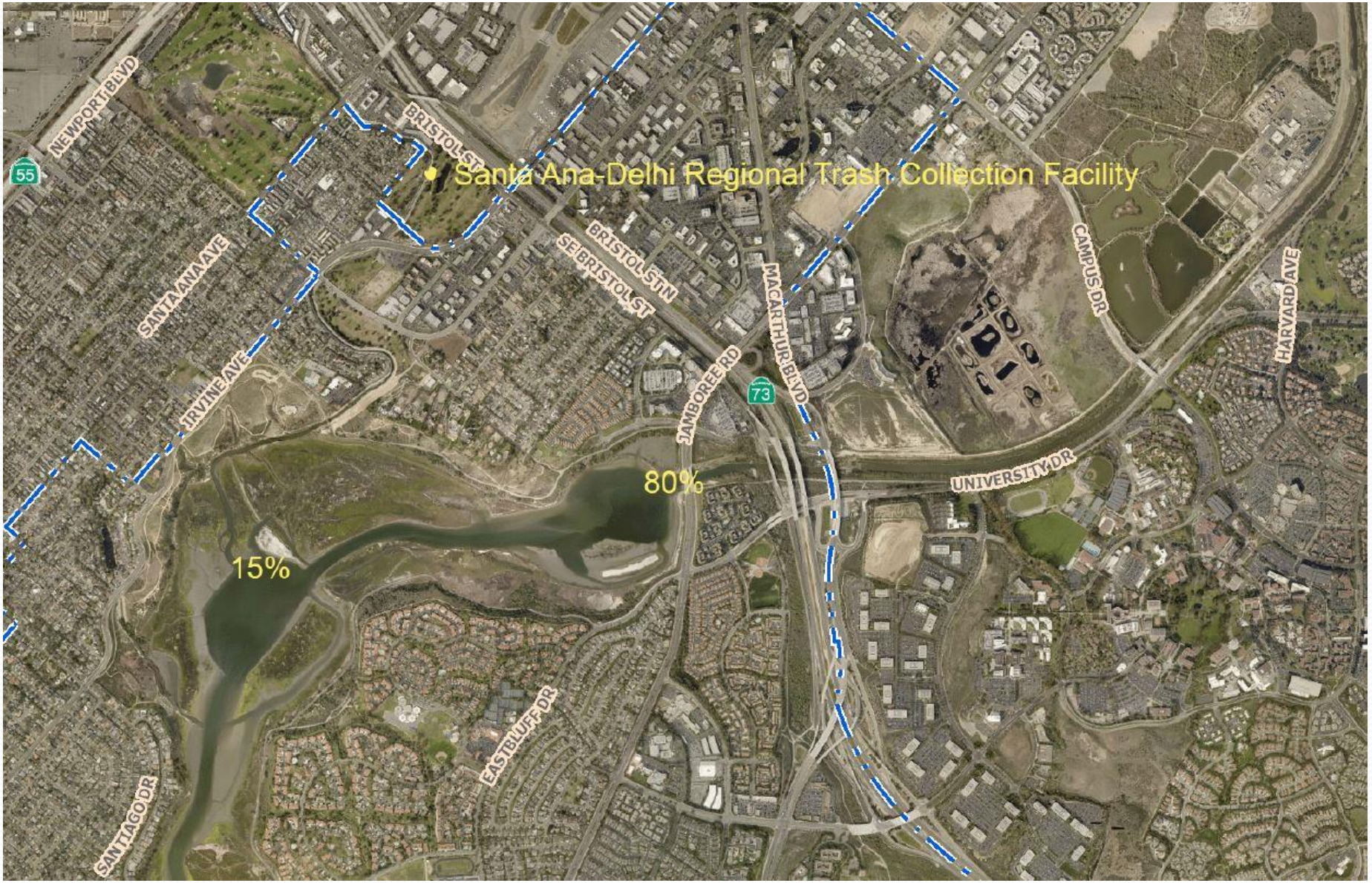
Newport Bay

Regional Trash Removal Projects

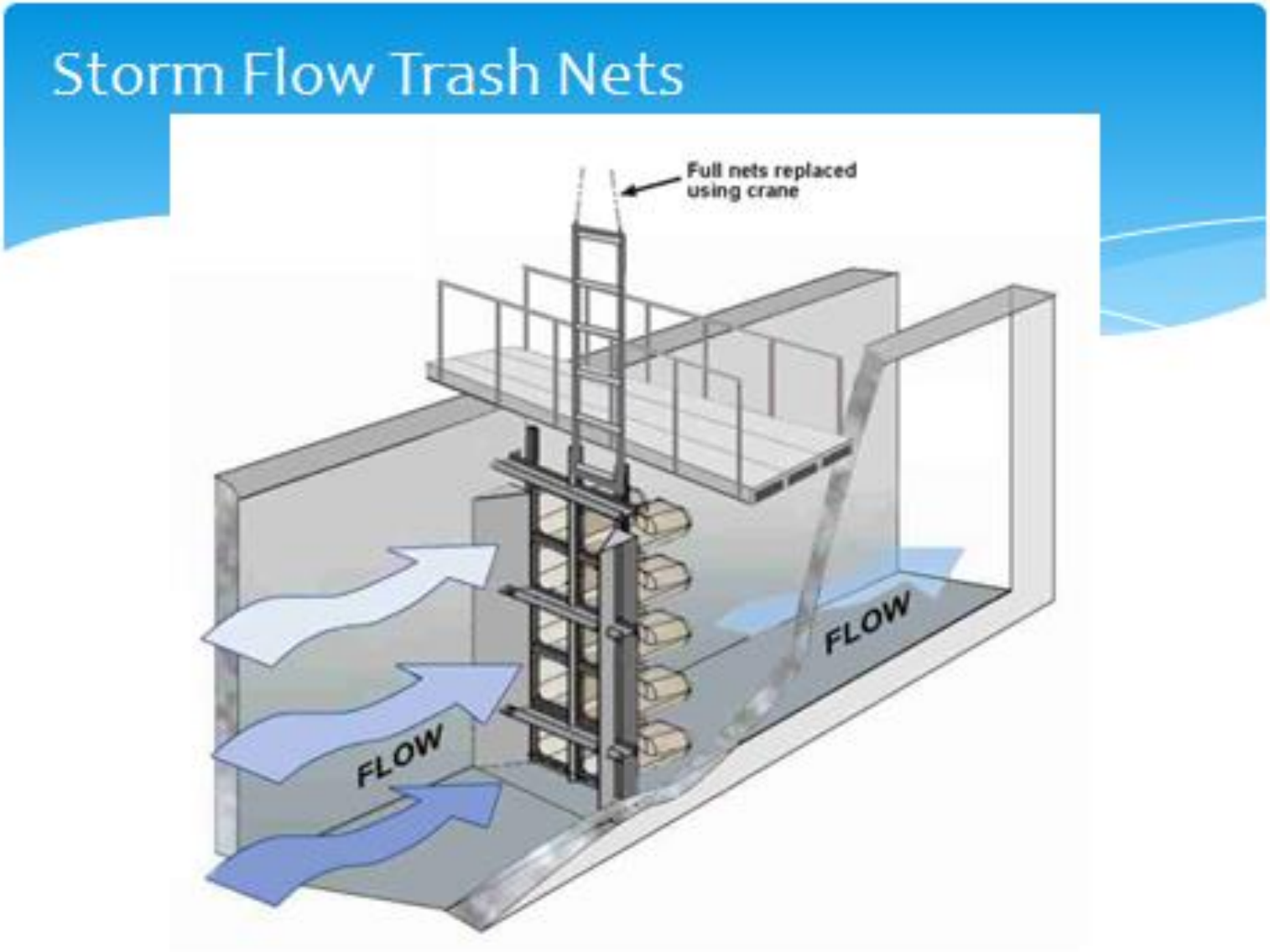
Public Works
December 1, 2016

Continual Pickup of Trash by Volunteers

Trash Delivery to Newport Bay



Santa Ana-Delhi Regional Trash Facility



Trash in Newport Bay from Upstream Sources

How Much Trash?

- The amount of trash for the Santa Ana-Delhi Channel can be directly measured.
- The amount of trash from San Diego Creek can be estimated from the Santa Ana-Delhi Channel modified appropriately by Land Use difference.

2015 Trash TMDL:

Full compliance with the water quality objective within 15 years

Final Staff Report

Including the Substitute Environmental Documentation

Amendment to the Water Quality Control Plan for the Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California

DIVISION OF WATER QUALITY

STATE WATER RESOURCES CONTROL BOARD

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

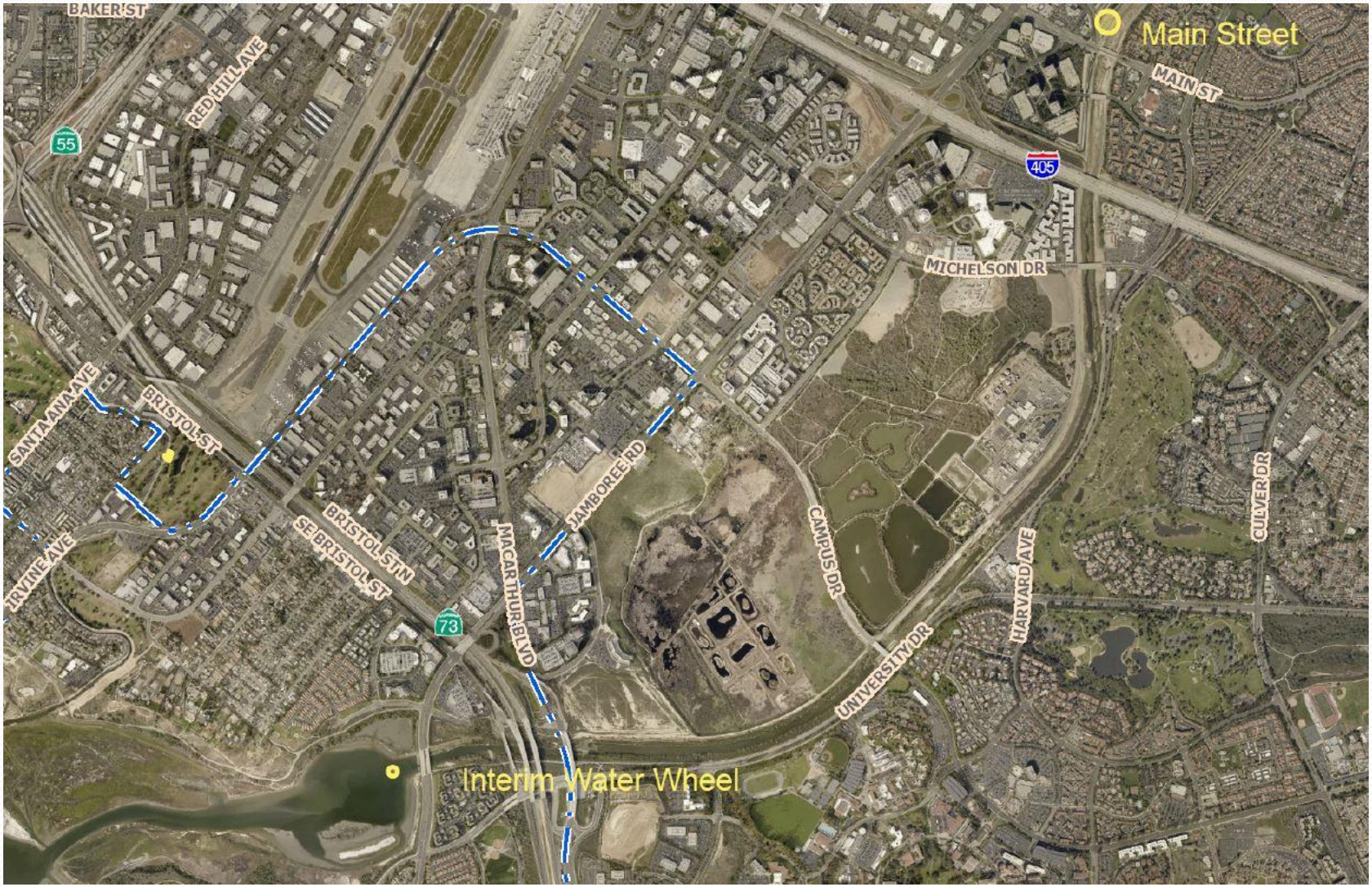
Narrative Water Quality Objective

Trash shall not be present in inland surface waters, enclosed bays, estuaries, and along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

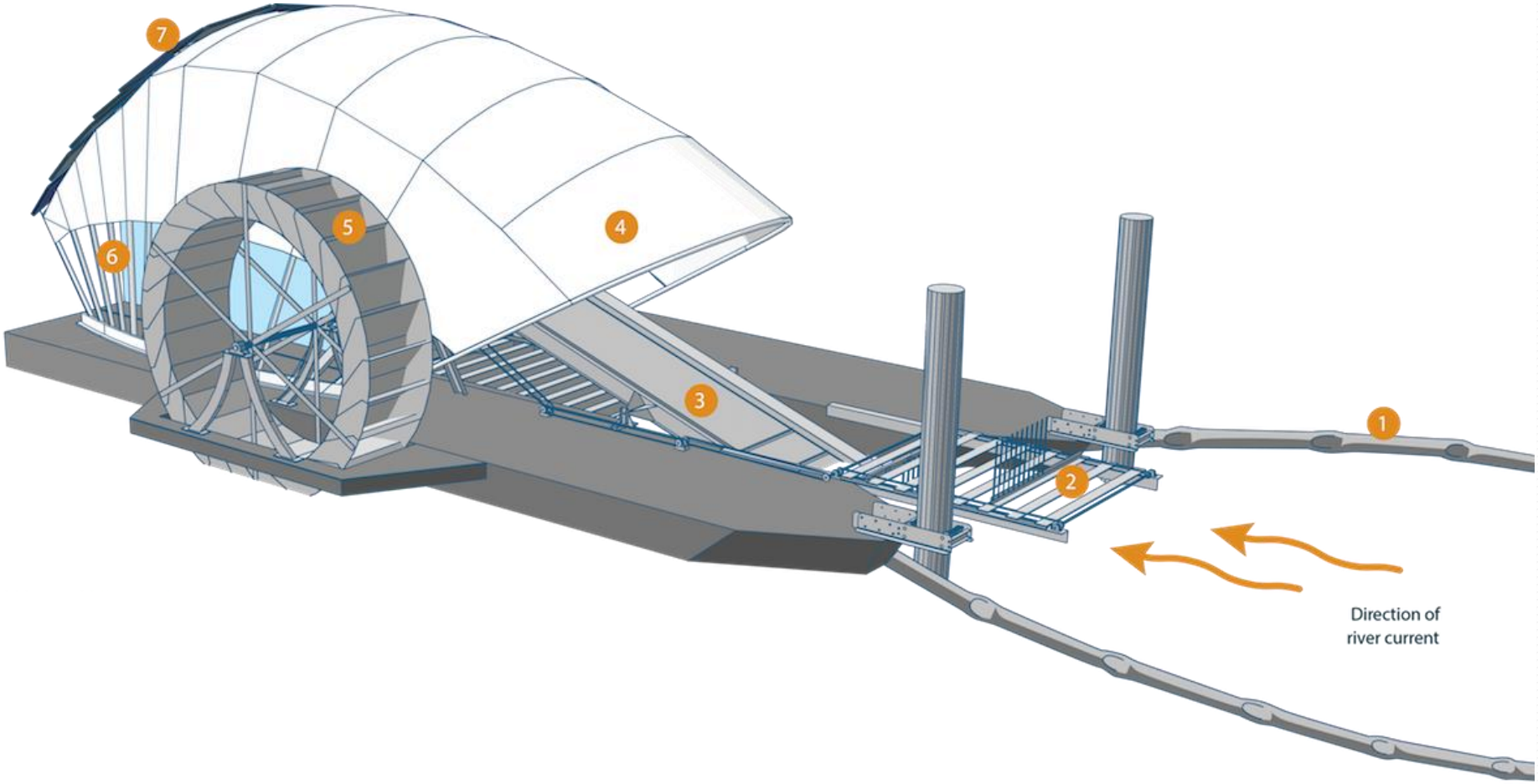
Plan of Implementation

A combination of full capture systems, multi-benefit projects, institutional controls, and/or other treatment controls to achieve full capture system equivalency.

San Diego Creek Regional Trash Facility Options



Water Wheel Project



Baltimore's Success

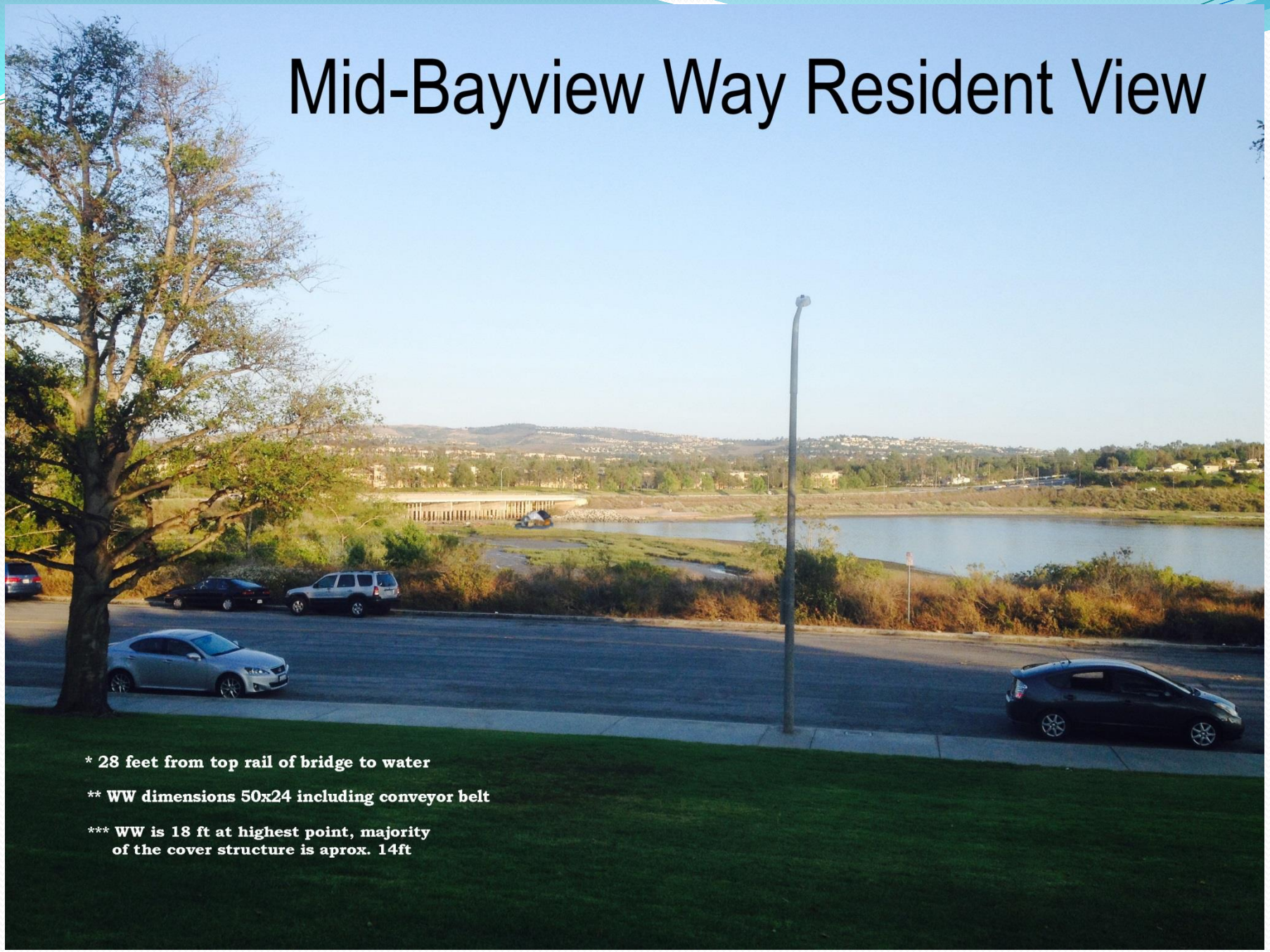
- Removed 406 tons of trash from the Jones Fall River in a year (May 2014 to May 2015)

Initial Study: Environmental Factors

	Aesthetics		Land Use and Planning
	Agriculture and Forestry Resources		Mineral Resources
	Air Quality (Construction)		Noise (Construction)
	Biological Resources		Population and Housing
	Cultural Resources		Public Services
	Geology and Soils		Recreation
	Greenhouse Gas Emissions		Transportation/Traffic
	Hazards & Hazardous Materials		Utilities & Service Systems
	Hydrology & Water Quality		Mandatory Findings of Significance

Adjacent Communities: Aesthetic Impacts

Mid-Bayview Way Resident View

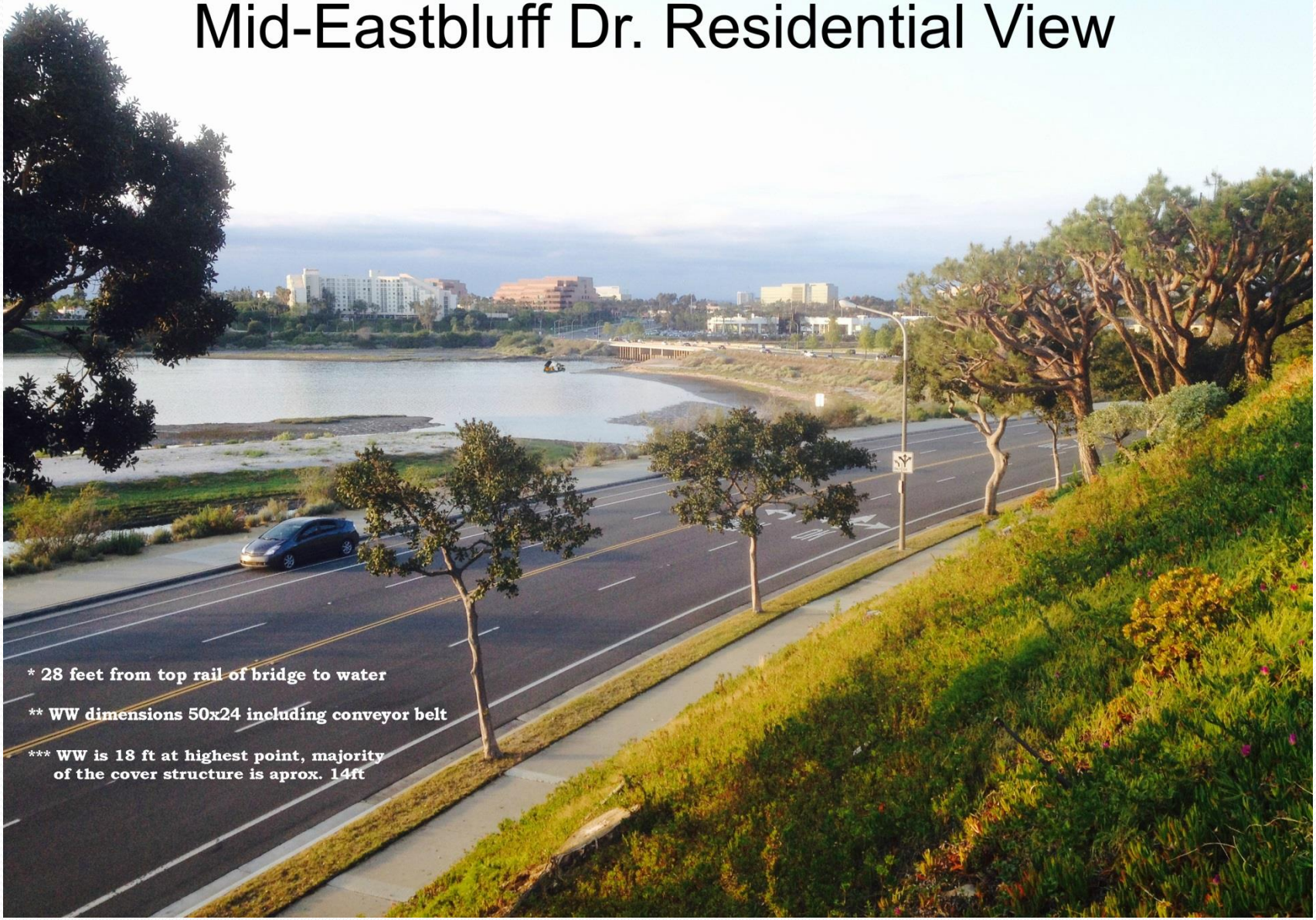


* 28 feet from top rail of bridge to water

** WW dimensions 50x24 including conveyor belt

*** WW is 18 ft at highest point, majority of the cover structure is aprox. 14ft

Mid-Eastbluff Dr. Residential View



Dual Pathways Approach

- Lobby SDC stakeholders to quickly draft a work plan to implement a trash removal program including construction of a regional facility (near Main Street?)
- Pursue a second path to install a regional trash facility in Upper Newport Bay.

Water Wheel Pathway

- Prepare CEQA
- Apply for Grant Funding
- Prepare Construction Documents
- Obtain Permits
- Construct 2019
- Lobby SDC stakeholders to build Main Street Regional Trash Facility
- Dismantle Water Wheel in 2029.

Newport Bay Conservancy

October 23, 2016

RECEIVED BY PUBLIC WORKS
OCT 25 2016
CITY OF NEWPORT BEACH

John Kappeler
Code & Water Quality Enforcement, City of Newport Beach
100 Civic Center Drive, Newport Beach, CA 92660

Dear John:

As you know, we at the Newport Bay Conservancy continue to be very concerned with problems of trash accumulation in Upper Newport Bay, although it is fair to note that the amounts have declined in recent years, possibly related to the reduction in water flow during the continuing drought.

Howard Cork and I have followed the discussions regarding the proposal to use an active trash-collecting device ("Water wheel") modeled after a device that has been used successfully in Baltimore Harbor. We have given this matter careful thought and had discussions with our Board of Directors and others concerning this proposal as well as other proposals.

We were delighted to hear from Bob Stein at our recent Board meeting about the program under way in the Delhi Channel, which involves collection booms rather than a water wheel. We have also talked with Pat Fuscoe at Fuscoe Engineering about possible boom solutions in San Diego creek.

The position of our Board is that we cannot support the proposal of placing a water wheel in the Upper Newport Bay Ecological Reserve. We feel it would be inappropriate to carry out this kind of construction in the Reserve, which is also a State Marine Conservation Area, and we also feel that it would be an unsightly piece of machinery that would be very unpopular with local residents. We also argue that it would be quite ineffective, since we understand that it fails during storm events when the trash accumulation peaks, and it is also likely that it will be overloaded by vegetative material coming downstream in large quantities. Furthermore if it were to prove effective, it would require frequent service trips through the Reserve to empty the trash collected.

We understand that the Reserve Manager Carla Navarro is also opposed to this particular solution.

We would like to discuss alternative solutions with your committee whenever it is convenient. We are eager to explore different technologies as well as different sites for trash collection both upstream and downstream of the Reserve.

Sincerely

Peter J. Bryant
President, Newport Bay Conservancy

Cc: Diane Dixon, Mayor

Board of Directors

Peter Bryant, President
Tim Brown
Frances Cork
Elizabeth Flint
Donna Flower
Peter Fuhrer
Nancy Gardner
Molly Stallcup
Ian Swift
Jean Whitaker
Danielle Zacherl
Dick Zembal

Advisory Board

Buck Johns
Colleen Johns
Bob Shelton
Jean Watt
Ron Yeo

Health Care Agency / Environmental Health Newport Bay Bacteriological Monitoring Program
Total Coliform (TC), Fecal Coliform (FC), Enterococcus (ENT) Colony Forming Units / 100 ml Sample

STATION	Location Description		9/29/15	4/12/16	4/19/16	4/26/16	6/1/16	6/7/16	6/14/16	6/21/16	6/28/16	7/6/16	7/12/16	7/19/16	7/26/16	8/2/16	8/9/16	8/16/16	8/23/16	8/30/16	9/7/16	9/13/16	9/20/16	9/27/16	10/4/16	10/12/16	10/18/16	10/25/16	11/1/16	11/8/16
NEWPORT BAY (Upper Bay)																											RAIN		
BNB24	**Newport Dunes - Middle**	**TC**	9	<9	<9	<9	9	<9	>320	9	>120	>40	>220	>40	>690	>100	>9	>9	<9	<9	9	400	9	9	<9	9	>1440	>20000	20	>50
		FC	<9	<9	<9	<9	<9	<9	<9	9	<9	9	<9	<9	<9	140	9	<9	<9	<9	<9	<9	40	9	<9	<9	40	>20000	<9	9
		ENT	<9	<9	<9	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	<9	9	<9	<9	2100	<9	<9
BNB24	**Newport Dunes - West**	**TC**	20	20	9	<9	<9	<9	40	9	20	>20	>610	>310	>270	>180	>40	>9	>40	<9	<9	550	50	>70	9	40	>20000	>20000	<9	9
		FC	<9	<9	<9	<9	<9	9	9	<9	9	<9	<9	9	20	90	<9	<9	<9	20	9	9	50	20	<9	9	4100	10400	9	9
		ENT	30	<9	<9	<9	<9	<9	<9	<9	<9	<9	20	<9	9	9	9	<9	<9	<9	<9	<9	20	30	<9	<9	790	1600	<9	<9
BNB24	**Newport Dunes - East**	**TC**	>120	30	<9	>9	>1020	>30	<9	>9	60	>91	>9	<9	>360	>9	>9	>9	>9	120	40	>50	<9	70	>9	40	240	>20000	30	30
		FC	20	20	<9	<9	260	<9	9	<9	<9	>9	<9	<9	20	<9	<9	<9	<9	40	30	<9	<9	60	<9	<9	20	>20000	20	9
		ENT	9	9	<9	<9	<9	9	<9	<9	<9	>9	<9	>9	9	<9	<9	20	<9	40	<9	9	<9	9	9	<9	9	1600	30	20
BNB24	**Newport Dunes - North**	**TC**	120	40	<9	<9	>9	>20	<9	>9	<9	>150	>9	>9	>250	>9	>9	>80	20	>9	30	>160	20	<9	>9	20	>20000	>20000	40	<9
		FC	20	<9	<9	<9	<9	<9	<9	<9	<9	9	<9	<9	30	<9	9	9	9	<9	<9	130	<9	<9	9	20	>13800	>20000	20	<9
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BNB25	**Vaughn's Launch**	**TC**	>40	NS	>9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	>9	NS	NS	NS	NS	NS	NS
		FC	9	NS	9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<9	NS	<9	NS	NS	NS	NS	NS	NS
		ENT	40	NS	20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	9	NS	<9	NS	NS	NS	NS	NS	NS
BNB26	**Ski Zone**	**TC**	NS	NS	>3800	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	>9	NS	NS	NS	NS	NS	NS
		FC	NS	NS	<9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<9	NS	NS	NS	NS	NS	NS
		ENT	NS	NS	390	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<9	NS	NS	NS	NS	NS	NS
BNB28	**North Star Beach**	**TC**	30	<9	<9	<9	9	<9	130	>9	>9	>9	>20	>9	>9	>9	>9	9	<9	9	<9	30	40	<9	20	>80	>12000	>20000	30	>1500
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		ENT	<9	<9	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	9	9	<9	<9	9	9300	<9	91
BNB30	**De Anza**	**TC**	30	<9	<9	<9	<9	9	<9	50	<9	40	>9	>9	>9	30	<9	9	50	9	40	<9	40	<9	<9	<9	310	>20000	<9	<9
		FC	<9	<9	<9	<9	<9	<9	<9	40	<9	<9	<9	<9	<9	<9	<9	20	<9	9	<9	<9	<9	<9	<9	<9	20	>20000	<9	<9
		ENT	9	<9	<9	<9	<9	<9	<9	160	<9	9	<9	<9	20	<9	>9	<9	9	<9	<9	9	<9	<9	<9	<9	9	4500	<9	<9
BNB05	**Bayshore Beach**	**TC**	20	<9	70	<9	<9	40	>9	>50	<9	>40	>60	>9	40	9	>9	9	20	20	20	9	30	20	40	50	100	>20000	40	<9
		FC	9	<9	9	<9	<9	9	<9	<9	9	<9	20	<9	40	<9	<9	<9	<9	<9	20	<9	9	<9	<9	<9	<9	>20000	<9	<9
		ENT	<9	<9	<9	<9	<9	<9	9	<9	>20	<9	<9	<9	9	9	9	<9	<9	<9	<9	30	<9	<9	<9	<9	9	2900	<9	9
NEWPORT BAY TRIBUTARIES																														
CNBCD	**San Diego Creek - Campus Dr.**	**TC**	35000	>1900	>1200	>1500	>390	>400	>1600	>900	>1900	>1600	>1800	>1900	>2400	>3500	>4200	>2100	>1300	>4600	>2400	>3400	>2600	>2000	>1400	>4600	>200000	>156000	>4400	>3000
		FC	500	260	210	270	230	160	570	290	210	610	>410	150	>3\50	>140	310	180	330	1310	590	790	850	630	600	2500	>20000	>20000	1060	2400
		ENT	370	160	120	110	50	150	270	270	140	350	170	200	160	230	410	250	200	500	380	550	450	390	320	570	>20000	>20000	650	1540
CNBSA	**Santa Ana Delhi Channel**	**TC**	>2500	>3400	>2700	>2600	>3900	17000	>3600	>420	>280	>200	>280	>80	>470	>6600	>1900	>430	>250	>1700	>760	>800	>1600	>7800	>1040	17000	>200000	>200000	>2100	>8500
		FC	>410	120	390	100	130	7500	390	370	210	40	50	20	60	>170	>40	140	90	140	380	480	982	3100	40	500	>20000	>20000	180	770
		ENT	230	240	140	210	390	1350	1030	280	210	70	50	9	260	80	.>30	140	70	80	>580	100	330	770	80	660	>20000	>19800	290	2300
CNBBC	**Big Canyon Creek**	**TC**	>5100	>1900	>140	>1400	>320	>160	>380	>1500	>2700	>11200	>20000	>5800	>9000	>20000	>10300	>1400	NS	NS	NS	NS	>4400	>13700	>9200	>4400	>20000	>20000	NS	>2800
		FC	450	330	<9	<9	520	140	20	30	360	13100	>20000	>1300	>270	>1400	3200	180	NS	NS	NS	NS	>280	370	480	140	>1140	8400	NS	440
		ENT	430	310	100	80	1000	500	30	180	760	2200	>20000	420	1100	140	583	110	NS	NS	NS	NS	420	490	270	240	2900	16300	NS	890
CNBND	**Backbay Drive Pipe**	**TC**	NS	>2700	>1100	>1120	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		FC	NS	30	<9	270	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		ENT	NS	330	260	390	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
NEWPORT SLOUGH																														
BNS01	**Lancaster Street &**	**TC**	20	<9	>50	>91	>150	9	<9	>100	<9	>40	>9	>9	<9	>30	9	>9	230	>70	230	>60	230	>30			>2400	>40	<9	20
	61st Street	**FC**	<9	<9	<9	20	20	<9	>9	20	<9	<9	<9	20	<9	9	<9	<9	9	<9	<9	<9	<9	9			50	<9	<9	<9
		ENT	9	9	<9	<9	20	9	<9	<9	<9	9	<9	30	<9	<9	<9	20	20	<9	<9	<9	9	<9			<9	9	<9	<9
BNS02	**Grant Street**	**TC**	40	<9	20	>9	>60	20	>100	9	>9	>140	>20	>40	140	140	>50	>230	140	9	9	<9	40	40			20	>120	9	>60
		FC	9	<9	<9	20	30	20	<9	9	<9	20	<9	70	30	20	20	190	80	<9	<9	<9	9	<9			<9	<9	<9	30
		ENT	20	9	20	9	<9	9	<9	<9	9	40	<9	9	9	20	<9	30	9	<9	9	9	<9	40			9	9	<9	30

NS - NOT SAMPLED
LA - LAB ACCIDENT
Cw/(o)C- CONFLUENT GROWTH
WITH(OUT) COLIFORMS
TNTC - TOO NUMEROUS TO COUNT

SINGLE SAMPLE STANDARDS:
Total Coliforms - 10,000 organisms per 100 milliliters sample.
Fecal Coliforms - 400 organisms per 100 milliliters sample.
Enterococci - 104 organisms per 100 milliliters sample.
Fecal:Total Ratio - >1000 total coliforms if ratio exceeds 0.1.

Single Sample Standard Violation.
Long-term Posting Location.
Creek/Drain Sample Location.
Rain Influenced Data.

30-DAY LOG MEAN STANDARDS (of five weekly samples)
Total Coliforms - 1,000 organisms per 100 milliliters sample.
Fecal Coliforms - 200 organisms per 100 milliliters sample.
Enterococci - 35 organisms per 100 milliliters sample.

Health Care Agency / Environmental Health Newport Bay Bacteriological Monitoring Program
Total Coliform (TC), Fecal Coliform, Enterococcus (ENT) Colony Forming Units / 100 ml Sample

STATION	Location Description		3/15/16	3/22/16	3/29/16	6/14/16	6/21/16	6/28/16	7/6/16	7/12/16	7/19/16	7/26/16	8/2/16	8/9/16	8/16/16	8/23/16	8/30/16	9/7/16	9/13/16	9/20/16	9/27/16	10/4/16	10/12/16	10/18/16	10/25/16	11/1/16	11/8/16
NEWPORT BAY (Lower Bay)																								RAIN		
BNB09	43rd Street Beach	TC	9	<9	60	2000	>9	>9	>1030	9	>40	40	>50	>40	>140	9	>200	120	>310	<9	>30	9	80	>310	>9200	<9	50
		FC	<9	<9	<9	<9	<9	<9	40	<9	<9	<9	9	9	<9	<9	<9	<9	20	9	<9	<9	<9	<9	>2000	<9	<9
		ENT	<9	<9	9	<9	<9	9	9	9	<9	<9	40	9	9	<9	20	70	30	<9	<9	<9	<9	<9	1800	<9	<9
BNB10	38th Street Beach	TC	<9	<9	<9	>9	<9	>9	>700	>9	>9	>9	>9	>9	>9	9	>40	110	100	9	30	<9	>150	>200	>7900	80	20
		FC	<9	<9	<9	<9	9	<9	40	<9	9	<9	<9	<9	<9	<9	20	9	9	<9	<9	<9	9	<9	2100	<9	<9
		ENT	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	<9	<9	<9	<9	9	<9	1630	<9	<9
BNB11	33rd Street Channel	TC	>500	>30	<9	9	>40	>30	1500	>130	>9	>330	>9	>9	>70	40	>91	>50	>590	<9	<9	<9	3300	>40	>7900	80	>380
		FC	<9	9	<9	<9	<9	<9	40	60	<9	>20	<9	<9	<9	<9	40	<9	20	<9	<9	<9	40	<9	1100	<9	20
		ENT	9	9	<9	9	<9	<9	<9	50	<9	40	<9	<9	<9	<9	9	<9	20	<9	<9	9	110	<9	2800	20	60
BNB32	Lido Yacht Club Beach	TC	60	20	<9	9	9	<9	<9	40	>9	9	>9	>9	<9	>9	>40	70	>9	20	<9	<9	20	>550	>20000	<9	<9
		FC	30	<9	<9	<9	<9	<9	<9	40	20	<9	<9	<9	<9	<9	20	9	<9	9	<9	<9	9	<9	4700	<9	<9
		ENT	<9	<9	<9	<9	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	<9	9	<9	20	<9	<9	<9	<9	2900	<9	<9
BNB07	Via Genoa Beach	TC	<9	200	20	<9	<9	<9	<9	<9	<9	<9	9	>9	50	<9	<9	40	>9	<9	<9	<9	20	790	>11400	9	20
		FC	<9	170	20	<9	<9	<9	<9	<9	20	<9	<9	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	130	1500	9	<9
		ENT	9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	<9	9	<9	<9	<9	<9	<9	<9	<9	<9	9	790	<9	<9
BNB35	Newport Blvd. Bridge	TC	NS	>10800	30	>2400	330	>20000	150	410	7000	>660	310	>260	30	>1230	50	2800	50	350	180	9	30	>340	>11900	20	40
		FC	NS	840	<9	>280	<9	90	9	50	1400	90	120	<9	<9	9	9	180	<9	<9	20	<9	9	9	2300	<9	9
		ENT	NS	<9	<9	30	<9	40	9	<9	<9	<9	<9	870	<9	9	<9	30	<9	9	140	<9	9	<9	570	<9	40
BNB12	Rhine Channel	TC	40	<9	9	150	>110	>250	140	30	<9	40	9	>20	30	100	91	30	>690	50	9	30	290	>370	>20000	40	<9
		FC	<9	<9	<9	<9	40	<9	<9	40	<9	<9	<9	<9	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	2000	9	<9
		ENT	<9	<9	<9	<9	280	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	280	<9	<9	<9	<9	<9	1280	<9	<9
BNB14	19th Street Beach	TC	<9	9	<9	9	<9	>9	>30	>9	>9	<9	<9	<9	<9	<9	<9	9	9	40	<9	9	70	>9	>20000	>20	>9
		FC	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	<9	<9	<9	30	<9	3800	<9	<9
		ENT	<9	<9	<9	<9	<9	<9	20	<9	<9	<9	<9	<9	<9	<9	9	<9	9	40	<9	<9	<9	<9	920	<9	<9
BNB15	15th Street Beach	TC	20	<9	<9	20	30	>140	<9	40	30	>600	660	40	840	9	20	<9	30	30	70	20	180	20	>20000	>9	20
		FC	<9	<9	<9	9	<9	<9	<9	9	<9	30	210	9	340	<9	<9	<9	9	<9	<9	<9	<9	<9	2900	<9	9
		ENT	<9	<9	<9	<9	<9	60	<9	<9	40	280	<9	<9	<9	<9	<9	20	<9	<9	<9	<9	<9	<9	740	<9	<9
BNB17	10th Street Beach	TC	9	9	<9	<9	<9	<9	<9	<9	<9	20	<9	<9	<9	<9	30	9	<9	<9	9	<9	40	520	>20000	20	>9
		FC	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	5100	<9	<9
		ENT	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	1180	<9	<9
BNB18	Alvarado/ Bay Isle Beach	TC	40	230	<9	<9	<9	<9	9	<9	>9	9	9	<9	>9	<9	40	<9	>300	<9	9	40	90	20	>20000	40	20
		FC	9	220	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	120	<9	<9	9	30	9	2000	<9	<9
		ENT	<9	9	<9	50	9	9	<9	<9	<9	<9	<9	<9	<9	<9	<9	3	30	<9	<9	<9	<9	<9	600	<9	<9
BNB22	N Street Beach	TC	9	<9	<9	<9	<9	<9	<9	<9	<9	40	20	50	<9	<9	20	>90	20	<9	<9	<9	30	<9	>1340	20	9
		FC	<9	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	20	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	40	<9	<9
		ENT	170	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	30	9	9
BNB31	Garnet Avenue Beach	TC	20	20	9	180	20	>40	>70	>1070	>9	<9	>260	>9	9	9	9	20	>40	>120	>40	<9	220	40	>14300	20	9
		FC	<9	<9	<9	<9	<9	9	20	9	20	9	70	<9	<9	<9	<9	9	30	<9	<9	<9	60	<9	1080	<9	<9
		ENT	<9	<9	<9	<9	<9	<9	9	<9	<9	<9	40	40	<9	<9	<9	9	9	30	<9	20	9	<9	200	9	<9
BNB03	Ruby Avenue Beach	TC	30	<9	<9	<9	50	<9	20	<9	9	30	>30	<9	<9	<9	90	90	>30	20	9	9	9	150	>12200	20	9
		FC	<9	<9	<9	<9	9	<9	<9	<9	20	9	9	<9	<9	<9	<9	<9	9	<9	<9	9	<9	410	>840	9	<9
		ENT	30	<9	<9	<9	<9		<9	<9	20	<9	<9	<9	<9	<9	60	60	<9	<9	<9	<9	<9	<9	40	9	<9
BNB20	Sapphire Avenue Beach	TC	>440	9	<9	<9	>20	>40	>2	<9	>9	20	>20	30	9	9	<9	<9	>80	>260	>20	9	9	>30	>4700	>1680	9
		FC	80	<9	<9	<9	40	9	<9	<9	<9	9	9	20	<9	9	<9	<9	30	60	<9	<9	<9	9	>210	1400	<9
		ENT	50	<9	<9	9	<9	30	<9	<9	<9	<9	<9	9	<9	9	<9	9	9	<9	<9	<9	<9	9	40	9	<9
BNB34	Grand Canal	TC	530	50	9	>91	340	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		FC	320	9	<9	80	260	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		ENT	40	<9	20	9	<9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BNB21	Abalone Avenue Beach	TC	390	9	50	>20	>1090	>380	3700	>330	>30	>140	>630	200	100	1500	40	440	<9	140	<9	>20	20	>140	>1000	20	170
		FC	150	<9	40	40	1270	350	4000	230	40	70	670	140	70	1140	9	290	9	30	<9	9	9	120	100	40	60
		ENT	30	<9	20	<9	40	20	170	9	<9	40	60	90	20	270	<9	70	<9	20	<9	9	9	20	90	9	<9
BNB01	Park Avenue Beach	TC	160	<9	90	<9	20	9	20	<9	9	<9	>9	<9	9	<9	9	100	9	9	40	30	20	<9	>2700	40	30
		FC	91	<9	<9	<9	<9	<9	20	9	<9	<9	9	<9	<9	9	<9	<9	<9	<9	<9	9	<9	<9	140	<9	<9
		ENT	40	<9	<9	<9	<9	<9	9	<9	<9	9	<9	<9	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	40	<9	<9
BNB02	Onyx Avenue Beach	TC	20	<9	80	<9	70	>9	>130	9	20	<9	>30	<9	20	9	20	<9	20	30	40	9	<9	50	>6300	9	<9
		FC	<9	<9	40	<9	<9	<9	9	<9	<9	<9	9	<9	20	9	<9	<9	9	9	<9	<9	<9	<9	>310	9	<9
		ENT	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	9	<9	9*	<9	<9	<9	20	190	<9	<9
BNB29	Promontory Point Channel	TC	20	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	<9	20	<9	<9	>9	<9	<9	40	350	<9
		FC	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9
		ENT	<9	<9	<9	<9	<9	<9	<9	<9	<9	89	<9	9	<9	<9	<9	<9	<9	<9	9	<9	<9	<9	9	<9	<9
BNB33	Bayside Drive Beach	TC	80	20	70	>20	>50	<9	>9	30	>40	>30	>20	>910	9	50	>30	130	>940	>360	>40	40	<9	>410	>80	9	40
		FC	<9	<9	20	9	20	<9	<9	20	9	9	20	260	9	9	20	40	170	40	9	20	<9	9	20	<9	20
		ENT	20	<9	20	20	30	40	<9	<9	9	9	9	60	<9	<9	40	20	840	60	30	<9	<9	40	<9	9	<9
BNB23	Rocky Point Beach	TC	9	9	60	>9	>9	20	>9	80	>9	>9	>50	20	>130	30	<9	<9	20	9	<9	20	9	30	>2700	20	<9
		FC	<9	9	20	9	<9	<9	9	20	<9	<9	9	<9	30	<9	<9	<9	<9	<9	9	<9	20	<9	40	<9	<9
		ENT	<9	<9	<9	<9	<9	<9	9	40	9	<9	9	<9	9	<9	<9	9	9	<9	<9	20	<9	9	9	<9	<9

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Creek/Drain Sample Location.
Rain Influenced Data.

30-DAY LOG MEAN STANDARDS (of five weekly samples)
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Enterococci - 35 organisms per 100 milliliters sample.

OCSD Bacteriological Ocean Monitoring Program
Total Coliform (TC), Fecal Coliform (FC),
Enterococcus (ENT) Colony Forming Units/100 ml Sample

DATE		7/13	7/19	7/20	7/26	7/27	8/2	8/3	8/10	8/16	8/17	8/23	8/24	8/30	8/31	9/6	9/7	9/13	9/14	9/20	9/21	9/27	9/28	10/4	10/5	10/11	10/12	10/18	10/19	10/25	10/26	11/1	11/2	11/8	11/9
Location/Tide																																			
Bolsa Chica	TC		<17		<17		67			<17		<17		<17		<17		17		<17		17		<17		<17		>11000		<17		<17		<17	
Beach	FC		<17		<17		67			<17		<17		17		<17		<17		<17		33		17		<17		480		<17		<17		<17	
39N	ENT		20		<2		18			4		<2		14		<2		8		4		6		<2		<2		90		4		<2		<2	
Bolsa Chica	TC		<17		<17		17			50		<17		17		83		17		67		17		<17		<17		3100		<17		<17		<17	
Reserve	FC		<17		17		<17			17		<17		<17		67		<17		<17		<17		17		<17		660		<17		<17		<17	
33N	ENT		14		2		2			38		<2		<2		18		<2		68		2		4		4		150		2		2		6	
Bluffs	TC		17		<17		17			17		<17		17		<17		<17		<17		<17		<17		67		900		17		17		<17	
27N	FC		<17		<17		<17			17		<17		<17		<17		<17		<17		<17		<17		33		67		<17		<17		<17	
	ENT		6		4		18			<2		2		10		2		2		2		10		4		242	2	12		2		<2		2	
17th Street	TC		33		<17		<17			<17		<17		<17		<17		17		<17		<17		<17		<17		1000		<17		<17		<17	
21N	FC		17		<17		<17			17		<17		<17		<17		<17		<17		<17		<17		<17		33		<17		<17		<17	
	ENT		4		<2		10			22		<2		12		<2		2		6		4		4		10		4		2		<2		<2	
Jacks Snack	TC		67		<17		17			<17		<17		33		<17		33		17		17		<17		17		130		17		17		<17	
Bar	FC		<17		<17		17			17		33		<17		<17		<17		<17		<17		<17		<17		<17		33		<17		<17	
15N	ENT		6		4		26			2		6		24		6		33		2		<2		<2		2		4		16		8		<2	
Beach Blvd.	TC		120		<17		33			<17		<17		67		<17		<17		17		<17		<17		<17		33		130		<17		17	
12N	FC		33		<17		100			<17		<17		17		<17		17		50		<17		<17		17		<17		17		<17		<17	
	ENT		23		<2		14			2		8		36		<2		2		4		2		<2		2		2		18		4		<2	
SCE Plant	TC	170	580	33	33	17	460	270	<17	17	17	17	<17	33	33	<17	<17	<17	17	67	<17	<17	<17	<17	<17	<17	<17	17	<17	1700	<17	<17	<17	17	<17
9N	FC	67	500	67	33	<17	400	100	<17	<17	17	<17	<17	67	17	<17	<17	<17	<17	<17	<17	17	<17	<17	<17	<17	17	<17	<17	250	<17	<17	<17	<17	<17
	ENT	38	236	32	<2	4	168	14	<2	8	12	4	2	28	10	<2	6	10	10	6	<2	<2	14	<2	<2	2	<2	2	<2	36	2	4	<2	<2	6
Magnolia	TC	17	88	150	<17	83	130	67	1500	120	220	<17	17	33	50	<17	17	<17	<17	50	<17	<17	<17	<17	<17	33	17	50	67	2600	<17	<17	67	<17	<17
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	SINGLE SAMPLE STANDARD VIOLATION
N/S	NO SAMPLE / NO DATA
CWOS	CONFULENT GROWTH WITHOUT SHEEN
CWS	CONFULENT GROWTH WITH SHEEN
CWB	CONFULENT GROWTH WITH BLUE (FECAL INDICATOR)