CALIFORNIA COASTAL COMMISSION
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

W20a

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STAFF REPORT: PERMIT AMENDMENT

Amendment Application No.: **5-06-093-A3**

Applicant: **County of Orange**

Project Location: Poche Beach at Prima Desecha (M01) Flood Control Channel Outlet, San Clemente/Dana Point Boundary, Orange County

Description of Previously Approved Project (as amended): Construction of a 1,120 square foot ultraviolet light oxidation water disinfection facility at Poche Beach to collect, filter, and disinfect urban runoff water from the mouth of the Prima Deshecha Cañada flood control channel (M01). The original approval required the treated water to be discharged back into the existing channel at the back beach. Subsequent amendments (-A1 & -A2) authorized temporary use of a pipe to discharge the water closer to the high intertidal surf zone as a trial measure at further improving water quality.

Description of Amendment: Make permanent the relocation of the treated urban runoff outflow from the mouth of the Prima Deshecha (M01) flood control channel onto the back beach to the high intertidal surf zone of the beach at Poche Beach by permanent use of a rigid 8-inch diameter PVC pipe attached to an existing wood bulkhead to discharge treated runoff.

SUMMARY OF STAFF RECOMMENDATION

The Commission approved CDP 5-06-093 at its June 2007 hearing for the construction of a filtration and UV light disinfection treatment system to collect, filter and disinfect urban storm and dry weather runoff on a year round basis from the 4,404 acre Prima Deshecha Cañada watershed drainage channel (M01) to the Pacific Ocean at Poche Beach. The structures associated with the facility include an inflatable rubber dam, wet well, four media filtration tanks, UV light tubes, backwash surge tank, water conveyance lines (i.e., suction pump inlet supply line, backwash line, and discharge line) and protective fencing. With this system, the water is trapped behind a dam, pumped into the treatment plant for treatment, and then returned to the drainage channel following treatment.

The main objective of the project was to reduce bacteria levels from surface water runoff at Poche Beach to prevent beach water bacteria concentrations rising to levels that would require environmental health beach postings under California law. Treatment is directed at fecal indicator bacteria. Secondary benefits included reduction of suspended solids, turbidity, oil, grease, nutrients and heavy metals in the water trapped by media filters prior to discharge.

As conditioned by CDP 5-06-093, the treated runoff water is discharged/outfalls at the end of an existing culvert that discharges onto the sand at Poche Beach where there is a "scour" pond. This pond if fed by fresh water from the channel, and by seawater from the ocean through wave uprush. Biological studies have found the pond to be wetland (based solely on hydrology-there is no wetland vegetation or wetland soils present). The pond primarily supports seagulls, but may also be utilized by other shorebirds and waterfowl. That pond ultimately drains into the Pacific Ocean. The approved outfall location was required to be as close to the original outfall as possible in order to mimic pre-existing conditions and thereby not cause any physical change to the hydrology of the pond and no net loss of wetlands.

Returning the treated water back into the scour pond that forms at the channel outlet was not the preferred alternative by the County because it expected the treated water to become re-polluted if it was simply discharged back into the scour pond. The County wanted to extend a pipe from the treatment plant, and along a wood bulkhead/groin that runs perpendicular to the shoreline and that extends out to near the surf zone, so the treated water could be discharged closer to the surf zone instead of into the pond. However, the County had no evidence to support their assertion that the water would become re-polluted if it was discharged into the pond, so, the County agreed to return the water to the scour pond and to monitor the subsequent water quality conditions to determine whether or not water quality declined following treatment. Even though it couldn't make use of it, the County asked the Commission to grant approval for installation of the pipe to be attached to the wood bulkhead/groin for possible future use. The County agreed not to use the extended pipe unless the Commission approved an amendment. As more fully detailed below, subsequent water quality testing showed that the treated water discharged into the scour pond did become re-polluted. Thus, the County requested approval to temporarily use the extended pipe and to monitor the results. The applicant has been operating the UV treatment facility with this alternate outfall location for the past two years under two temporary trial periods approved by 5-06-093-A1 and 5-06-093-A2. Those amendments were approved as

immaterial amendments by the Commission. The water quality improvements were positive. Furthermore, no significant changes to the size of the scour pond were observed.

Therefore, the applicant currently proposes amendment A3 to CDP 5-06-093 to permanently use the extended pipe to discharge the treated water near the surf zone. Similar to how it functioned temporarily, the UV treated urban runoff would be conveyed in an 8-inch diameter PVC discharge pipe from the tail end of the UV device, along the bulkhead/groin, and into the high intertidal surf zone of the beach (closer to the ocean) and mostly bypassing the scour pond. Although the pond would be mostly bypassed, the applicant has shown that the pond persists and wildlife usage remains largely unchanged.

Procedural Note:

The Commission's regulations provide for referral of permit amendment requests to the Commission if:

1) The Executive Director determines that the proposed amendment is a material change,
2) Objection is made to the Executive Director's determination of immateriality, or
3) The proposed amendment affects conditions required for the purpose of protecting a coastal resource or coastal access.

If the applicant or objector so requests, the Commission shall make an independent determination as to whether the proposed amendment is material. 14 Cal. Admin. Code 13166.

The proposed amendment was determined to be material because it affects conditions required for the purpose of protecting a coastal resource. Staff is recommending approval of the proposed changes to the special condition because protection of coastal resources will not be adversely effected by the permit amendment.

TABLE OF CONTENTS

APPENDICES
Appendix A – Substantive File Documents

EXHIBITS
Exhibit 1 – Location Map/Project Site
Exhibit 2 – Figure and Description of Alternative Discharge Locations
Exhibit 3 – Water Quality Data from 2010, 2011 and 2012 and Photographic Evidence of Pond/Wetland Size and Shape
Exhibit 4 – Memo from Jonna Engel, Commission Staff Ecologist
Exhibit 5 – Photos of Discharge Pipe along Bulkhead and Discharge Point "C"

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** the proposed amendment to Coastal Development Permit No. 5-06-093-A3 pursuant to the staff recommendation.*

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve a Permit Amendment:

The Commission hereby approves the Coastal Development Permit Amendment on the grounds that the development as amended and subject to conditions, will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit amendment complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that will substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit amendment is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation**. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment**. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land**. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. Conditions Imposed Under Original Permit. Unless specifically altered by this amendment, all standard and special conditions imposed under Coastal Development Permit 5-06-093 remain in effect.

2. Compliance with Proposed Change in Project Outfall Location. The applicant shall undertake development in accordance with the approved treated runoff discharge point. Any proposed changes to the approved final discharge point shall be reported to the Executive Director. No changes to the approved final discharge point shall occur without a Commission amendment to this permit or a new coastal development permit unless the Executive Director determines that no amendment or new permit is legally required.

IV. FINDINGS AND DECLARATIONS:

A. PROJECT LOCATION, PROJECT DESCRIPTION, AND AMENDMENT DESCRIPTION

Poche Beach is a relatively small public beach at the border of Dana Point and San Clemente (at the intersection of Coast Hwy and Camino Capistrano), located between privately owned dry sandy beach areas located upcoast (Beach Road residential community) and downcoast (the Shorecliffs Beach Club and the Capistrano Shores Mobile Home Park) of the site. The M01 channel crosses Coast Hwy and the Orange County Transit Authority (OCTA) railroad tracks via an underground culvert. Water flowing from the concrete culvert discharges onto the sandy beach, where a small pond forms (referred to herein as the 'scour pond') behind a natural sand berm that is created by shifting sand and wave action. This pooled water discharges to the surf zone through breaches in the sand berm created either by heavy storm flows and wave action or manually by County maintenance crews.

The Commission approved CDP 5-06-093 at its June 2007 hearing and issued the permit to the County of Orange in August 2007 for the construction of a filtration and UV light disinfection

treatment system to treat storm and urban runoff on a year round basis from the 4,404 acre Prima Deshecha Cañada watershed drainage channel (M01) to the Pacific Ocean at Poche Beach. The treatment facility is located within the OCTA rail right of way adjacent to Coast Hwy, on a 1,120 square foot pad carved into the slope of the roadbed between the railroad tracks and road, and adjacent to the M01 channel. The structures associated with the facility include an inflatable rubber dam, 10-ft. by 10-ft. wet well, four 8-ft high and 8-ft diameter media filtration tanks, UV light tubes, 5,000 gallon backwash surge tank, water conveyance lines (i.e., suction pump inlet supply line, backwash line, and discharge line) and protective fencing.

The main objective of the project was to reduce bacteria levels from surface water runoff at Poche Beach to prevent beach water bacteria concentrations rising to levels that would require environmental health beach postings under California law (Health and Safety Code, § 115915). Treatment is directed at fecal indicator bacteria. Secondary benefits included reduction of suspended solids, turbidity, oil, grease, nutrients and heavy metals in the water trapped by media filters prior to discharge.

As approved by CDP 5-06-093, the project collects, filters and disinfects urban storm and dry weather runoff. Once treated, 90-97% of the water is discharged/outfalls at the end of the culvert channel onto Poche Beach (at the scour pond/wetland) as close to the original outfall as possible in order to mimic pre-existing conditions and thereby not cause any physical change to the hydrology of the pond and no net loss of wetlands. The remaining 3-10% is discharged to the sewer as filter backwash.

The Commission reviewed the following four different water outfall alternatives at its June 2007 hearing:

> *Alternative A1 – The applicant's originally preferred alternative*. An 8" diameter rigid PVC discharge pipe would convey the treated runoff water from the UV treatment facility along the existing concrete channel and wood residential bulkhead to a point 50-75 feet beyond the end of the bulkhead directly into the surf zone. Two concrete piles would support the rigid pipe beyond the existing bulkhead. There would be a potential for the pipeline and piles to be exposed by large storm flows and/or large ocean waves. No additional erosion protection measures were proposed with this option.
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> *Alternative A2 – Flexible buried pipe.* An 8" diameter rigid PVC discharge pipe would convey the treated runoff water from the UV treatment facility along the existing concrete channel and wood residential bulkhead where a flexible pipe would be attached to the PVC pipe and would extend 50-75 feet beyond the bulkhead directly into the surf zone. The flexible pipe would be buried with several inches of sand to discourage tampering and prevent tripping of beach-goers. A heli-coil type anchor would be installed into the sand at the end of the flexible pipe to hold the pipe in place. No additional erosion protection measures were proposed with this option. The flexible pipe would be removed from the beach area during large storm flows.
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> Alternative *C – Discharge at the end of the existing adjacent bulkhead.* An 8" diameter rigid PVC discharge pipe would convey the treated runoff water from the UV treatment facility along the existing concrete channel and across a wooden residential bulkhead and

discharging at the end of the bulkhead at the seaward most end of the scour pond, closer to the surf zone.

Alternative D - The discharge outlet located at the channel immediately after water diversion. After the treatment, water would be conveyed in an 8" diameter rigid PVC pipe connected to the existing concrete box channel wall and would discharge at the upper beach, where the concrete channel ends and a scour pond forms on the beach, slowly emptying out into the surf zone.

The Commission ultimately approved Alternative D because it mimicked existing hydrologic conditions for the scour pond, which delineated as a wetland. Exhibit #2 provides a depiction and description of discharge locations "A2," "C" and the originally approved discharge location "D." The County hadn't chosen Alternative D for their project because it expected the treated water to become re-polluted if it was simply discharged back into the scour pond. However, the County had no evidence to support that assertion. So, the County agreed to carry out Alternative D and to monitor the subsequent water quality conditions to determine whether or not water quality declined following treatment. Even though it couldn't make use of it, the County asked the Commission to grant approval for installation of the pipe attached to the wood bulkhead (as described in in alternatives –A2 and C), for possible future use. The County agreed not to use it unless the Commission approved an amendment. As more fully detailed below, subsequent water quality testing showed that the treated water discharged into the scour pond did become re-polluted. Thus, the County requested approval to temporarily use the pipe outfall and to monitor the results. The results were positive.

The applicant currently proposes amendment A3 to CDP 5-06-093 to permanently change the treated water outfall from its approved location at the end of the culvert channel to a new permanent outfall at discharge location "C" at the end of the adjacent wood bulkhead. The UV treated urban runoff would be conveyed in an 8-inch diameter PVC discharge pipe from the tail end of the UV device along the channel, attached to an adjacent wood bulkhead on Poche Beach (that runs perpendicular to the shoreline and protects a residence upcoast of this public beach) with a discharge point/outfall closer to the ocean and mostly bypassing the scour pond (Exhibit #2). The applicant has been operating the UV treatment facility with this alternate outfall location "C" for the past two years under two temporary trial periods approved by 5-06-093-A1 and 5-06-093-A2. Those amendments were approved as immaterial amendments by the Commission.

Background – Previous Commission Action on Subject Site

Immaterial Amendment 5-06-093-A1 reported to the Commission at its May 2011 hearing: Relocate the outflow discharge from the current location at the mouth of the channel, to the high intertidal zone of the beach, for a demonstration trial period during the summer, June-August 2011. The proposed discharge would utilize the existing rigid 8" diameter PVC discharge pipe along an adjacent wood bulkhead connected to a buried flexible 50-foot long PVC pipe extension to discharge the treated water directly to the high intertidal zone bypassing existing scour pond. Monitor flexible pipe, water quality, pond size/water levels for the duration of the trial and provide a final report with trial findings and recommendations. Repair a broken section of the 8" diameter PVC discharge pipe along the wood bulkhead. Repair work requires a minor

breach of the sand berm (10' wide and 4' deep) to allow wave action to disperse sand and lower the pond water level sufficiently for access to damaged pipe section. Return to previously approved outfall at the end of the trial period. A new permit amendment is required for a permanent change to the project. *The buried flexible pipe option was not tested during this short trial period due to objections by the Regional Water Board. Instead the outfall was at the end of the PVC pipe connected to the adjacent wood bulkhead.*

Immaterial Amendment 5-06-093-A2 reported to the Commission at its April 2012 hearing: Relocate the outflow discharge from the current location at the mouth of the channel, to the high intertidal zone of the beach, for a second demonstration trial, this time for a longer duration period of 1-year from April 15, 2012 through April 15, 2013. The proposed discharge would utilize the existing rigid 8" diameter PVC discharge pipe along an adjacent wood bulkhead and discharge the treated water at the end of the wood bulkhead closer to the intertidal zone bypassing the existing beach pond completely. Monitor flexible pipe, water quality, pond size/water levels for the 1-year duration of the trial and provide a final report with trial findings and recommendations. A new permit amendment is required for a permanent change to the underlying Coastal Development Permit 5-06-093.

B. MARINE ENVIRONMENT AND WATER QUALITY

Section 30230 of the Coastal Act states:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Section 30233 of the Coastal Act states in part:

> *(a)The diking , filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where*

there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

Marine Environment - Habitat

At the outfall of the Prima Deshecha Cañada (M01) drainage channel to the Pacific Ocean at Poche Beach, a scour pond forms where urban runoff from the 4,404 acre Prima Deshecha Cañada watershed water collects prior to reaching the Pacific Ocean. During high tide, wave action builds up a sand berm higher than the elevation of sand at the end of the residential bulkhead. The scour pond is located adjacent to the bulkhead and is several feet lower still. The pond is fed by the flow coming down the channel and from ocean wave run-up. The pond water breaches the sand berm and slowly drains out when the tide recedes. The pond water elevation rises again when the sand berm is later reformed by tide action. The tide cycle continues this process. The scour pond has a sandy bottom and consists of open water, but does not support vegetation or fish. The Poche Beach area is a coastal habitat that primarily supports seagulls, but may also be utilized by other shorebirds and waterfowl.

A 2002 biological assessment and wetlands delineation determined that the entire 0.132 acre pond area surveyed was a wetland based solely on hydrology because it did not support hydrophytic vegetation or hydric soils. In addition, the biological assessment determined that the pond did not provide habitat for any sensitive plant or wildlife species however it was used consistently by seagulls, other shorebirds, and waterfowl.

The Commission approved the project "Alternative D" which returns the treated water back into the pond/wetland as close to the original outfall as possible to mimic pre-existing conditions. As the water is only temporarily diverted to the UV treatment to remove bacteria, the treatment itself was considered an allowable use under Section 30233 as an incidental public service. The Commission found that discharging the treated runoff at the end of the culvert channel and back into the pond/wetland would be the "less environmentally damaging alternative" as it would mimic the existing condition and thereby not cause any physical change to the hydrology of the pond and no net loss of wetlands.

However, the applicant's favored alternative was "Alternative A1" for an 8" diameter rigid PVC discharge pipe that would convey the treated runoff water from the UV treatment facility along the existing channel wall, then along the residential bulkhead and discharged at a point 50 feet beyond the end of the bulkhead at the surf zone; requiring two concrete piles to support the rigid pipe beyond the adjacent bulkhead. To address possible adverse public access impacts that may result from a rigid pipe bisecting the beach into the surf, the applicant proposed "Alternative A2" which utilized a flexible pipe buried with several inches of sand to discourage tampering and prevent tripping of beach-goers with a heli-coil type anchor installed into the sand at the end of the flexible pipe to hold the pipe in place. The flexible pipe could be removed from the beach area during large storm flows.

The applicant favored Alternatives A1 and A2 as either would completely bypass the pond/wetland. The applicant's concern with implementation of the Alternative D discharge location, was the possible re-contamination of the treated water with bacteria within the scour pond before it ultimately reached the surf zone. Therefore, Special Condition #2 of the original CDP 5-06-093 required a Water Quality Monitoring Plan which also allowed the applicant to apply for a permit amendment to change the outfall location if water quality data indicated a persistent failure of AB 411water quality standards was due to re-contaminated discharge from the pond.

Construction of the treatment facility was completed in 2009, initial water quality data provided by the applicant from 2010 operations demonstrated the ineffective nature of this discharge location in improving surfzone water quality. Therefore, the Commission approved a 3-month demonstration trial of a discharge at the end of the rigid pipe along the wood bulkhead (still discharging into the pond, but closer to its outlet to the ocean) as an Immaterial Amendment (-a1). The Commission later approved an extension of the demonstration trial (-a2) for an additional 12-month period in order to allow for more data collection. In addition to water quality data, the Commission requested the applicant monitor the outfall pipe at the end of the wood bulkhead and to monitor the pond size/water levels to determine the effects of the alternative outfall on the pond/wetland.

The applicant has submitted visual observations documented through photographs for the 2011 August thru October period of operations when the treated outfall was discharged directly into the pond (Exhibit #3, page #3) and photographs of the pond configuration during May thru August 2012 with the alternative outfall at the end of the wood bulkhead (Exhibit #3, page #5). The size of the pond remained relatively stable, despite the treated runoff discharging downstream of the pond and closer to the surf zone. It is the applicant's belief that a reasonably uniform pond area and volume would still be sustained through 1) periodic channel diversion overflow due to episodic high runoff events which exceed treatment plant capacity; 2) inflow from higher than average high tides one to several times per month; and 3) a scour hole varying between 6-11' deep within the pond relative to its outlet control elevation, which prevents a significant volume from freely draining to the ocean. The Commission's staff ecologist, Dr. Jonna Engel agrees (see Exhibit #4) with the applicant's conclusion that these factors will continue to maintain a consistent supply of water for the pond to maintain its minimal wetland functionality. During a June 2012 site visit, Dr. Engel verified via personal observations that the scour pond physical and biological characteristics are consistent with the 2002 biological assessment findings; that is, in its current state, the scour pond is not likely to provide habitat for sensitive plant or wildlife species such as southern steelhead or tidewater goby. Neither Southern steelhead nor tidewater goby have been identified within three miles of Poche Beach. Southern steelhead have not been found in the Prima Deshecha Cañada watershed drainage channel (M01) presumably because the box culvert near Pacific Coast Highway and drainage channelization, as well as water treatment facility infrastructure, prevent fish passage. And tidewater goby have not been found in the scour pond although low salinity estuaries and lagoons are the preferred habitats for this species. The scour pond is often cut off from the ocean and this combined with poor water quality could account for the absence of gobies.

Although the scour pond that forms at the Prima Deshecha Cañada, M01 drainage channel outlet does not provide habitat for any sensitive plant or wildlife species, it does provide habitat for

wildlife. The proposed project amendment to permanently relocate the treated water discharge will not result in loss of the scour pond (wetland) and therefore the pond's limited wetland functions will persist – the scour pond will continue to provide a source of water, rest area, and preening location for shorebirds and a low salinity water source should tidewater gobies colonize the area; the project will not have any biologically adverse impacts. Furthermore, it is important to note that the pond is periodically washed away through large winter storm flows or exceptionally high tide/ocean swell events, and is then recreated by the formation of the oceanside sand bar; therefore, pond presence is naturally ephemeral/inconsistently present.

The proposed project amendment to permanently change the treated runoff outfall closer to the high intertidal zone of the beach does not result in any fill, dredging, or diking of coastal waters. No issues regarding Section 30233 of the Coastal Act are raised by the proposed project.

As conditioned, the development will not result in significant degradation of adjacent habitat, recreation areas, or parks and is compatible with the continuance of those habitat, recreation, or park areas. Therefore, the Commission finds that the project, as conditioned, conforms with sections 30230 and 30231 of the Coastal Act.

Marine Environment – Water Quality

The water quality report from 2010 during the UV treatment plant's first year of operation conclusively demonstrated that operation of the treatment plant using discharge location "D" was ineffective in delivering the intended water quality improvements to the surf zone, due to complete comingling and bacterial recontamination in its passage through the pond.

The 2011 water quality report and findings from a three-month period in 2012 demonstrated that relocation of the discharge location to location "C" resulted in a meaningful improvement in the bacterial quality of runoff discharged to the ocean however mid-pond bacterial levels remained high, exceeding AB411 bacterial level standards (Exhibit #3). Pond outlet bacteria concentrations were reduced substantially in 2011 relative to 2010 but notwithstanding improvements realized from relocation of the treated water discharge site, pond bacterial concentrations were still unacceptably high. Therefore there was a reduced dispersive effect on bacteria concentrations in the surf zone that was observed in 2011 compared to the dispersive effect observed in 2010. In 2010, there was an average 1 -2 order magnitude (91% - 97%) reduction in all bacteria geometic means (the geometric mean is a type of mean or average, which indicates the central tendency or typical value of a set of numbers by using the product of their values, as opposed to the arithmetic mean which uses their sum) from the pond outflow to the surf zone samples collected 25 yards up and down coast from the outlet. By comparison, in 2011 there was only a 20 – 67% reduction in geometric means observed, with the lower 20% reduction pertaining to the critical enterococcus indicator. The cause of the lower surf zone dispersive effect observed in 2011 remained undetermined. The applicant found that the most likely cause is contributory bacteria loading from the persistent presence of hundreds of shorebirds along the exposed intertidal area between the beach pond and surf zone. Hundreds of shorebirds congregate at Poche Beach and the Poche Beach pond/wetland as it is the nearest source of water to the Prima Deshecha landfill a couple of miles inland of the Prima Deshecha Cañada outfall onto Poche Beach. The applicant, the Orange County Watershed division intends to explore with the Orange County Waste & Recycling division methods by which feeding opportunities at the landfill could be reduced or eliminated. Furthermore, Orange County will

continue to cooperate with the City of San Clemente in the City's ongoing efforts to identify and control sources of urban runoff and fecal bacteria within the Prima Deshecha Cañada watershed and runoff reduction to further improve treatment efficiency and outflow quality onto Poche Beach.

In a staff communication on January 14, 2013, Jack Gregg, Ph.D., R.G., Commission Water Quality Program Supervisor expressed agreement with the data results that the treated runoff discharge point at location "D" results in the re-contamination of the treated water in the pond and agrees the applicant has demonstrated the need to move the outfall to location "C" at the end of the wood bulkhead in order to provide increased water quality results after his review of the annual water quality reports submitted by the applicant. He further agrees that the applicant's hypothesis that the seagulls and other shorebirds that congregate at this portion of the beach may make a significant contribution to high levels of pathogen indicators.

Furthermore, the applicant has expressed the possibility of a future permit amendment to conduct a seasonal (spring to fall) demonstration trial of discharge Alternative A2 utilizing a flexible pipe extension from the end of the wood bulkhead 50-75 feet directly into the beach surf zone. Should the applicant still consider future changes to the location of the treated water outfall, specifically one that would completely bypass the scour pond, the applicant would need to continue their water quality and pond/wetland monitoring to demonstrate the existence of a problem, and then propose a subsequent detailed plan for a trial project and a monitoring program, to determine whether the proposed trial results in further water quality improvements and whether or not it would result to any adverse impacts to the wetland function of the existing scour pond.

Therefore, **Special Condition #2** requires any future project changes including further changes to the treated water outfall location whether on a temporary/trial basis or permanent basis return to the Commission for review. As conditioned, the Commission finds that the proposed development conforms with Sections 30230 and 30231 of the Coastal Act regarding the protection of water quality to promote the biological productivity of coastal waters and protect human health.

C. PUBLIC ACCESS

Section 30210 of the Coastal Act states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Section 30211 of the Coastal Act states:

> *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

Section 30221 of the Coastal Act states:

> *Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

The applicant is currently utilizing the discharge location "C" under a one year trial period from April 15, 2012 through April 15, 2013.

An 8" diameter approximately 176 feet long rigid PVC discharge pipe is secured along an adjacent residential wood bulkhead and conveys the treated runoff water from the UV treatment facility discharging at the end of the bulkhead at the seaward most end of the scour pond, closer to the surf zone. In March 2012 the applicant installed a 10-inch Tideflex "duckbill" style check valve at the discharge end of the pipe (see Exhibit #5). The valve prevents tidal inflow and deposition of sand and debris within the pipe and also serves to reduce and redirect turbulence and energy of the treated outflow discharge away from the wood bulkhead and adjacent residential structure.

During review of the original underlying permit, staff expressed concerns regarding potential adverse impacts upon horizontal public beach access, however, these concerns were associated with discharge location "Alternative A1/A2," a pipe extension 50-75 feet from the end of the wood bulkhead as the pipe could potentially serve as a visual barrier to beachgoers by dividing the public beach between the "open" beach and the portion of the beach in front of private residences, giving this portion of the beach the appearance of a "private" beach. Additionally, the pipe may be a potential trip hazard to beachgoers. The proposed project amendment is to make permanent discharge location "C" which during the demonstration trial has not proven to have any adverse impacts to public coastal access. The discharge does not intrude into the beach intertidal areas typically used by recreational beachgoers and people walking along the beach. The applicant provided photographs of the discharge location "C" from May-August of the trial operation period showing the discharge location under various exposed, semi-submerged, and buried conditions due to natural and seasonal beach profile changes.

Commission staff, the City, and the County (applicant) have not received public complaints regarding access impacts during the ongoing use of discharge location "C" during the trial period. The Commission, therefore finds that the proposed project amendment is consistent with Section 30210, 30211, 30221 of the Coastal Act.

D. LOCAL COASTAL PROGRAM

Coastal Act section 30604(a) states that, prior to certification of a local coastal program ("LCP"), a coastal development permit can only be issued upon a finding that the proposed development is in conformity with Chapter 3 of the Act and that the permitted development will not prejudice the ability of the local government to prepare an LCP that is in conformity with Chapter 3.

The development that is the subject of this permit amendment is located within multiple jurisdictions, including the cities of Dana Point and San Clemente. The Commission certified the LCP for the City of Dana Point in 1989. The Commission certified the Land Use Plan for the City of San Clemente in 1988, and certified an amendment in 1995. On April 10, 1998, the Commission certified with suggested modifications the Implementation Plan portion of the Local Coastal Program. The suggested modifications expired on October 10, 1998. The City re-submitted on June 3, 1999, but withdrew the submittal on October 5, 2000. Therefore, the Commission retains permit issuance authority for the City of San Clemente.

The proposed development includes elements within the City of San Clemente (an uncertified jurisdiction) and portions within the City of Dana Point (a certified jurisdiction). The portion of the project within the uncertified jurisdiction of San Clemente is also located within an area subject to the public trust and is therefore within the Commission's original permit jurisdiction under Coastal Act Section 30519(b). The standard of review for this portion of the project is therefore the Chapter 3 policies of the Coastal Act. The proposed development is also occurring within a certified area under the Dana Point Local Coastal Program, however, where the City would typically have jurisdiction over this permit. Section 30601.3 of the Coastal Act provides the necessary guidelines regarding review of a coastal development permit application, processing criteria, and standard of review for such cases in which a proposed project requires a coastal development permit from both a local government with a certified local coastal program and the Commission. The standard of review for a consolidated coastal development permit application submitted pursuant to Section 30601.3(a) shall follow Chapter 3 (commencing with Section 30200), with the appropriate local coastal program used as guidance.

The proposed development is a water treatment facility that crosses the boundary of the Commission's original jurisdiction into areas where the Dana Point LCP is effective. Typically, development located within a certified area requires a coastal development permit from the certified local government. However, in this case, the proposed development that is located in the Commission's original jurisdiction is physically integrated with the portion of the proposed development that is outside the area of original jurisdiction (i.e. in the City's permit jurisdiction). Pursuant to Section 9.69.030 of the implementation program of the City's certified LCP, the Commission shall be the responsible agency for issuance of any Coastal Development permit for the entire development if the development is physically integrated and lies partially within the Commission's original jurisdiction and partially within the City's permit jurisdiction. In such cases the City of Dana Point's LCP specifies that the standard of review is Chapter 3 of the Coastal Act. The City of Dana Point provided written concurrence to the Commission regarding the Commission's processing of the original underlying coastal development permit which is the subject of this permit amendment.

The Commission finds the proposed development consistent with the policies in the certified Land Use Plan for San Clemente and with the City of Dana Point Local Coastal Program. Moreover, as discussed herein, the development, as conditioned, is consistent with the Chapter 3 policies of the Coastal Act. Therefore, approval of the proposed permit amendment will not prejudice the City's ability to prepare a Local Coastal Program for San Clemente that is consistent with the Chapter 3 policies of the Coastal Act as required by Section 30604(a).

E. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of Title 14 of the California Code of Regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The County of Orange is the lead agency for purposes of CEQA compliance. A Mitigated Negative Declaration was prepared for this project in 2002 pursuant to the provisions of CEQA. Mitigation measures included a measure to minimize any additional impacts to the public vistas (i.e., prior to approval of plans, a refined grid survey to determine precise site elevations in relation to the existing guard rail would be required to insure that the facility elements remain at, or below, the level of the guard rail); a measure requiring a construction worker parking plan; and a measure to ensure the proper easements and encroachments are obtained from local agencies plus providing OCTA the right to direct the removal of the facility at any time. Mitigation measures for air quality, water quality, hydrology, recreation, or biological resources were not deemed necessary.

The proposed project is located in an urban area. Infrastructure necessary to serve the project exists in the area (i.e., sewer and electric). The originally approved project was conditioned in order to be found consistent with the resource protection policies of the Coastal Act. As proposed and conditioned, the proposed project amendment was found consistent with the public access, water quality, and habitat protection policies of the Coastal Act. An additional mitigation measure requiring future improvements/changes to the project to return to the Commission for review is included.

The permit amendment as proposed, has no feasible alternatives or feasible mitigation measures available, beyond those previously required, which would substantially lessen any significant adverse effect which the activity may have on the environment. Therefore, the Commission finds that the proposed permit amendment, as previously conditioned to mitigate the identified effects, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A

SUNSTANTIVE FILE DOCUMENTS

CDP 5-06-093(Orange County)

CDP 5-06-093-A1(Orange County)

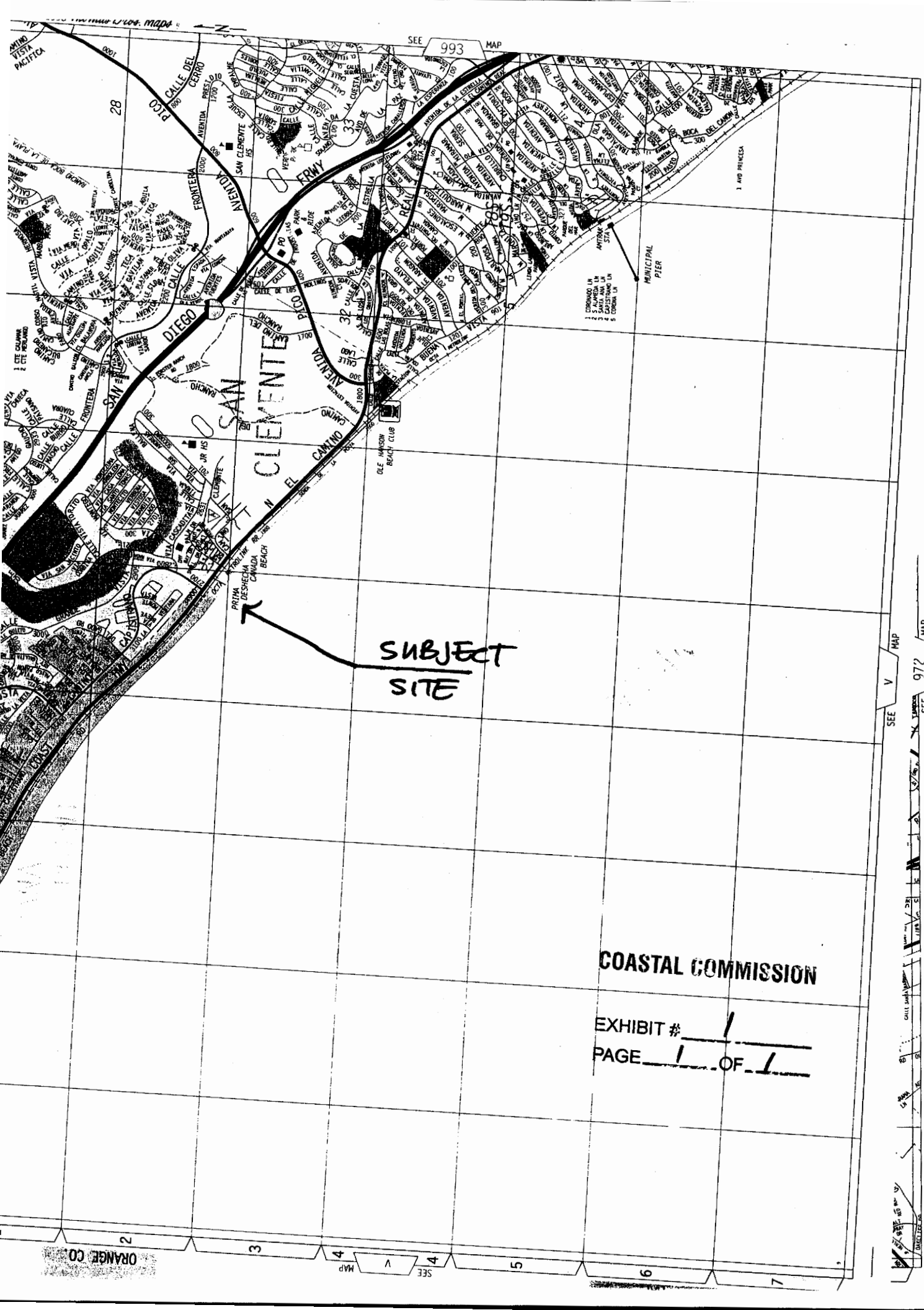
CDP 5-06-093-A2(Orange County)

Poche Clean Beach Project 2011 Annual Water Quality Report, submitted to the San Diego Regional Water Quality Control Board as a condition of Clean Water Act Section 401 Water Quality Certification (No. 06C-021); prepared by County of Orange, OC Public Works, OC Watershed, dated March 1, 2012

Poche Clean Beach Project 2010 Annual Water Quality Report, submitted to the San Diego Regional Water Quality Control Board as a condition of Clean Water Act Section 401 Water Quality Certification (No. 06C-091); prepared by County of Orange, OC Public Works, OC Watershed, dated March 1, 2011

Poche Clean Beach Project Discharge Pipe Inspection Report 2012, submitted to the California Coastal Commission in partial compliance with Coastal Development Permit No. 5-06-093; prepared by County of Orange, OC Public Works, OC Watershed, dated October 30, 2012

Poche Clean Beach Project Discharge Pipe Inspection Report 2011, submitted to the California Coastal Commission in partial compliance with Coastal Development Permit No. 5-06-093; prepared by County of Orange, OC Public Works, OC Watershed, dated January 5, 2012



COASTAL COMMISSION

EXHIBIT # 1

PAGE 1 OF 1

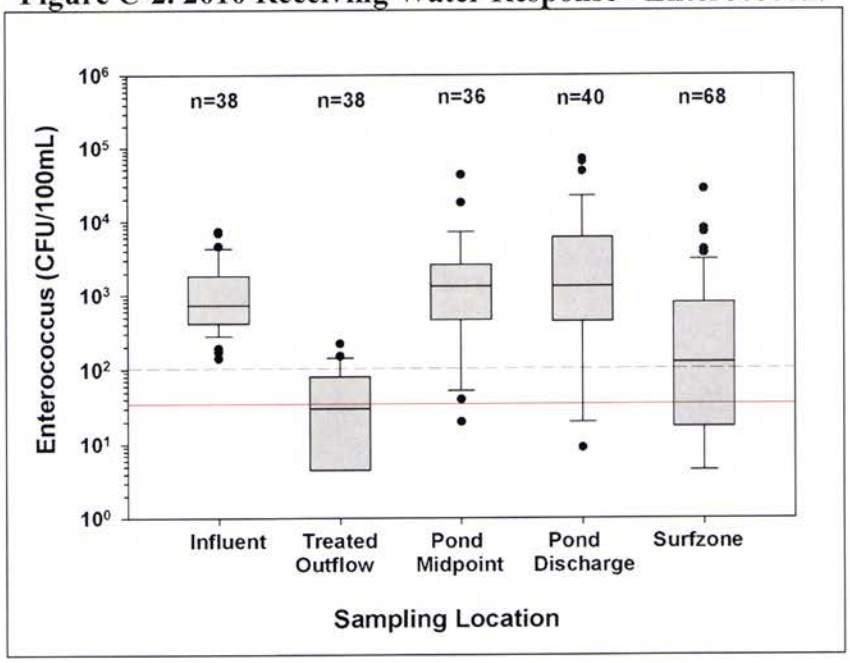
DESCRIPTION OF ALTERNATIVE DISCHARGE LOCATIONS

Figure A-1. Poche Clean Beach Project - Alternative Discharge Locations

- Alternative "A2" - end of flexible pipe extension, to be attached to end of rigid pipe secured to wooden bulkhead along upcoast side of pond. This extension alternative was originally proposed by County to allow treated outflow discharge to consistently bypass pond. To date this alternative has not been implemented.
- Alternative "D" – discharge to channel immediately downstream of treatment facility at the mouth of channel by the railroad trestle into the inland end of pond. This was the location approved by Coastal Commission in the original Coastal Development Permit. This was the treated outflow discharge location during the 2010 operational season.
- Alternative "C" – discharge at end of rigid pipe secured to wooden bulkhead. Pipe construction (but not use of) was permitted under the original CDP. This was the treated outflow discharge location during the 2011 and present 2012 operational seasons, under temporary approval amendments of the CDP.

Figure C-1. 2010 Monitoring Locations

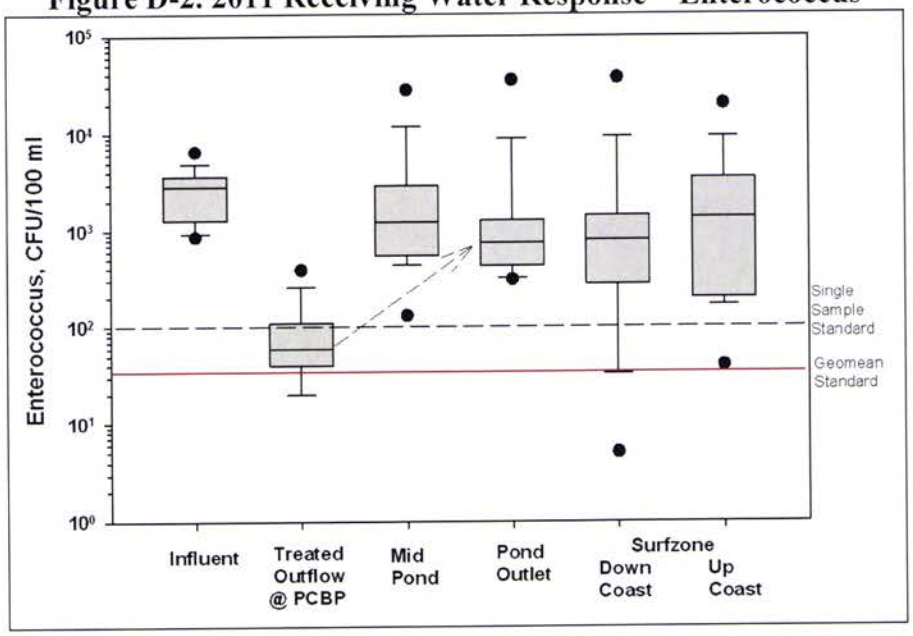
Figure C-2. 2010 Receiving Water Response - Enterococcus



- Channel runoff treatment resulted in a 95% average reduction in enterococcus, the primary fecal bacteria indicator exceeded at Poche Beach (Figure C-2, Influent to Treated Outflow).
- Despite reduced enterococcus in treated runoff, pond discharge enterococcus returned to untreated levels with passage and recontamination through the pond (Figure C-2, Treated Outflow to Pond Discharge), with no receiving water quality benefit discerned by treatment. Pond discharge enterococcus consistently exceeded AB411 standards.
- Additional information is in *Poche Clean Beach Project 2010 Annual Water Quality Report, County of Orange, 2011*, previously submitted to the Coastal Commission.

Figure D-1. 2011 Monitoring Locations

Figure D-2. 2011 Receiving Water Response – Enterococcus



- Treated runoff discharge relocation to end of rigid pipe at ocean end of the pond resulted in an average 60% effective bypass of pond by treated runoff, based on enterococcus.
- While pond outlet enterococcus geomean was 36% lower than mid pond levels, there was still sufficient commingling and recontamination with untreated pond water that pond outlet enterococcus exceeded AB411 standards (Figure D-2, Treated Outflow to Pond Outlet).
- However, 2011 pond outlet enterococcus was also 36% lower than 2010 pond outlet levels, despite much higher 2011 channel influent levels, higher 2011 mid-pond levels, and slightly higher 2011 treated outflow levels (Figure D-3). Results demonstrated that discharge site relocation to Alternative C delivered a better quality outflow to the beach.

- Pond area and configuration remained stable throughout 2011 operations (Figure D-4).
- Full information is in *Poche Clean Beach Project, 2011 Annual Water Quality Report, County of Orange 2012*, previously submitted to the Coastal Commission.

Figure D-3. Enterococcus Receiving Water Response-2011 vs. 2010

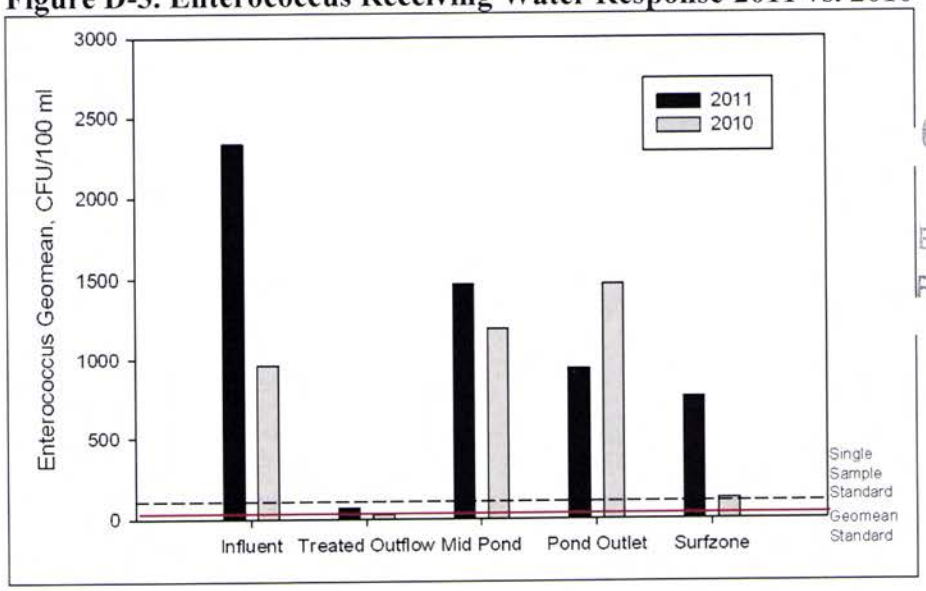
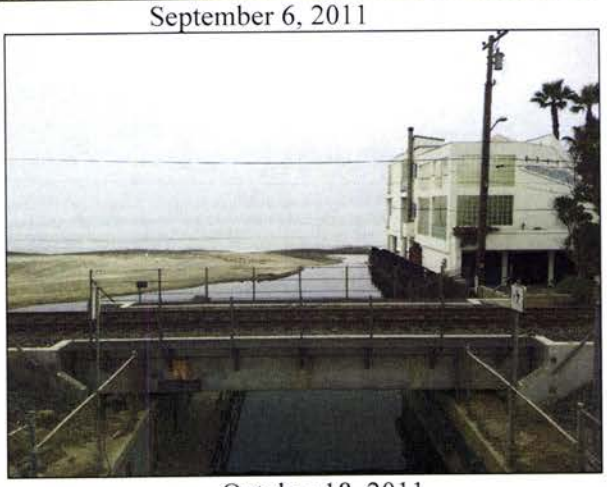


Figure D-4. Pond Configuration During 2011 Treatment Operations

August 16, 2011

September 6, 2011

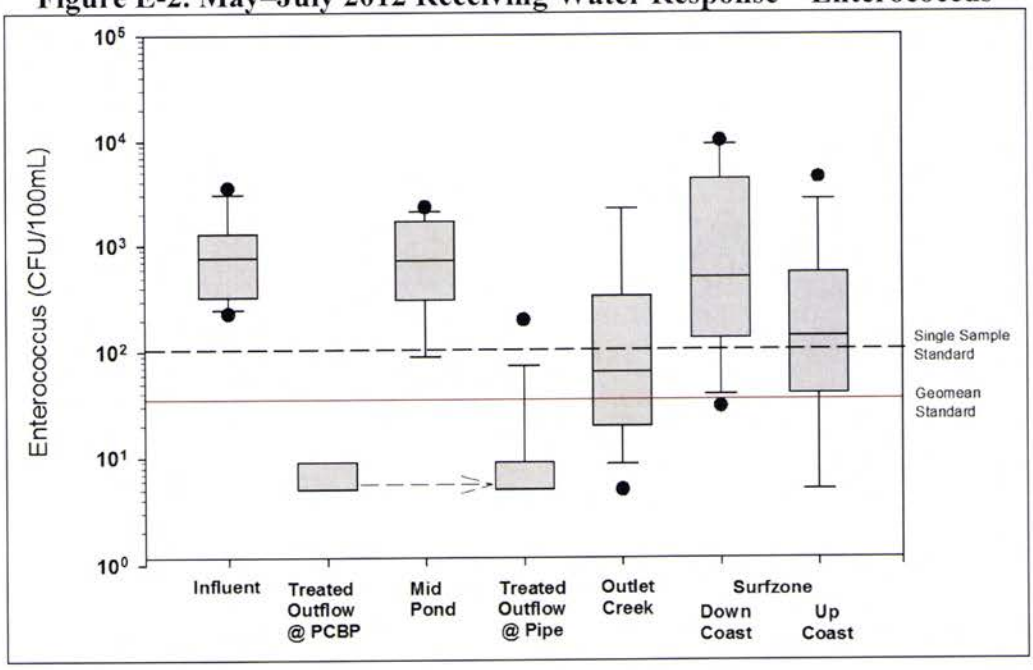
September 20, 2011



October 18, 2011

Figure E-1. 2012 Monitoring Locations

Figure E-2. May–July 2012 Receiving Water Response – Enterococcus



- Treated runoff bacteria were consistently below detectible limits of 9 CFU/100ml (Figure E-2, Influent to Treated Outflow), based on 14 sample sets collected during May through July 2012.
- Treated runoff generally discharged downstream of the pond, averaging a 75% effective pond bypass. Outlet enterococcus geomean was 88% lower than mid pond levels (Figure E-2, Mid Pond to Outlet Creek), an improvement from the 36% reduction observed in 2011. Results affirmed that discharge relocation to Alternative C delivered better quality outflow to the beach.
- Despite treated runoff discharge downstream of pond, pond outflow was sufficient to diminish the water quality benefit of outflow to the beach (Figure E-2, Treated Outflow to Outlet Creek).

- Increased enterococcus levels in the surfzone relative to pond outlet were attributable to large numbers of shorebirds congregated along the intertidal and nearshore waters of the beach.
- Pond area configuration remained generally uniform throughout 2011 operations, despite sand bar modifications on 7/17/12 and 7/31/12 to maintain public beach access (Figure E-3).

Figure E-3. Pond Configuration During 2012 Treatment Operations

May 2, 2012

May 30, 2012

June 21, 2012

July 2, 2012

July 26, 2012

August 9, 2012

ATE OF CALIFORNIA – THE RESOURCES AGENCY

EDMUND G BROWN JR, *Governor*

CALIFORNIA COASTAL COMMISSION
OUTH CENTRAL COAST AREA
SOUTH CALIFORNIA ST., SUITE 200
NTURA, CA 93001
05) 585-1800

MEMORANDUM

FROM: Jonna D. Engel, Ph.D., Ecologist

TO: Liliana Roman, Coastal Analyst

SUBJECT: Poche Clean Beach Project

DATE: January 16, 2013

Documents Reviewed:

County of Orange, Public Works Department. July 2012. Relevant receiving water response findings and scour pond photographic imagery, submitted as Exhibit E in the CDP Poche Clean Beach Project application

County of Orange, Public Works Department. 2011. Annual Water Quality Report,

County of Orange, Public Works Department. 2010. Annual Water Quality Report,

Tetra Tech Inc. 2002. Environmental Assessment, Poche Beach BMP Treatment System, County of Orange, California

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On June 13, 2012, I visited Poche Beach (Poche Clean Beach Project) in Orange County with Liliana Roman, Coastal Analyst, and Orange County Public Works Department (OCPWD) staff George Edwards, Jim Volz, and Maher Al Masri. The purpose of our site visit was threefold; 1) to tour the water treatment facility; 2) to examine the scour pond and beach physical and biological characteristics; and 3) to discuss OCPWD's proposal to permanently relocate the treated urban runoff water discharge point from immediately downstream of the treatment facility to beyond the scour pond directly into the ocean.

Poche Beach has a history of scoring poorly for ocean water quality; it has consistently exceeded AB411's water quality standards for bacterial load (enterococcus levels). In an effort to improve ocean water quality, in 2009, the OCPWD installed a filtration and UV light disinfection treatment system to treat storm and urban runoff on a year round basis from the 4,404 acre Prima Deshecha Cañada watershed drainage channel (M01) to the Pacific Ocean at Poche Beach. Initially the water treatment facility did not meet the standards OCPWD was told to expect. However, following recalibration and replacement of some of the UV equipment, the treated water was found to remove greater than 95% of the bacterial load. Treated water was initially discharged

immediately downstream of the treatment facility, into the scour pond that is usually present between the drainage channel outlet and the beach. Despite the reduced bacteria in the treated runoff, scour pond discharge water returned to untreated bacterial levels with passage and recontamination through the pond. These results demonstrated that the scour pond itself is a source of bacteria. This is not surprising given that most days the pond supports hundreds of shore birds, especially seagulls, who rest, drink, and preen in and around the pond. In an effort to avoid treated water bacterial re-contamination, OCPWD was permitted to temporarily adjust the location of the treated water outflow to beyond the scour pond. This arrangement improved the quality of the water entering the ocean. OCPWD is now applying for a permit to permanently discharge treated water beyond the scour pond.

When the Commission permitted the water treatment facility in 2007, one of the conditions required OCPWD to ensure persistence of the scour pond in recognition of its status as a wetland. A 2002 biological assessment and wetland delineation determined that the pond was a wetland based solely on hydrology because it did not support hydrophytic vegetation or hydric soils. In addition, the biological assessment determined that the pond did not provide habitat for any sensitive plant or wildlife species but that it was used by seagulls, other shorebirds, and waterfowl. During our June 2012 site visit my observations of the physical and biological characteristics of the scour pond were consistent with the 2002 biological assessment findings; that is, in its current state, the scour pond is not likely to provide habitat for sensitive plant or wildlife species such as southern steelhead or tidewater goby. Neither Southern steelhead nor tidewater goby have been identified within three miles of Poche Beach. Southern steelhead have are not been found in the Prima Deshecha Cañada watershed drainage channel (M01) presumably because the box culvert near Pacific Coast Highway and drainage channelization, as well as water treatment facility infrastructure, prevent fish passage. And tidewater goby have not been found in the scour pond although low salinity estuaries and lagoons are the preferred habitats for this species. The scour pond is often cut off from the ocean and this combined with poor water quality could account for the absence of gobies.

It is important to recognize that OCPWD's application to permanently relocate the treated water discharge point will not result in loss of the scour pond (wetland) and therefore the pond's limited wetland functions will persist – the scour pond will continue to provide a source of water, rest area, and preening location for shorebirds and a low salinity water source should tidewater gobies colonize the area. Several factors ensure that the scour pond water volume will be maintained:

1) drainage channel overflow diversion occurs one or more times per week during morning periods when landscape irrigation-augmented channel flow exceeds treatment plant capacity;
2) inflow from higher than average high tides one or more times per

3) the 6-11 feet deep scour hole relative to the pond outlet elevation prevents complete drainout to the ocean.

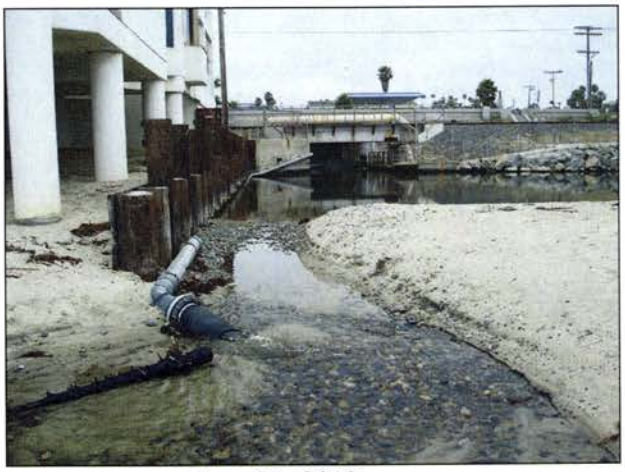
These factors ensure consistent and sufficient pond surface area and volume to meet the limited functions the pond provides. Since the scour pond's limited wetland functions will not be impacted by OCPWD's proposal to permanently relocate the treated urban runoff discharge point to avoid the scour pond, I find that this project does not have any adverse biological impacts. It is important to note that the scour pond is periodically washed away through large winter stormflows or exceptionally high tide/ocean swell events, and is then recreated by re-development of the oceanside sand berm/bar; therefore, the scour pond is naturally ephemeral/inconsistently present.

POCHE CLEAN BEACH PROJECT
DISCHARGE LOCATION ALTERNATIVE C – DISCHARGE LOCATION CONDITIONS

Figure F-1. Discharge Location Conditions During 2012 Treatment Operations

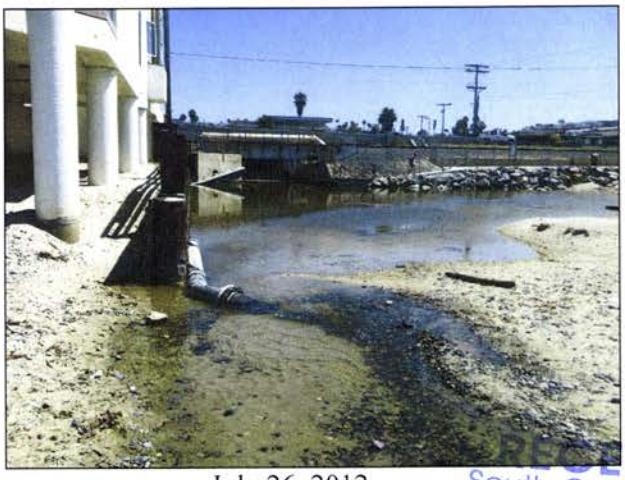
May 2, 2012

May 30, 2012

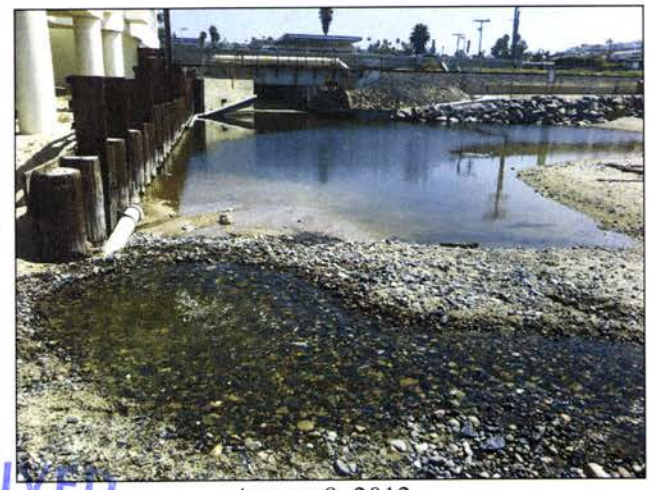


June 21, 2012

July 2, 2012



July 26, 2012



August 9, 2012

. Poche Clean Beach Project - Discharge Pipe Along Bulkhead