CALIFORNIA COASTAL COMMISSION
South Coast Area Office
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W10a

Filed:	2/27/2014
180th Day:	8/26/2014
Staff:	S. Vaughn-LB
Staff Report:	4/24/2014
Hearing Date:	5/14/2014

STAFF REPORT: CONSENT CALENDAR

Application No.:	**5-14-0197**
Applicant:	**Orange County Public Works**
Agent:	Nardy Khan
Location:	Huntington Beach Channel, approximately 800 feet upstream of the Magnolia Street Bridge and Talbert Channel, approximately 225 feet downstream of the Banning Avenue Bridge, City of Huntington Beach
Project Description:	Installation of one debris boom across the Huntington Beach Channel and one debris boom and litter trap across Talbert Channel to facilitate the collection of floating debris.
Staff Recommendation:	Approval with conditions

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** Coastal Development Permit Application No. 5-14-0197 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:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned 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 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 would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS:

This permit 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 of 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:

This permit is granted subject to the following special conditions:

1. Pre-and Post-Construction Eelgrass Survey(s)

A. Pre-construction Eelgrass Survey. A valid pre-construction eelgrass (Zostera marina) survey shall be completed during the period of active growth of eelgrass (typically March through October). The pre-construction survey shall be completed prior to the beginning of construction and shall be valid until the next period of active growth. The survey shall be prepared in full compliance with the "Southern California Eelgrass Mitigation Policy" Revision 8 (except as modified by this special condition) adopted by the National Marine Fisheries Service and shall be prepared in consultation with the California Department of Fish and Wildlife. The applicant shall submit the eelgrass survey for the review and approval of the Executive Director within five (5) business days of completion of each eelgrass survey and in any event no later than fifteen (15) business days prior to commencement of any development. If the eelgrass survey identifies any eelgrass within the project area which would be impacted by the proposed project, the development shall require an amendment to this permit from the Coastal Commission or a new coastal development permit.

B. Post Construction Eelgrass Survey. If any eelgrass is identified in the project area by the survey required in subsection A of this condition above, within one month after the conclusion of construction, the applicant shall survey the project site to determine if any eelgrass was adversely impacted. The survey shall be prepared in full compliance with the "Southern California Eelgrass Mitigation Policy" Revision 8 (except as modified by this special condition) adopted by the National Marine Fisheries Service and shall be prepared in consultation with the California Department of Fish and Wildlife. The applicant shall submit the post-construction eelgrass survey for the review and approval of the Executive Director within thirty (30) days after completion of the survey. If any eelgrass has been impacted, the applicant shall replace the impacted eelgrass at a minimum 1.2:1 ratio on-site, or at another location, in accordance with the Southern California Eelgrass Mitigation Policy. All impacts to eelgrass habitat shall be mitigated at a minimum ratio of 1.2:1. The exceptions to the required 1.2:1 mitigation ratio found within SCEMP shall not apply. Implementation of mitigation shall require an amendment to this permit or a new coastal development permit unless the Executive Director determines that no amendment or new permit is required.

2. Pre-construction *Caulerpa Taxifolia* Survey

A. Not earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development authorized under this coastal development permit (the "project"), the applicant shall undertake a survey of the project area and a buffer area at least 10 meters beyond the project area to determine the presence of the invasive alga *Caulerpa taxifolia*. The survey shall include a visual examination of the substrate.

B. The survey protocol shall be prepared in consultation with the Regional Water Quality Control Board, the California Department of Fish and Wildlife, and the National Marine Fisheries Service.

C. Within five (5) business days of completion of the survey, the applicant shall submit the survey:

(1) for the review and approval of the Executive Director; and

(2) to the Surveillance Subcommittee of the Southern California Caulerpa Action Team (SCCAT). The SCCAT Surveillance Subcommittee may be contacted through William Paznokas, California Department of Fish & Wildlife (858/467-4218) or Robert Hoffman, National Marine Fisheries Service (562/980-4043).

D. If *Caulerpa taxifolia* is found within the project or buffer areas, the applicant shall not proceed with the project until 1) the applicant provides evidence to the Executive Director that all *C. taxifolia* discovered within the project and buffer area has been eliminated in a manner that complies with all applicable governmental approval requirements, including but not limited to those of the California Coastal Act, or 2) the applicant has revised the project to avoid any contact with *C. taxifolia*. No revisions to the project shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

3. Construction Best Management Practices

A**.** The permittee shall comply with the following construction-related requirements:

(1) No construction materials, debris, or waste shall be placed or stored where it may be subject to wave, wind, rain, or tidal erosion and dispersion;

(2) Any and all debris resulting from construction activities shall be removed from the project site within 24 hours of completion of the project;

(3) Construction debris and sediment shall be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged into coastal waters;

(4) Erosion control/sedimentation Best Management Practices (BMP's) shall be used to control dust and sedimentation impacts to coastal waters during construction. BMPs shall include, but are not limited to: placement of sand bags around drainage inlets to prevent runoff/sediment transport into coastal waters; and

(5) All construction materials, excluding lumber, shall be covered and enclosed on all sides, and as far away from a storm drain inlet and receiving waters as possible.

B**.** Best Management Practices (BMPs) designed to prevent spillage and/or runoff of construction-related materials, sediment, or contaminants associated with construction activity shall be implemented prior to the on-set of such activity. Selected BMPs shall be maintained in a functional condition throughout the duration of the project. Such measures shall be used during construction:

(1) The applicant shall ensure the proper handling, storage, and application of petroleum products and other construction materials. These shall include a designated fueling and vehicle maintenance area with appropriate berms and protection to prevent any

spillage of gasoline or related petroleum products or contact with runoff. It shall be located as far away from the receiving waters and storm drain inlets as possible;

(2) The applicant shall develop and implement spill prevention and control measures;

(3) The applicant shall maintain and wash equipment and machinery in confined areas specifically designed to control runoff. Thinners or solvents shall not be discharged into sanitary or storm sewer systems. Washout from concrete trucks shall be disposed of at a location not subject to runoff and more than 50-feet away from a storm drain, open ditch or surface water; and

(4) The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, produced during construction.

4. Conform with Proposed Plan

The applicant shall conform to the proposed installation plan identified in the document submitted with their application and received in the Commission's office on January, 16, 2014 titled Huntington Beach Channel (D01) and Talbert Channel (D02) Trash Boom Project. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

5. Resource Agencies

The permittee shall comply with all requirements, requests and mitigation measures from the California Department of Fish and Wildlife, Regional Water Quality Control Board, U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service with respect to preservation and protection of water quality and the marine and terrestrial environment. Any change in the approved project that may be required by the above-stated agencies shall be submitted to the Executive Director in order to determine if the proposed change shall require a permit amendment pursuant to the requirements of the Coastal Act and the California Code of Regulations.

IV. FINDINGS AND DECLARATIONS:

A. PROJECT LOCATION & DESCRIPTION

The Huntington Beach and Talbert Channels are located near Pacific Coast Highway in Huntington Beach. The Hunting Beach Channel originates south of Adams Avenue, just east of Beach Boulevard and flows south and east for approximately three miles until it meets with Talbert Channel. Talbert Channel originates at Slater Street between Magnolia and Brookhurst Streets and flows south for approximately five miles before converging with the Huntington Beach Channel. Both channels are tidally influenced and both collect storm water runoff from the streets that line them. Water and debris from the channels infiltrates the Magnolia, Brookhurst and Talbert Marshes before flowing into the Pacific Ocean **(EXHIBIT #1)**. In an effort to reduce the amount of debris that flows into the marshes and ocean, Orange County Public Works has proposed to install debris boom systems into each of the channels.

The proposed project requires the instillation of a floating debris boom and net system (the Kepner Plastics TrashNet Debris Control System **(EXHIBIT #2)**) across Huntington Beach Channel approximately 800' upstream of the Magnolia Street Bridge at an existing maintenance bridge **(EXHIBITS #3 & #4)**. The channel is approximately 85' wide at this location. The floating debris boom and net system will be approximately 150' long and consist of an 8" diameter flexible, cylindrical boom section on the water surface and a metal chain sealed in a skirt that will be located below the water surface. The floating barrier will have a 16" extension net (skirt) below the water surface to capture floating and semi-submerged debris while allowing migration of fish. All materials of the boom/net system are manufactured from heavy-duty vinyl coated polyurethane that is abrasion, UV, hydrocarbon and marine resistant.

The boom and net system will be anchored differently on each side of the channel. At the west bank of the channel, a 6" diameter steel post with a reinforced concrete footing will be driven into the earth at the top of the bank outside of the channel. The post will be driven approximately 10' into the ground leaving the top 2 ½' of the post exposed above the ground. The boom will be connected at a fixed point on the post and will be allowed to pivot to adjust to water elevation. The east side anchor will be attached to an existing vertical concrete bridge abutment wall with a steel slide rail which will allow the boom to slide vertically to correspond to the water surface elevation. The slide rail connection will utilize two small trolleys on an "I" beam. The "I" beam will be welded to steel plated mounting straps spaced at 18" intervals along its length. These straps will be mounted to the existing vertical concrete abutment wall using threaded anchor rods set with an epoxy adhesive. This connection will protrude approximately 8" into the channel from the vertical wall. The steel slide rail on the vertical concrete of the east channel wall will be installed by workers on a boat, or barge, in the channel together with workers and a small crane parked on the maintenance road.

The project also proposes a Bandalong Boom and Litter Trap System **(EXHIBITS #5 & #6)** to be placed across Talbert Channel. The proposed location for the second boom is approximately 225' downstream from the Banning Avenue Bridge **(EXHIBIT #3 & #7)**. The channel is approximately 120' wide at this location. Both walls along the channel are vertical steel sheet piles. The boom part of the system will float along the surface of the water and direct debris to a litter trap at one side of the channel. There are no nets or skirts associated with this system therefore allowing the free migration of fish and other subsurface animals. The litter trap allows debris to flow in through a one-way gate **(EXHIBIT #5 & #6)**. The gate only swings inward thus preventing debris from reentering the channel.

The litter trap will be held in place by chains attached to six 12" diameter Pearson composite hollow round pilings, which will hold it in place on the east side of the channel. The piles will be driven into the earthen channel invert and will avoid the existing sheet pile walls and other appurtenances. One anchor pile will be installed on the opposite westerly side of the channel to hold the boom section in place. The boom will stretch across the channel attaching to the litter trap. The pile driving will be accomplished via a low-noise vibratory or static/hydraulic pressure driving techniques. The piles will be close to the existing edges of the channel to allow the pile driving equipment to be placed on the channel maintenance roads and will not have to enter the channel. The litter trap will be located on the east bank allowing debris to be collected easily with the use of a truck mounted crane or the bucket of an excavator from the maintenance road.

The Pearson pilings are hollow, corrosion resistant and contain no preservatives that will leach into the soil or water. Total impact to the channel bed from the pilings will be five square feet. Because the pilings are hollow, displacement of sediment will be minimal. The pilings are round which allows the roller cage assemblies to move with water levels. The roller assemblies will utilize four 5" diameter rollers connected to a metal plate. The roller carriage assembly is enclosed so debris cannot slip through and cause damage to the rollers. Both front and back rollers are the same except for the front roller assembly will contain a flap backing plate on the inside roller plate to further protect from debris fouling the carriage. Required yearly lubrication for the Bandalong Litter Trap system is limited to four (4) trap door hinges that contain sealed bearings. The hinges sit atop of the unit, are above the water and are never submerged. The hinges allow the trap door to swing open and close when trapping floating debris. The grease used for lubrication is an all-purpose type grease that can be easily applied topically via a grease gun (prevents little to no drips). About 1 ounce of grease would be required to properly lubricate all the hinges. The viscosity of the lubricating agent is high enough that it would remain in a semi-solid state throughout its useful life. No other components of the Bandalong Litter Trap system require lubrication.

The proposed project would occur within tidal influenced flood channels and adjacent to wetlands. The project involves the installation of six pilings within Talbert Channel. Additionally, the project is immediately adjacent to the Magnolia, Brookhurst and Talbert Marshes, an area known to contain wetland habitat and to support sensitive habitat and species. Three alternatives for the debris boom system in Talbert Channel were considered. The proposed system, including the fill, were determined to be the best alternative. The Commission finds that the proposed project involves the fill of coastal waters that is allowable as an incidental public service purpose and for restoration purposes, the proposed fill is the least environmentally damaging feasible alternative to minimize adverse environmental effects. Therefore, the proposed project, as conditioned, can be found consistent with Section 30233 of the Coastal Act.

All construction equipment will be placed on the top of the existing maintenance road. Pile driving equipment will be placed outside of the channel along the maintenance roads. The debris capture system will be assembled off-site and placed and anchored from above the water.

Eelgrass surveys will be conducted prior to commencement of construction. Eelgrass has been historically present at both sites in each of the channels. Because the boom system at the Huntington Beach Channel would sit at the surface of the water and no construction work is proposed for the channel bed, there is little anticipation for damaging effects to eelgrass. Conversely, work proposed in the Talbert Channel would impact the channel bed. In an effort to avoid negative impacts to eelgrass in the Talbert Channel, if eelgrass is found at the desired site, the applicant proposes to

shift the boom site as much as 60' upstream or 20' downstream where, at the time of construction, no eelgrass is present. In both cases, however, the applicant will conduct a post-construction eelgrass survey. If any eelgrass has been disturbed, **Special Condition 1** requires that the applicant administer eelgrass restoration actions. Additionally, to protect water quality and marine resources, **Special Conditions 2, 3 & 5,** require the applicant to conduct a *Caulerpa taxifolia* survey, to observe construction BMPs and to comply with the requirements of other resources agencies.

No vegetation removal is proposed as part of the project. Additionally, habitat for migratory birds and nesting birds is limited due to the urbanized nature of the facility. Where feasible, construction activities will occur outside of the nesting season, February 15 – August 31. If avoidance of the avian breeding season is not feasible, and prior to the initiation of project activities, a qualified biologist with experience in conducting breeding bird surveys will survey the project site and areas within 500' to verify that there are no protected native birds occurring in suitable nesting habitat.

If a protected native bird is found, the OC Public Works should delay construction activities within 300' of on- and off-site suitable nesting habitat (within 500' for suitable raptor nesting habitat) until August 31 or until the species is no longer present (nesting). Given the small project footprint, construction duration and mitigation measures (work outside of nesting season, unless surveyed by a biologist) no impacts to avian species are anticipated.

Orange County Public Works staff will be responsible for the maintenance and debris removal of the two debris collection boom systems. They will remove debris from the systems on an as needed basis. The booms will remain spread across the channels at all times. The channels are not used for recreation by boaters, swimmers or kayakers and do not present an impediment to public access.

Special Condition 4 requires the applicant to conform with the proposed project plan as described in Staff Report 5-14-0197. Any proposed changes from the approved plan shall be reported to the Executive Director to determine if an amendment or new Coastal Development Permit is required.

B. WATER QUALITY / MARINE RESOURCES

The proposed work will be occurring in a location where there is a potential for a discharge of polluted runoff from the project site into coastal waters. The storage or placement of construction material, debris, or waste in a location where it could be carried into coastal waters would result in an adverse effect on the marine environment. To reduce the potential for construction and post-construction related impacts on water quality, the Commission imposes special conditions requiring, but not limited to, the appropriate storage and handling of construction equipment and materials to minimize the potential of pollutants to enter coastal waters and for the use of on-going best management practices following construction. As conditioned, the Commission finds that the development conforms with Sections 30230 and 32031 of the Coastal Act.

C. VISUAL RESOURCES

As proposed, the developments are located within existing developed areas and are compatible with the character and scale of the surrounding area. The project does not disrupt public coastal views. Therefore, the Commission finds that the development conforms with Sections 30250, 30251, and 30252 of the Coastal Act.

D. LOCAL COASTAL PROGRAM (LCP)

The proposed development is occurring within areas that cross multiple jurisdictions with that of the Commission's original permit jurisdiction. The channel is tidally influenced for its entire length

within the coastal zone. Pursuant to Coastal Act Section 30519(b), development review authority for "development proposed or undertaken on any tidelands, submerged lands, or on public trust lands, whether filled or unfilled, lying within the coastal zone" remains with the Coastal Commission. Therefore, permit authority will remain with the Coastal Commission and the standard of review for development in this area will remain the Chapter 3 policies of the Coastal Act.

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. Orange County has neither a certified LCP nor a certified Land Use Plan. As conditioned, the proposed development will be consistent with Chapter 3 of the Coastal Act. Approval of the project, as conditioned, will not prejudice the ability of the local government to prepare a Local Coastal Program that is in conformity with the provisions of Chapter 3 of the Coastal Act.

E. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096(a) of the Commission's administrative regulations requires Commission approval of a Coastal Development Permit application 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 that the activity may have on the environment.

Orange County is the lead agency for purposes of CEQA compliance. Orange County Public Works is preparing an Addendum that addresses the environmental effects associated only with the proposed improvements to the Talbert Valley Channel System that have been proposed since certification of Environmental Impact Report (EIR) #445. The conclusions of the analysis in the said Addendum are not substantially different from those made in ERI #445. The same impacts identified in EIR #445 remain. No new significant impacts would result and no substantial increase in the severity of impacts previously identified in EIR #445 would result from implementation of the proposed improvements.

The proposed project has been conditioned in order to be found consistent with the resource protection policies of the Coastal Act. As conditioned, the project has been found consistent with the hazard minimization, archaeological resources, marine resources, water quality, and public access policies of the Coastal Act. Mitigation measures to minimize adverse effects include: 1) Pre- and Post-Eelgrass Surveys; 2) Pre-Construction *Caulerpa taxifolia* Survey; 3) Construction BMPs; 4) Conformance With Plan; 5) Compliance With Resource Agencies.

As conditioned, there are no feasible alternatives or additional feasible mitigation measures available that would substantially lessen any significant adverse effect that the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

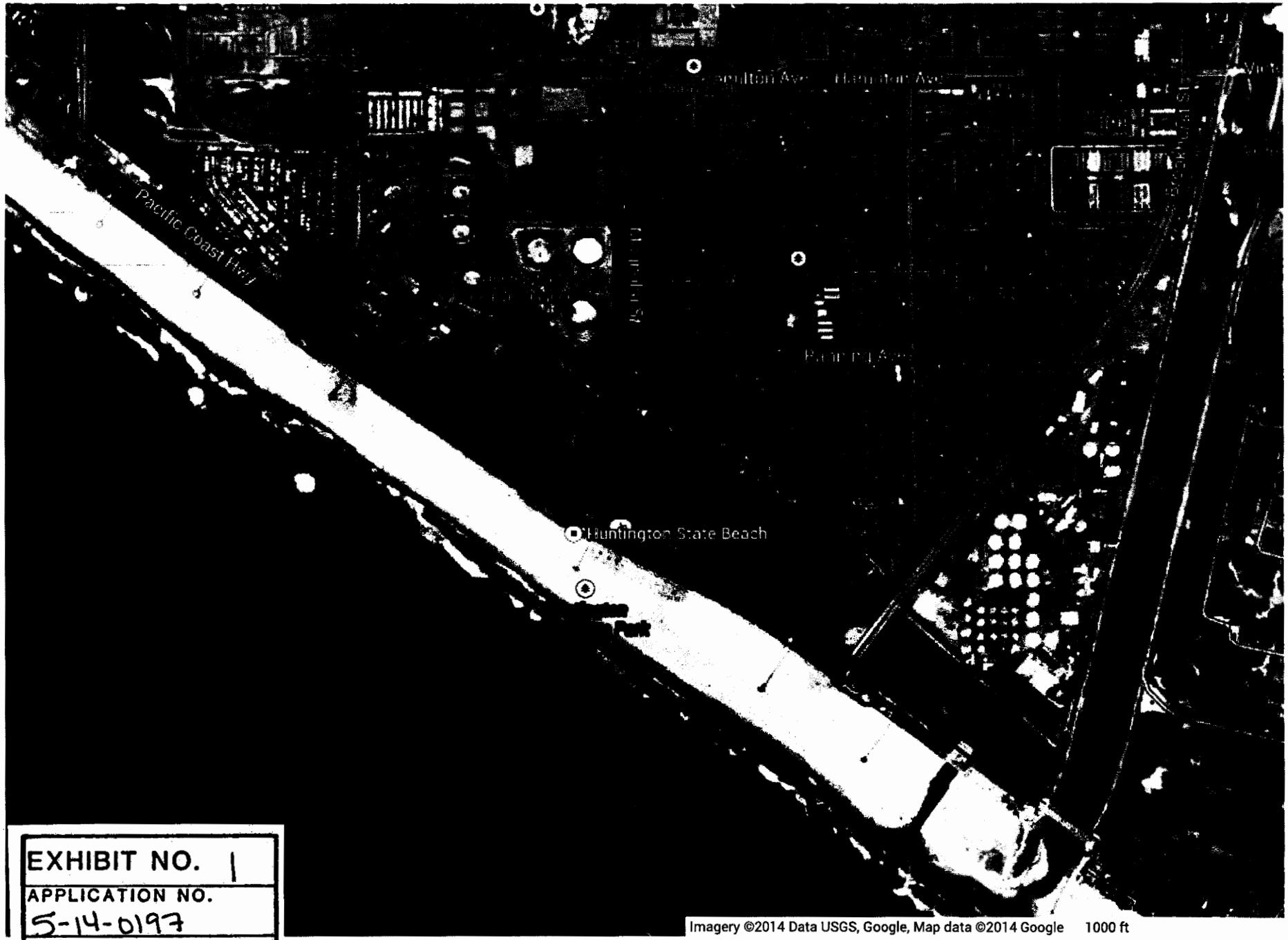
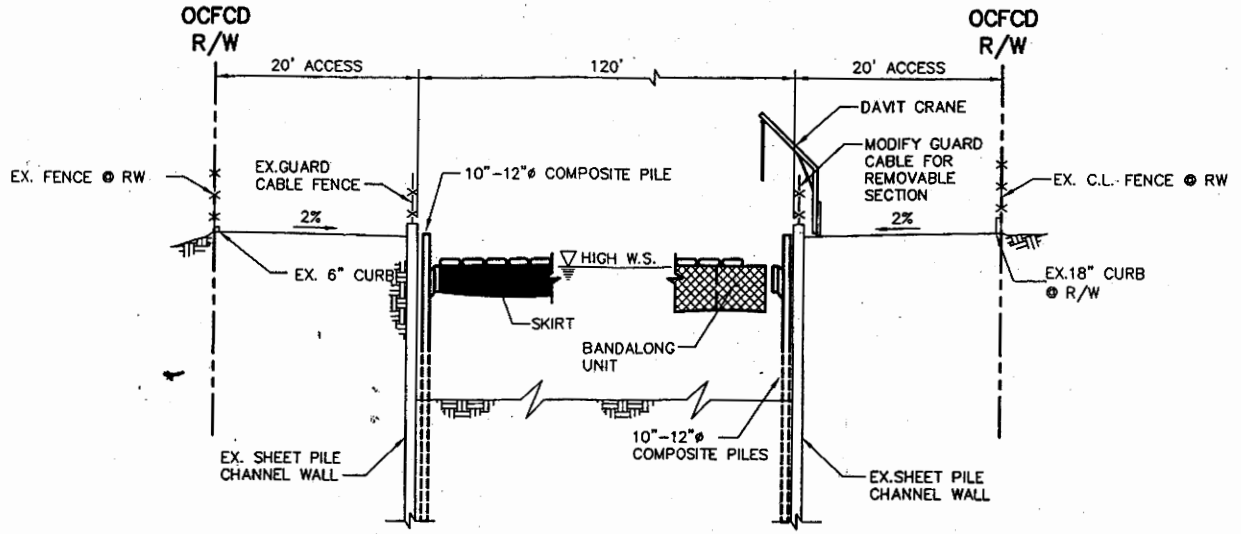


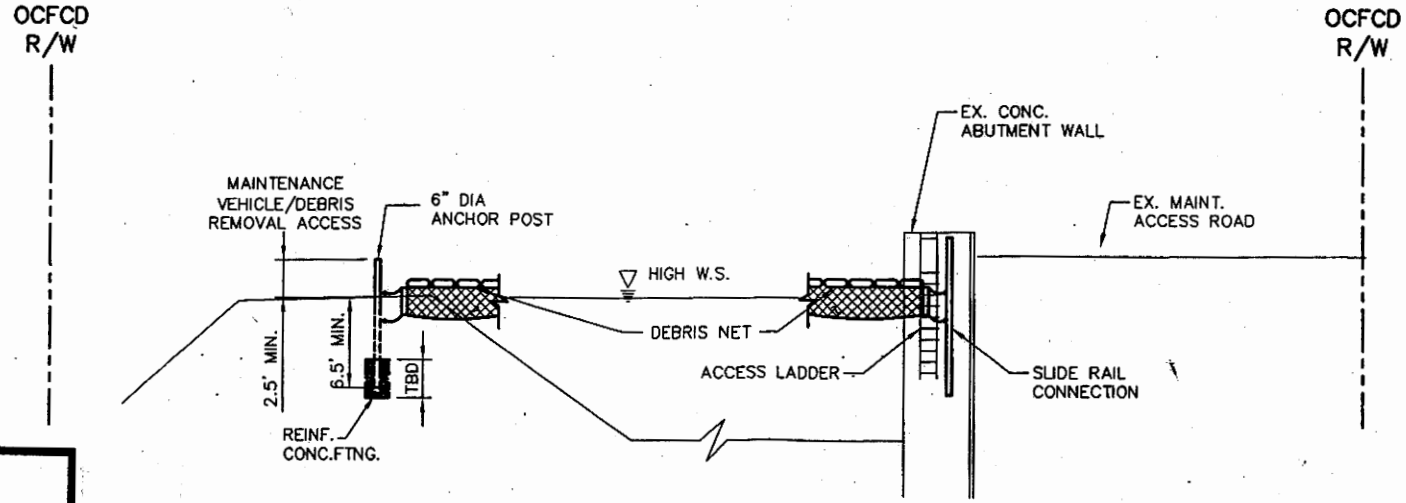
EXHIBIT NO. 1
APPLICATION NO.
5-14-0197
1 OF 1
California Coastal Commission

5-14-0197

RECEIVED
South Coast Region
JAN 16 2014
CALIFORNIA
COASTAL COMMISSION



DEBRIS BOOM @ D02 A



DEBRIS BOOM @ D01 A
SCALE: NTS

PLAN
1" = 40'

35% PLANS

DRAFT

County of Orange

EXHIBIT NO. 2
Application Number
5-14-0197
Debris Boom
California Coastal Commission

KEPNER PLASTICS FABRICATORS, INC.

TRASHNET™

DEBRIS CONTROL SYSTEMS

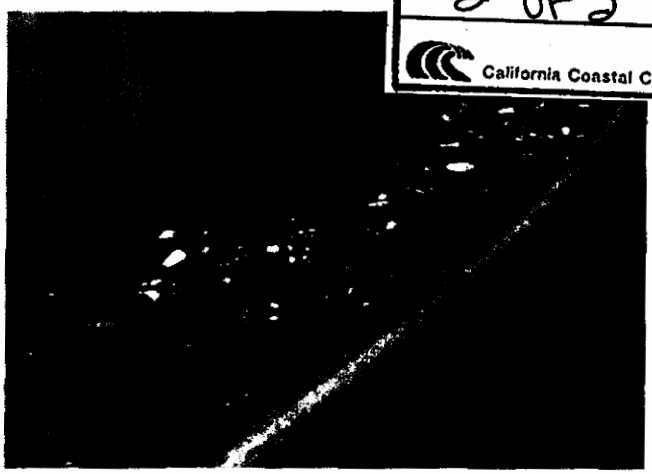
EFFECTIVE FLOATABLES MANAGEMENT

Features:

- THE ORIGINAL BARRIER DESIGNED TO CONTROL FLOATING DEBRIS
- PROVIDES ENVIRONMENTAL PROTECTION
- PROTECTS WATERWAYS (INDUSTRIAL, COMMERCIAL AND CIVIL)
- LIGHTWEIGHT FOR EASE OF HANDLING
- DIVERSE DESIGNS SOLVE ANY DEBRIS CONTROL PROBLEM
- CYLINDRICAL FLOTATION FOR RELIABLE PERFORMANCE
- RF WELDED CONSTRUCTION FOR MAXIMUM STRENGTH AND RELIABILITY
- COST EFFECTIVE DEBRIS CONTROL

OFFICES – TORRANCE, CALIFORNIA, USA – TEL: (310) 325-3162 – www.kepnerplastics.com

TRASHNET™ DEBRIS CONTROL SYSTEMS



ENVIRONMENTAL PROTECTION **WATERWAY PROTECTION**

TrashNet™ Control Systems are designed to provide the best combination of performance, handling, flexibility, strength, durability and economy for all of your debris requirements. Many options are available to address the multitude of applications that can be anticipated in a variety of waterways. These options are subject to the requirements and current profiles with respect to types of debris, methods of debris containment, diversion and removal.

Standard lengths of 50 ft (15m) and 100 ft (30m) sections are readily connected to create total barrier systems of any desired length. However, the tensioning, anchoring and terminal constructions are almost always a custom design to the application requirements.

TrashNet™ Control Systems are constructed of heavy-duty vinyl, polyurethane, alloy coated and other fabrics which are resistant to abrasion, UV, weather, hydrocarbons, marine life growth and most chemicals. Many other features are available and include choice of flotation, barrier construction, "high-load" enhancements, accessories and proprietary designs developed for many specific requirements more than 30 years.

Flotation: Flexible, cylindrical float sections of closed cell rolled foam are electronically sealed in the boom. Flotation provides reserve buoyancy in excess of 10 times the total weight of the boom per foot.

Ballast/Tension: Galvanized chain sealed into the skirt and attached to the end connectors assures wave conformance and maintains bottom tension and draft.

Options: Options include variations in materials, float diameter, skirt length, netting square size and length, top tension vinyl coated galvanized or stainless steel cable, Hi-Load nylon webbing strap tension member, end connectors, and ballast. "Fast-current" and "high-load" models are also available.

Our Customer Service Personnel are prepared to provide counsel, recommendations, information and quotations.

TN0106

KEPNER PLASTICS FABRICATORS, INC.

CORPORATE HEADQUARTERS – Torrance, California, USA
Tel: (310) 325-3162 Fax: (310) 326-8560 www.kepnerplastics.com

Agenda 5-14-0197

EXHIBIT NO. 3
APPLICATION NO. 5-14-0197
1 OF 1
California Coastal Commission

County of Orange
OC Public Works
PREPARED BY: FLOOD CONTROL DESIGN

HUNTINGTON BEACH
& TALBERT CHANNELS
(D01 & D02)

PROPOSED
LITTER TRAP & BOOM
LOCATION

FIGURE 1: D01; Looking East; Existing Concrete Utility/Maintenance Bridge Abutment; Location for Proposed Slide Rail Connection

FIGURE 2#: D01; Looking West & Downstream; Existing Maintenance Road; Location for Proposed Steel Post Anchor and Possible Collection Notch with Pervious Concrete Ramp

COASTAL COMMISSION

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EXHIBIT # 4

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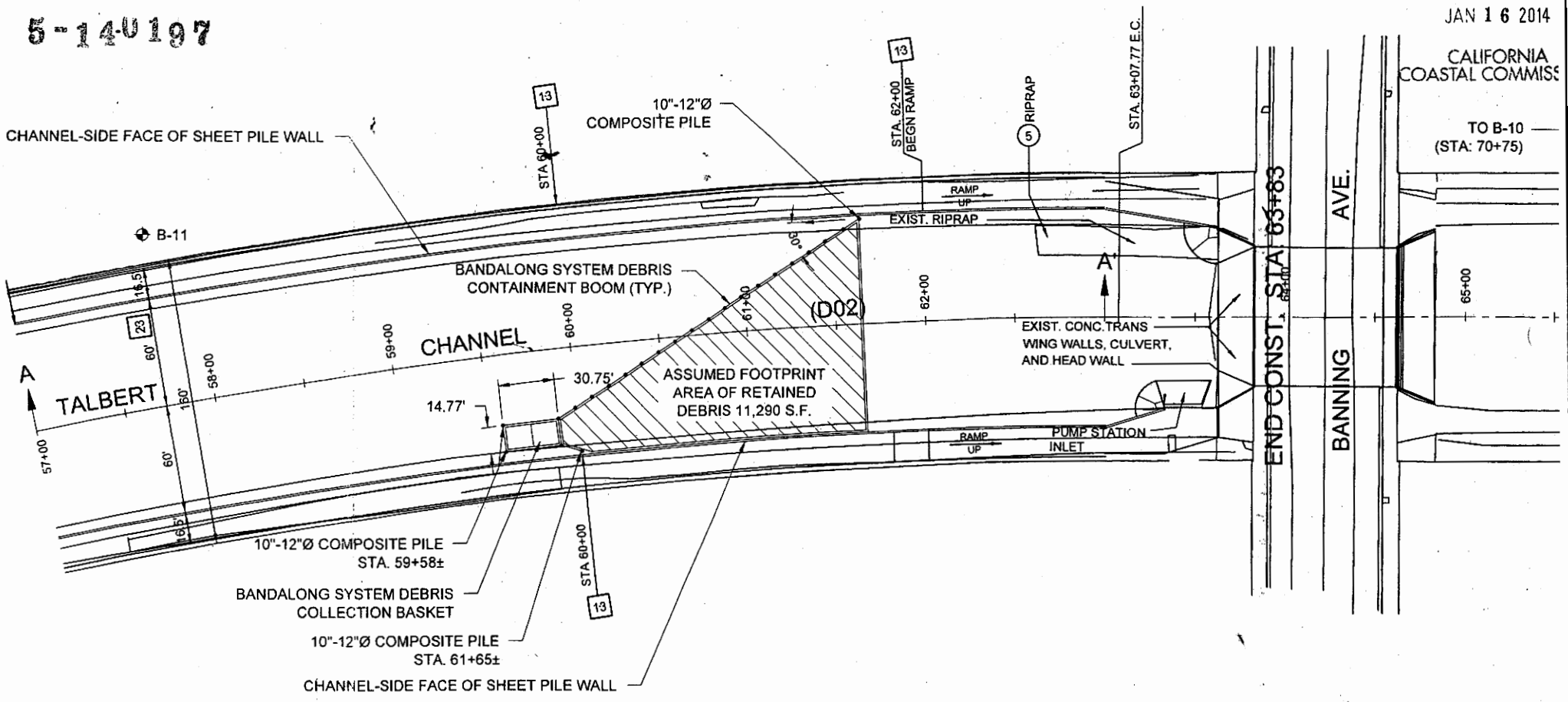


EXHIBIT NO. 5
Application Number
5-14-0197
Boom & Trap
System
California Coastal Commission

LEGEND

B-11 APPROXIMATE LOCATION OF GSI [1991] BORING

0 60'
SCALE IN FEET

CONS

13 CONSTRUCT 8'
TYP. SECTION

23 DIMENSION IS M
FACE OF SHEET
DIMENSIONING

NOTE:

1. TALBERT CHANNEL GEOMETRY SHOWN BASED ON ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY DRAWINGS FOR TALBERT VALLEY CHANNEL (D02) STATIONS 54+00 TO 63+00 AND 63+00 TO 63+83 DATED JUNE 1993

TENTATIVE BANDALONG SYST
TALBERT CHANNEL
HUNTINGTON BEACH, CA

Geosyntec
consultants

Project No: *DRAFT* | August, 20

BANDALONG

BANDALONG

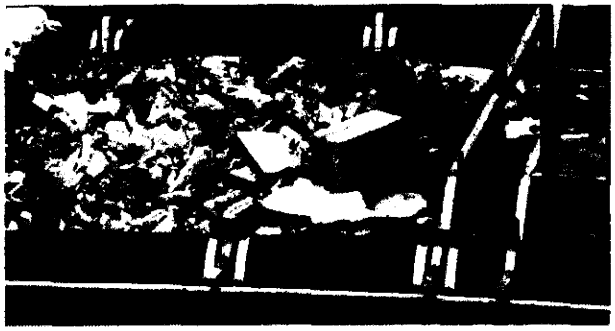
CLEANING YOUR WATERWAYS

The Company

Bandalong International Pty Ltd is an Australian company and is the market leader in water pollution control equipment, specialising in floating Litter traps and Boom Systems for our waterways including canals, reservoirs and drainage outlets. As each waterway project varies, we design our devices specifically for client requirements. Since 1993 Bandalong has fabricated for the Australian market and also have agents globally who operate under the Bandalong licence to ensure quality is not compromised.

"Our mission is to reduce the impact of ecological damage to the environment by capturing litter found in our waterways."

Litter Traps



It is common to find debris floating in waterways due to outfalls from stormwater drains and via other sources. The Bandalong litter trap is a floating device that effectively captures this litter and debris.

Benefits

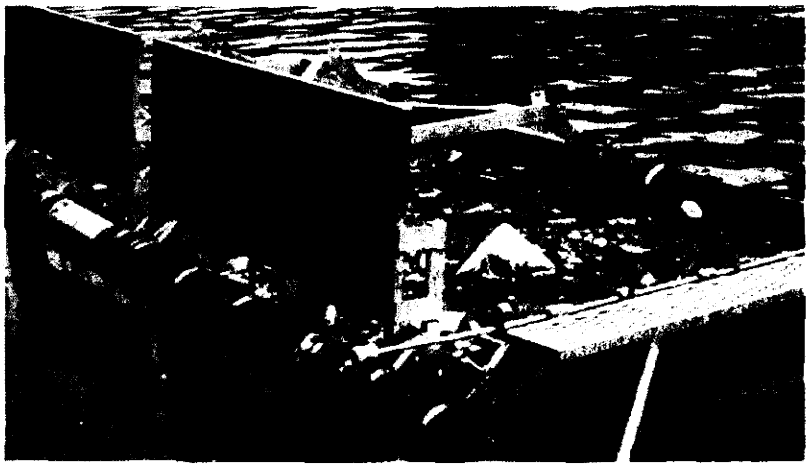
- Debris is directed via collection booms through a patented one way flap or gate to capture floating litter and debris.
- Cost effective and requires little maintenance.
- Operates silently 24 hours a day without mechanical assistance.
- Does not impede water flow or cause upstream flooding.
- Security fittings used to reduce vandalism.
- Debris cannot be dislodged once trapped.
- Quality, durable and corrosion resistant materials used.

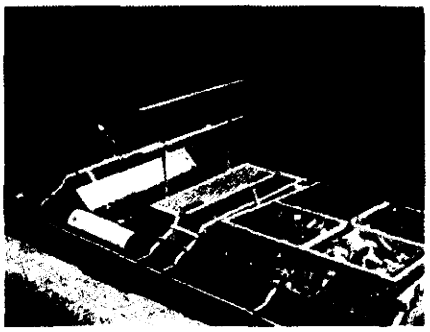
Bandalong Litter traps and Boom Systems are patented products with copyright design.

Did You Know?

According to the Australian Marine Environment report land base sources cause up to 80% of marine debris found on our beaches and in our waterways.

Pictured below is a turtle with a partly consumed plastic bag in its mouth.





Bandalong International Pty. Ltd A.B.N. 70 098 365 756

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Protecting Our Environment

COAS

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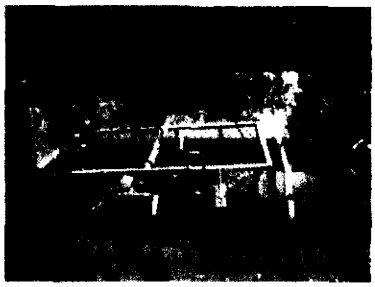
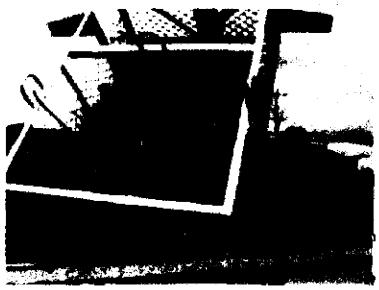
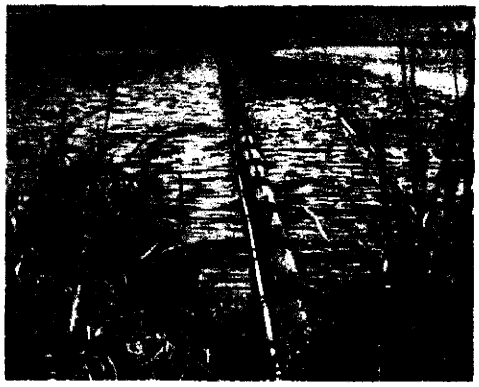
Litter Removal Options

Retained litter is removed either manually or by using equipment as shown.
Litter baskets may be incorporated which are removed for simple effective disposal of contents.
Once removed litter can be sorted and recycled.







Boom System

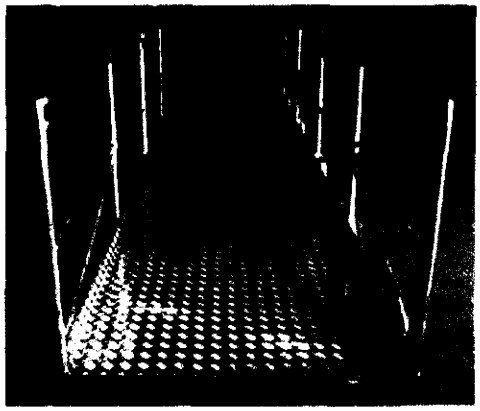
Using our team's extensive engineering and waterway experience we have developed the Bandalong Boom System that can be used to either collect or deflect floating debris.

Benefits

- Boom sections are manufactured from strong and durable polyethylene pipe.
- Sections can be coupled together to span across varying widths of waterways.
- Aluminium skirt sections can be fitted to prevent litter escaping under boom system.
- Couplings have security screws to help reduce vandalism.
- Rubber sleeves are used over our unique flexible universal joint to allow for movement between booms.

Gangway System

Bandalong Gangways are manufactured completely from aluminium which significantly reduces the weight. They come standard with four rollers so they are simple to move. Manufactured in lengths to suit your requirements each section can be pinned together within minutes to form a solid unit. The walkway shown is used by Parks Victoria on Melbourne's Yarra River where it provides access from floating pontoon platforms to riverbanks.



Testimonials

A Bandalong Litter Trap was installed in the Hobart Rivulet, a large catchment that runs through central Hobart. The trap has captured significant volumes of litter and debris that would of otherwise polluted the receiving waterways of the Derwent Estuary. The Bandalong Litter Trap has contributed to improving the health of Hobart's waterways - Derwent Estuary Program, Tasmania.

Prototype litter traps were trialed on Melbourne's Yarra River and the Bandalong Floating Litter Trap was the most successful - Park Notes, Parks Victoria.

Listed below are our licensed accredited agents:

United States of America
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196 Industrial Blvd.
Cleveland, GA 30528
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T/F: (888) 730-5819
F: (706) 348 8346
ghopkins@stormwatersystems.com
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HYNDS ENVIRONMENTAL

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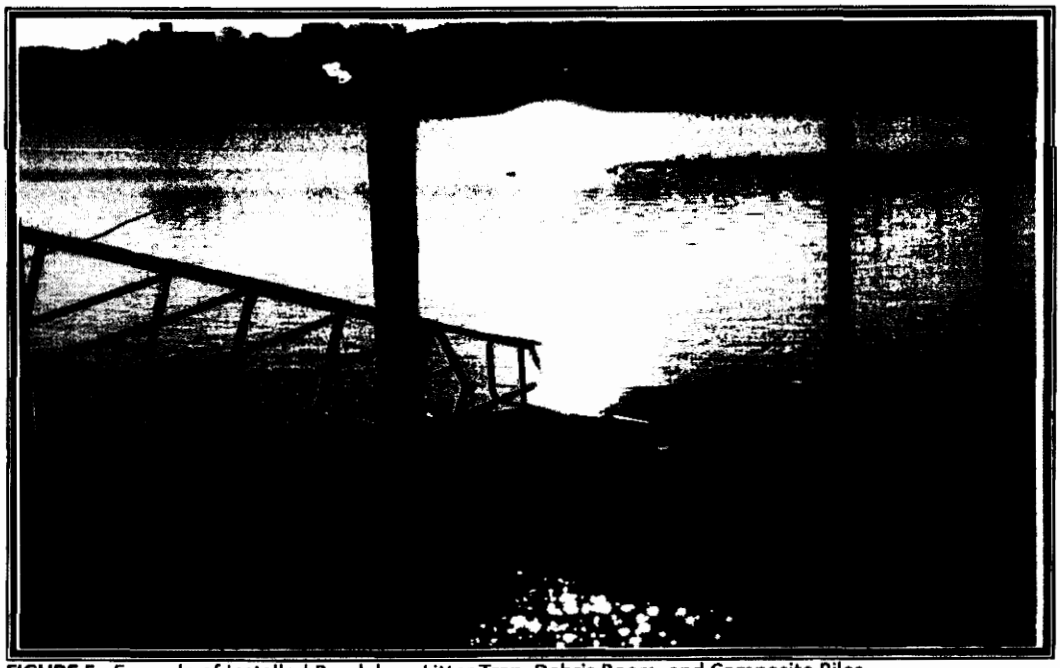

FIGURE 5: Example of Installed Bandalong Litter Trap, Debris Boom, and Composite Piles.

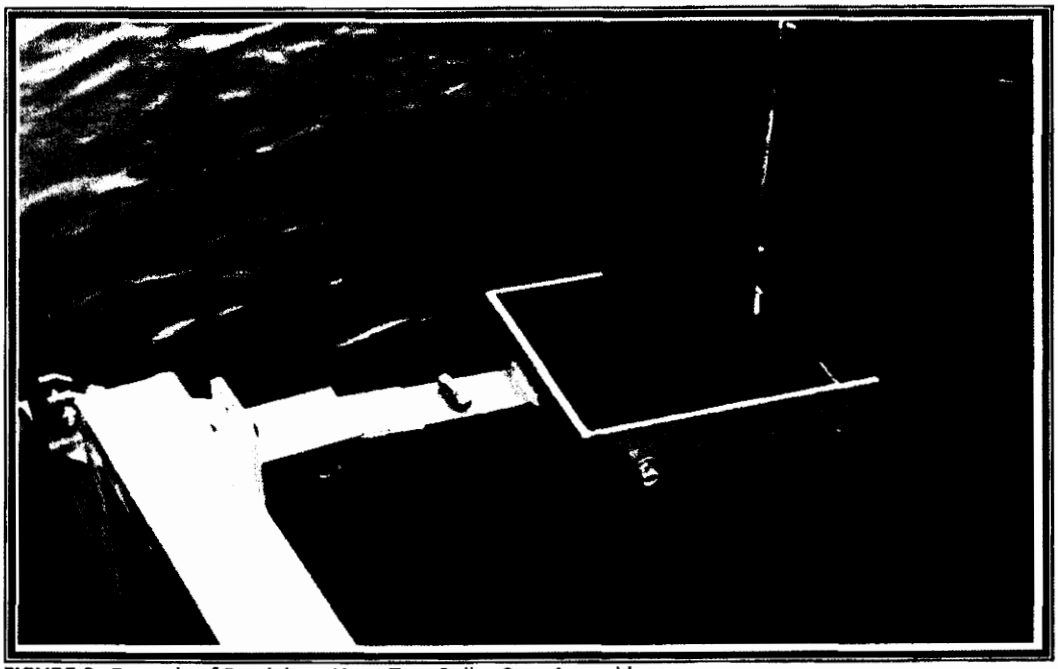

FIGURE 6: Example of Bandalong Litter Trap Roller Cage Assembly.

COASTAL COMMISSION

EXHIBIT # 6
PAGE 1 OF 1

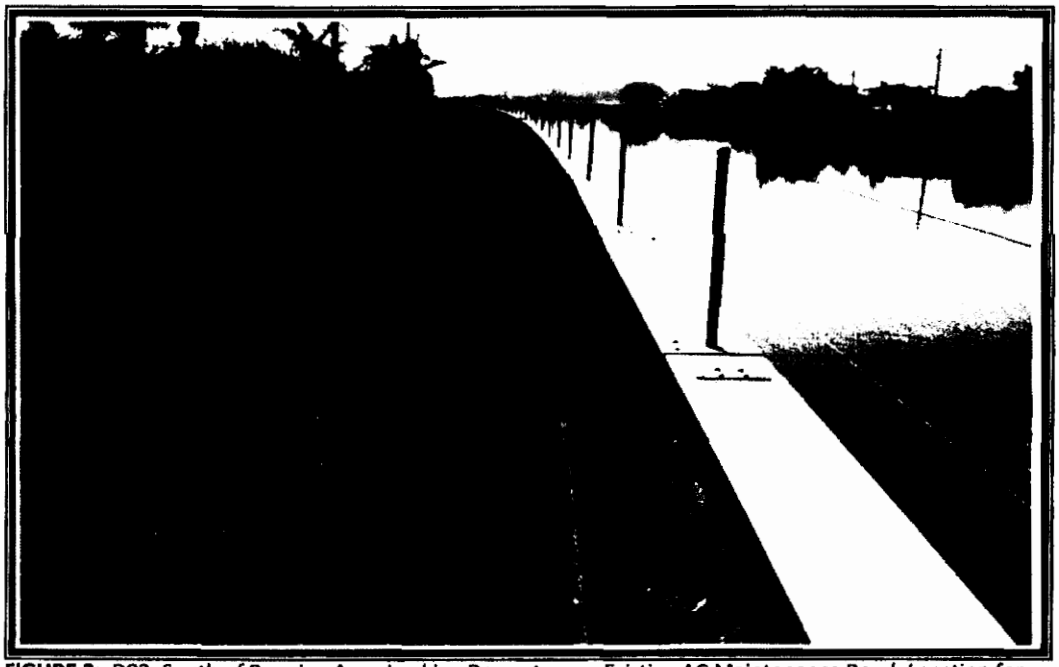

FIGURE 3: D02; South of Banning Ave.; Looking Downstream; Existing AC Maintenance Road; Location for Proposed Removable Davit Crane and Bandalong Litter Trap

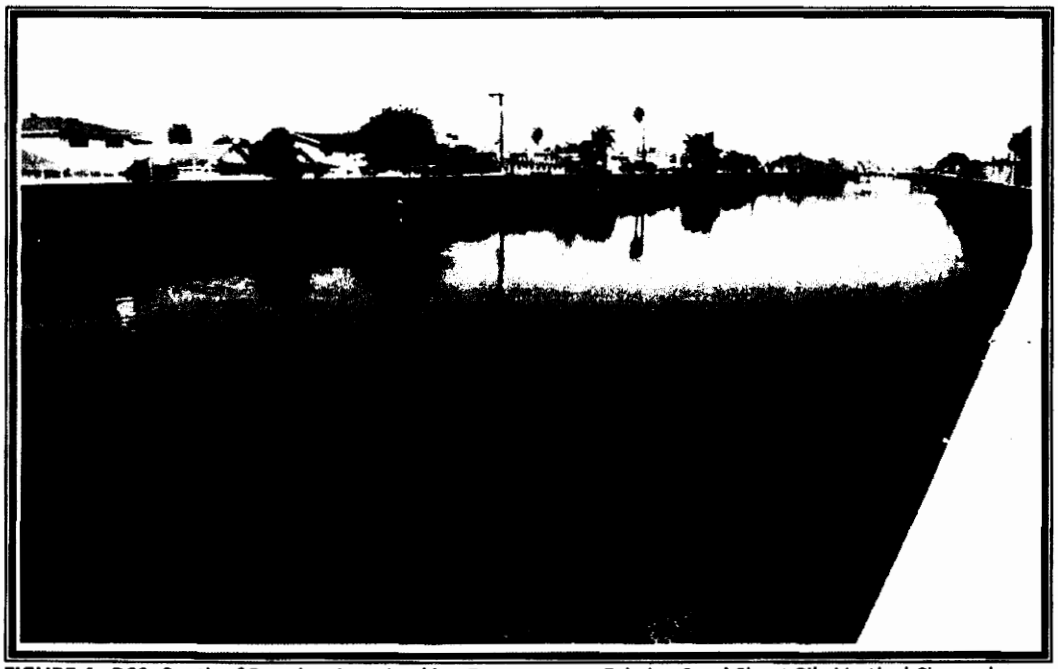

FIGURE 4: D02; South of Banning Ave.; Looking Downstream; Existing Steel Sheet Pile Vertical Channel; Location for Proposed Bandalong Litter Trap, Composite Circular Piles, and Debris Boom