

## DOCKETED

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# W15a

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Staff:	T. Luster-SF
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Hearing Date:	January 8, 2014
Commission Action:	Approved with Conditions, 12-0

## FINAL ADOPTED FINDINGS

<b>Application No.:</b>	<b>E-12-015</b>
<b>Applicant:</b>	<b>Dynegy South Bay LLC</b>
<b>Location:</b>	South Bay Power Plant 990 Bay Boulevard Chula Vista, CA 91911 (APN# 571-160-800, 571-240-100, 617-011-800)
<b>Project Description:</b>	Demolition of structures at the former site of the South Bay Power Plant, Chula Vista, San Diego County.
<b>Staff Recommendation:</b>	Approval with Conditions

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## EXECUTIVE SUMMARY

The proposed project would remove structures from the site of the former South Bay Power Plant (SBPP), located along the San Diego Bay shoreline in the City of Chula Vista. The site is owned by the Port of San Diego. This is the second phase of a two-phase project to decommission and demolish the power plant pursuant to requirements of a lease between the Port of San Diego and Dynegy South Bay, LLC (Dynegy), the lessee and most recent operator of the power plant. Earlier this year, Dynegy completed the first phase of decommissioning and

demolition, which involved imploding the power plant and removing most of the above-grade structures at the site. This proposed second phase involves removing most of the remaining above-grade structures, all below-grade structures to a depth of four feet, and the remaining power plant foundation, which extends to about 12 feet below grade. The project is being conducted to allow the Port and several other involved entities to fully characterize known and potential soil and groundwater contamination at the site and to determine what measures are needed to remediate those contaminants. The site is also within an area being considered for future development as part of the Chula Vista Bayfront Master Plan, which includes this site and several others extending north along the San Diego Bay shoreline. These recommended Findings address only the proposed demolition activities, as future remediation and redevelopment will be subject to future, separate permit review and approval.

Most of the proposed activities will take place on already developed parts of the SBPP, but some will be in and adjacent to coastal waters. Dynergy has included as part of the project a number of measures meant to avoid and reduce potential impacts; however, Commission staff recommend several Special Conditions to ensure potential impacts are further avoided and reduced. The project will be subject to other permits and approvals that will address stormwater management, waste management, and other issues, and [Special Condition 2](#) would require that Dynergy provide copies of those permits prior to starting project activities. To reduce the potential for spills and improve the response for any potential spills, [Special Condition 3](#) would require Dynergy to modify its Construction Spill Prevention and Response Plan to include additional Best Management Practices and response measures. To reduce potential noise-related impacts to birds and other species in nearby sensitive habitat areas, [Special Condition 4](#) would require Dynergy to conduct breeding behavior and nest surveys in nearby sensitive habitat areas and to reduce project-generated noise in those areas to no more than 60 decibels when active nests are present. Finally, to reduce potential visual effects along the shoreline, [Special Condition 5](#) requires project-related lighting to be directed downward and away from offsite areas to the extent allowed pursuant to human health and safety requirements.

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Exhibit 1 – Location Map

Exhibit 2 – Site Plan

Exhibit 3 – Noise Monitoring and Control Plan

## I. RESOLUTION

On January 8, 2014, by a vote of 12-0, the Coastal Commission adopted the following resolution:

### **Resolution:**

*The Commission hereby approves the coastal development permit 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. Approval of the permit amendment complies with the California Environmental Quality Act because feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment.*

## II. STANDARD CONDITIONS

This permit is 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

1. **Assumption of Risk.** By acceptance of this permit, the Permittee acknowledges and agrees (i) that the site may be subject to hazards from wildfire and erosion; (ii) to assume the risks to the Permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to

unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

2. **Other Approvals.** PRIOR TO CONSTRUCTION, Dynergy shall provide to the Executive Director a copy of each of the following permits and approvals, or evidence that the permit or approval is not needed:
  - a. City of Chula Vista: approved demolition permit and/or grading permit.
  - b. San Diego Regional Water Quality Control Board: approved Construction Stormwater Permit.
  - c. Department of Toxic Substances Control: approved Health and Safety Plan and approved Sampling and Analysis Plan.

Dynergy shall inform the Executive Director of any changes to the project required by these permits or approvals. Such changes shall not be incorporated into the project until the Permittee obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

3. **Spill Prevention and Response.** PRIOR TO ISSUANCE OF THE PERMIT, Dynergy shall provide for the Executive Director's review and approval a revised Construction Spill Prevention and Response Plan (CSPRP) that is consistent with its December 17, 2013 CSPRP, except with the following revisions:
  - a. Section 5 (Preventative Procedural Actions) of the CSPRP shall be revised to include the following:

“Prior to each day's work, all equipment, materials, and vehicles to be used for project activities shall be inspected for oil, fuel, or hazardous substance leaks. This inspection, and all fueling, shall take place within paved areas of the SBPP site with sufficient controls to contain any leaks that may occur. During project activities, project personnel shall have immediately available: (a) an estimate of a reasonable worst case release of fuel from project equipment and vehicles, (b) specific protocols to follow to contain any spills that may occur and sufficient materials such as booms, absorptive pads, etc., to contain those spills, (c) a telephone contact list of all regulatory and public trustee agencies having authority over the development and/or the project site and its resources to be notified in the event of a spill, and (d) a designated on-site person responsible for implementing the protocols and making the necessary contacts.”

- b. Section 5.3 (Spill and Emergency Response for Hazardous Substances) and Section 5.4 (Spill Reporting) of the CSPRP shall be revised to require that all spills with the potential to reach nearby coastal waters (i.e., Telegraph Creek, J Street Canal, and San Diego Bay) are immediately reported to the County Department of Environmental Health, Port of San Diego, and the San Diego Regional Water Quality Control Board. The CSPRP shall also be revised to state the following:

“If project construction or operations result in a spill or accidental discharge that causes adverse effects to coastal water quality, ESHA, or other coastal resources, Dynegy shall submit an application to amend this coastal development permit, unless the Executive Director determines no amendment is legally required. The amendment application shall identify proposed measures to prevent future spills or releases and shall include a proposed restoration plan for any coastal resources adversely affected by the spill or release.”

Dynegy shall undertake development in accordance with the approved CSPRP. Any proposed changes to the approved CSPRP shall be reported to the Executive Director. No changes to the approved CSPRP shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

4. **Minimization of Noise Effects on Sensitive Species:** PRIOR TO ISSUANCE OF THIS PERMIT, Dynegy shall submit, for Executive Director review and approval, a revised Noise Monitoring and Control Plan that includes breeding behavior and nest survey protocols as described below and identifies measures to be implemented that will limit project-generated noise to no greater than 60 decibels at nearby active nest sites. The revised Plan shall include, at a minimum:
  - a. **Breeding Behavior and Nest Surveys:** A qualified biologist, approved by the Executive Director, shall prepare a breeding behavior and nest survey plan that provides for the following:
    - i. Prior to starting project-related activities between March 15 and September 15 of any year, the biologist shall conduct at least two breeding behavior and nesting surveys for birds protected by the Fish and Game Code, the Migratory Bird Treaty Act, and any birds that are included on state or federal lists of threatened or endangered species. The first survey shall take place no more than 30 days before the start of construction activity. The second survey shall take place at least 10 days after the first survey and within 14 days of the start of construction. The surveys shall encompass all environmentally sensitive habitat areas, wetlands, and other areas of potential nesting habitat within 500 feet of project-related activities.
    - ii. Follow-up surveys are to be conducted by the approved biologist if there is a period of construction inactivity of three weeks or more between March 15 and September 15 of any year.

- iii. If any survey identifies any occupied nests, or if any sensitive species are discovered in the survey area, Dynergy shall implement all measures necessary to ensure that noise levels resulting from project-related activity do not exceed 60 dB peak at the nest sites until the approved biologist(s) certifies that the nest is vacated, juveniles have fledged, left the area, and are no longer being fed by the parents, and there is no longer any evidence of a second attempt at nesting.
- iv. The Plan shall specify that results of the breeding behavior and nesting surveys and the monitoring surveys will be provided to Coastal Commission staff upon request.

**b. Minimization of project-generated noise at nearby environmentally sensitive habitat areas and nesting sites:** The revised Plan shall identify expected noise levels from project activities at the nearest boundary of the J Street Marsh and of the Chula Vista Wildlife Refuge, and shall describe all measures that will be implemented to minimize project-generated noise within those areas. The revised Plan shall include:

- i. A description of the basis for the expected noise levels at those boundaries and identification of modeling methods used to determine those levels.
- ii. Identification of all measures to be implemented to reduce sound levels within those areas to no greater than 60 dBA when active nests are present. Measures may include enclosing sound-generating sources within structures or temporary sound barriers, moving sound-generating sources to locations farther from these boundaries, reducing the number of concurrent sound generating activities, using sound baffles to redirect sound away from the ESHA/wetland area, timing restrictions, or other similarly effective measures needed to meet the 60 dBA limit.
- iii. A description of sound monitoring equipment to be installed in at least two locations at the nearest boundary of the J Street Marsh and the Wildlife Refuge that will allow continuous monitoring of sound levels during project activities.
- iv. A description of how monitoring data will be compiled and reported to allow confirmation that sound levels do not exceed 60 dBA within those areas when active nests are present.

Dynergy shall undertake development in accordance with the approved Noise Monitoring and Control Plan. Any proposed changes to the approved Noise Monitoring and Control Plan shall be reported to the Executive Director. No changes to the approved Noise Monitoring and Control Plan shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

- 5. **Visual Resources.** All lighting structures and fixtures installed for use during the project and visible from public areas, including shoreline areas of San Diego Bay, shall be painted or otherwise finished in neutral tones that minimize their visibility from those public areas. Lighting used for project activities shall be directed downward and away from offsite areas to the extent allowed pursuant to applicable human health and safety requirements.



## **IV. FINDINGS & DECLARATIONS**

The Commission finds and declares as follows:

### **A. PROJECT DESCRIPTION**

Dynegy South Bay LLC (Dynegy) proposes to remove a number of structures at the former site of the South Bay Power Plant (SBPP). The site is located along the shoreline of southern San Diego Bay in the City of Chula Vista (the City), San Diego County (see Exhibit 1 – Location Map). The site is owned by the Port of San Diego (the Port) and covers about 158 acres of land and about 240 acres within the Bay (see Exhibit 2 – Site Plan).

The currently proposed activities represent the second phase of a two-phase decommissioning and demolition plan for the site. The proposed activities follow on the Commission’s June 2012 approval of a coastal development permit (CDP #E-11-027) that allowed Dynegy to demolish and remove from the site most of the above-grade structures associated with the power plant, which Dynegy completed earlier this year. The currently proposed project would remove the several remaining above-grade structures, along with structural components of the facility down to four feet below grade, such as foundations, footings, pipelines, electrical vaults, utilities, and similar structures. Work would also include removing the entire power plant foundation, which extends about 12 feet below grade, along with portions of the power plant intake structures and shoreline abutments in and along the shoreline of San Diego Bay. Structural components that remain after this project phase is completed will be addressed during upcoming remediation and site restoration activities. The existing stormwater management system will also remain in place.

This two-phase decommissioning and demolition project is meant to allow the Port and other involved parties to fully characterize soil and groundwater contamination remaining at the site after several decades of power plant operations and to then determine what measures are needed to remediate those contaminants. The site is expected to be part of the future development proposed through the Chula Vista Bayfront Master Plan, which the Commission approved in August 2012. These Findings do not evaluate or permit the development activities that may be necessary to conduct the expected site remediation, redevelopment, or restoration, as those will be subject to future CDP applications.

### **Background**

The South Bay Power Plant was on this site from 1958 to 2010. It was originally owned by San Diego Gas & Electric Company (SDG&E), which sold the facility in 1999 to the Port. From 1999 to 2010, the plant was operated by a number of entities under a lease from the Port, with Dynegy operating the plant most recently until it closed in 2010. Its lease with the Port requires Dynegy, upon retirement of the plant, to demolish and remove most of the structures at the site to four feet below the ground surface and to grade the site to allow for ongoing site cleanup, remediation, and redevelopment.

The site’s use since the 1950s for power plant operations, fuel storage, and other similar industrial purposes has resulted in groundwater and soil contamination that requires cleanup and remediation pursuant to oversight from the California Department of Toxic Substances Control (DTSC). DTSC, along with the entities involved in facility ownership or operations, including

SDG&E, Duke Energy, the Port, and Dynergy, have identified a number of contaminants of concern at the site, including metals, volatile organics, semi-volatile organics, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), BTEX (which includes benzene, toluene, ethylbenzene, and xylenes), corrosives, and polychlorinated biphenyls (PCBs), all of which can be hazardous to human health and wildlife. Although the involved parties have started remediation on some parts of the site – e.g., the North Tank Farm – they have not yet fully identified the type and extent of site contamination and have not yet negotiated a final cleanup agreement, due in part to the continued presence of structures on the site. DTSC has stated that full site cleanup will require removal of the power plant and its associated structures. Dynergy’s prior removal of most of the above-grade structures, along with the currently proposed removal of the remaining structures will allow the involved parties to conduct further site characterization, implement necessary site remediation measures, and prepare the site for redevelopment and restoration.

The project site is within the proposed Chula Vista Bayfront Master Plan, approved by the Commission in August 2012.<sup>1</sup> The Bayfront Master Plan includes redevelopment and restoration of more than 500 acres of nearby shoreline properties. The currently proposed activities are a necessary precursor to potential site redevelopment; however, their primary purpose is to remove the remaining above- and below-grade structures to allow full site characterization and determine necessary remediation measures. These Findings do not evaluate or permit future potential site remediation, redevelopment, or restoration activities.

### **Site Description**

The SBPP site is located along the eastern shoreline of southern San Diego Bay. Until recently, the site included the power plant and several dozen ancillary buildings, tanks, and other structures, along with intake and discharge canals that extend into the Bay. Most of the upland portion of the site is paved and is built on fill placed on former tide flats, with site elevations ranging up to about 20 feet above mean sea level. There are scattered areas with ornamental, landscape, or ruderal vegetation. The site is bisected by Telegraph Creek, which is largely a concrete-lined channel until it reaches the western part of the site. The site is bounded on the north and northeast by the J Street Canal. Both flow into the J Street Marsh on the site’s western boundary. The shoreline portion of the site is ripped or otherwise hardened.

The adjacent open water, salt marsh and mudflats of San Diego Bay provide areas of exceptional habitat for shorebirds, marine life, and other wildlife. South San Diego Bay is recognized by the American Bird Conservancy as a Globally Important Bird Area and is designated a Western Hemisphere Shorebird Reserve Network site. About 3000 feet directly west of the site within San Diego Bay is the Chula Vista Wildlife Reserve, which provides breeding and nesting habitat for the federally-endangered California least tern (*Sterna antillarum browni*) and osprey (*Pandion haliaetus*). The U.S. Fish and Wildlife Service is conducting restoration within the Reserve as well as other parts of the South Bay. The J Street Marsh consists of intertidal mudflats, low salt marsh, and upland transitional habitat and currently provides habitat for the state-endangered light-footed clapper rail (*Rallus longirostris levipes*). The marsh is slated for

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<sup>1</sup> See the Commission’s approval of Chula Vista LCP Amendment No. 1-11 and Port Master Plan Amendment No. 41, August 2012.

enhancement and restoration as part of the proposed Chula Vista Bayfront Master Plan. Other coastal birds found nearby include the state-endangered Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), the common sandpiper (*Actitis hypoleucos*), great blue heron (*Ardea herodias*), and black-necked stilt (*Himantopus mexicanus*).

### **Proposed Project Activities**

The proposed project includes demolishing and removing the remaining above-ground structures and most of the below-grade structures at the site, as well as all or part of several inwater structures. The existing stormwater structures will remain in place. The primary structures to be removed include:

- **Power block foundation:** This concrete foundation is approximately 12 feet thick and supported the power plant's boiler and turbine generator, which Dynergy removed during the first phase of this demolition project.
- **Storage tank bottoms:** Dynergy will remove the steel bottoms of four former fuel tanks ranging in size from about 100 to 150 feet in diameter. Dynergy removed the above-grade portions of the tanks as part of the previous project phase. The tank bottoms would be demolished using an excavator with hydraulic shears.
- **Shoreline and inwater structures:** Dynergy will fully or partially remove several structures associated with the power plant's seawater intake and discharge system, including intake pipes, utility bridges, concrete abutments, pilings and piers, trash gates, and a boat ramp. Where possible, Dynergy will use a land-based crane to lift structures onto nearby upland areas for removal. Where inwater work is required, Dynergy will first install marine silt fencing to reduce potential turbidity effects in San Diego Bay. Some work, such as underwater cutting of pier footings, will be done using a support barge. Dynergy will remove portions of the power plant's four intake structures down to four feet below grade. Removing those sections of the intake will result in "gaps" in the existing riprap lining the shore, and Dynergy will backfill those areas with a total of about 1,266 cubic yards of clean riprap similar to the existing riprap material.
- **Other buildings:** Dynergy will salvage, dismantle, or demolish five buildings remaining on site that have been used for office space, administration, storage, and similar uses. The buildings total about 8,500 square feet. All foundations and other building components are to be removed to four feet below grade. The buildings are all less than 40 feet high and are constructed of concrete, metal, wood, and/or stucco-type materials. Demolition would be done using excavators or other heavy equipment equipped with hydraulic hammers, shears, or similar attachments, with emphasis on maximizing the amount of material available for recycling.
- **Berms:** The site includes a number of berms that were formerly part of containment areas. Dynergy will excavate the berms and use the material for site grading.

- **Below-grade structural components:** Dynergy will remove all structures down to four feet below grade, including pipes, electrical conduits, vaults, foundations, and other similar structures. Any portion of utility lines remaining below four feet will be capped. All piping at the site was purged and cleaned as part of the previous phase of decommissioning and demolition.
- **Other structures:** Dynergy will also remove several other structures, including two areas of concrete that had served as unloading areas, a railroad spur extending about a third of a mile through the site, pump stations, miscellaneous footings and piping throughout the site, and most of the paving at the site.

Other activities include:

- **Waste generation and handling:** During the project, Dynergy expects to generate almost 100,000 tons of concrete, and about 11,000 tons of asphalt. It also expects to generate about 14,000 tons of non-hazardous demolition debris, such as wood, metal, and mixed debris. All materials will be recycled to the extent feasible. Most of the known structural hazardous materials were removed during the previous phase of the project, but Dynergy expects that additional hazardous materials, such as asbestos light ballasts, oil, and others, will be generated. All hazardous wastes found during the project will be handled and transported offsite subject to relevant waste management and transport requirements.
- **Site grading:** When the structures and structural components are removed, Dynergy will grade the site to maintain stormwater drainage patterns and to allow for ongoing site remediation in preparation for the eventual site redevelopment as part of the Chula Vista Bayfront Master Plan. Portions of the site's North Tank Farm area have already been remediated, but Dynergy will include grading in that area as part of its activities.

Pursuant to a Demolition Soil Management Plan approved by DTSC, Dynergy will also sample and test soils that are exposed during the demolition, and will properly handle and dispose of those soils exceeding the site's cleanup standards.

At the end of the project, remaining structures at the site will be those that are more than four feet below grade. On land, these will include some utilities, pipes, and footings, and those remaining in water will include portions of the power plant's intake and discharge structures, as well as riprap along the shoreline. The site's stormwater drainage system will also remain. The site also includes a switchyard owned by San Diego Gas and Electric, which will remain. The eventual relocation of the switchyard is the subject of a separate proceeding before the California Public Utilities Commission (#A-10-06-007) and will require separate coastal development permit review and approval.

The Port plans to remove most of these remaining structures during subsequent site remediation and restoration activities. These Findings do not address these future activities; however, they are addressed in a May 2010 Settlement Agreement, which is described below and which includes provisions to ensure that inwater and shoreline structures will be removed to allow restoration of the site's shoreline, creation of wildlife habitat areas and public access, and other features.

**Project timing, staging, and work effort**

Demolition activities are expected to take place over about a 12-month period. Dynegy expects to have up to about 75 workers on site, and will occur on weekdays between 7:00 a.m. and 7:00 p.m. and on Saturdays from 7:00 a.m. to 5:00 p.m. Work would be conducted using various types of heavy equipment, including cranes, bulldozers, backhoes and excavators, cutting torches, etc. Some work along the shoreline will be done using a barge-mounted crane.

Dynegy expects offsite transport of materials to require about 3200 truck trips, with an average of about 13 trucks per day. Dynegy estimates that greenhouse gas emissions expected from the project, which would be generated due to heavy equipment use, truck traffic, and worker vehicles, will total 7,264 CO<sub>2</sub> equivalents (CO<sub>2</sub>e) over the 12 months of project activities. This is below the state and local air board current interim threshold for industrial projects of 10,000 tons CO<sub>2</sub>e per year.

**B. COMMISSION JURISDICTION**

The Commission has permit jurisdiction over the proposed project and the standard of review is Chapter 3 of the Coastal Act.

**Jurisdictional Background**

Until 1998, the SBPP site was owned by SDG&E and was located within the City of Chula Vista and subject to the City’s Local Coastal Program. In 1998, the Port acquired much of the SBPP site from SDG&E, including parcels within the site that had been purchased with public trust funds and subject to the public trust. In January 1999, the State Lands Commission (SLC) approved a land exchange that included those portions of the site. In 2010, the Port, SDG&E, and SLC approved another land exchange to convey additional lands to the Port and SLC and to allow relocation of the SDG&E substation. The project site is now owned by the Port.

In 2012, the Commission approved an LCP amendment for the City of Chula Vista and a Port Master Plan amendment, which, with the Port’s incorporation of that amendment into its certified Port Master Plan, results in the project site being within the Port. The Port Master Plan, however, does not include any specific development on the project site, so, based on Coastal Act Section 30715, the Commission issues permits for development on the site and the standard of review is Chapter 3 of the Coastal Act.

**C. OTHER AGENCY APPROVALS & CONSULTATIONS**

The project is additionally subject to permits and approvals from the following:

- Department of Toxic Substances Control (DTSC): Demolition Soil Management Plan, Health and Safety Plan, and Sampling and Analysis Plan.
- San Diego Regional Water Quality Control Board (SDRWQCB): Construction Stormwater Permit.
- Port of San Diego: Tenant Agreement.
- City of Chula Vista: Grading Permit.

As noted above, the Port and other involved parties have conducted some soil and groundwater sampling and interim remediation activities at the site; however, all parties are waiting for structures to be removed as proposed herein before they can complete the sampling and site characterization needed to determine full remediation requirements at the site. Dynegy's activities may expose some areas of soil contamination that will require interim protective measures before full remediation can be completed. The Port has approved Dynegy's activities under its Tenant Agreement, and both DTSC and the Port have approved Dynegy's September 9, 2013 Demolition Soil Management Plan, which describes measures it will implement to avoid or minimize environmental exposure of onsite contaminants.

Prior to starting work at the site, Dynegy will also be required to obtain DTSC concurrence of a Health and Safety Plan and a Sampling and Analysis Plan that is to include proposed sampling procedures, analytical methods, testing protocols, and other parameters to ensure proper handling and disposal of contaminated materials at the site. Dynegy will also obtain a Construction Stormwater Management Plan from the SDRWQCB and a demolition and/or grading permit from the City. [Special Condition 2](#) requires that Dynegy submit, prior to starting onsite project activities, proof that it has obtained the above permits.

The demolition activities are also being implemented in part pursuant to a May 2010 Chula Vista Bayfront Master Plan Settlement Agreement, which also governs much of the future restoration and redevelopment expected at this and other nearby sites. The Settlement Agreement is between the City of Chula Vista (City), the City's Redevelopment Agency (RDA), the Port of San Diego (Port), and the Bayfront Coalition (Coalition). The Bayfront Coalition includes representatives from the Environmental Health Coalition, San Diego Audubon Society, San Diego Coastkeeper, Coastal Environmental Rights Foundation, Southwest Wetlands Interpretive Association, Surfrider Foundation, and Empower San Diego.

The Settlement Agreement requires the City, RDA, and Port to prepare a Natural Resources Management Plan (NRMP) meant to restore and protect wildlife habitat adjacent to areas of National Wildlife Refuge lands in South San Diego Bay. The Settlement Agreement identifies a number of management objectives such as long-term protection and enhancement of wetland, coastal sage, and upland habitats, preservation of Bayfront habitats for birdlife, improvement of water quality, and others. It also establishes the "South Bay Wildlife Advisory Group", which is meant to advise the Port and the City on NRMP creation and implementation. This group consists of representatives from the Coalition, along with representatives of several community groups, developers, a nearby school, the Chula Vista Nature Center, and state and federal resources agencies, including the U.S. Fish and Wildlife Commission, National Marine Fisheries Service, California Department of Fish and Game, Regional Water Quality Control Board, and the Coastal Commission.

The Settlement Agreement identifies certain parcels within and near the site that will be used for wildlife enhancement, habitat restoration, and other similar uses. It also commits the Port to analyze, as part of the Port's CEQA evaluation, the wetland and marine life restoration options of the power plant's intake and discharge structures. The Port is not conducting CEQA review for the currently proposed activities, but is expected to do so as part of subsequent restoration and redevelopment proposals.

**D. PROTECTION OF COASTAL WATERS AND SPILL PREVENTION AND RESPONSE**

Coastal Act Section 30230 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 and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Coastal Act Section 30231 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 waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Coastal Act Section 30232 states:

*Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

These Coastal Act policies require that development protect coastal waters and not result in adverse effects to those waters and their associated coastal resources. The policies also require protection against spills of hazardous substances and effective management of spills should they occur. Without necessary mitigation measures, the proposed project activities could adversely affect these coastal resources.

The SBPP site includes, or is adjacent to, several areas of coastal waters. The site includes about 35 acres of tidelands within San Diego Bay and about 2,000 linear feet of Bay shoreline. The site is bisected by an approximately 1,500-foot segment of Telegraph Creek and is adjacent to the J Street Channel, both of which flow into the J Street Marsh and San Diego Bay. The portion of Telegraph Creek within the site consists largely of a concrete-lined channel that provides minimal habitat values, though the westernmost several hundred feet of the Creek closest to San Diego Bay provides higher-quality salt marsh habitat. The J Street Channel is similarly hardened and riprapped along most of the site boundary, though with higher quality marsh habitat at its western end near the Bay. The Chula Vista Bayfront Master Plan identifies the westernmost reaches of both the Creek and the Channel as candidates for restoration. The North Tank Farm portion of the site includes several remediation pits remaining from prior site cleanup activities that will be graded as part of the ongoing site remediation.

Project activities and impacts that could adversely affect coastal water quality and habitat are described below, along with mitigation measures necessary to avoid and minimize potential adverse impacts.

### **Avoiding and Minimizing Direct Impacts to Coastal Waters**

Some project activities – e.g., removing portions of intake structures and piers, and placing riprap – will occur within or immediately adjacent to coastal waters. These activities could result in sedimentation, spills, or other adverse effects within San Diego Bay. As part of its project, Dynegy has included several mitigation measures that will avoid and reduce potential impacts. For example, the substrate near the intake structures provides only minimal habitat value; however, it consists of sand, mud, and gravel that could cause turbidity when disturbed; therefore, Dynegy will install and maintain marine silt curtains in Bay waters prior to starting any inwater work. Dynegy has also submitted a Construction Spill Prevention and Response Plan (CSPRP) that includes proposed measures meant to minimize the potential for spills and to respond to spills, should they occur. To further reduce spill potential and to improve spill response, [Special Condition 3](#) requires Dynegy to modify its CSPRP to include several additional spill prevention measures, to require notification to involved agencies should any spills occur that have the potential to reach coastal waters, and to request a permit amendment to modify its practices should spills occur that affect coastal waters.

### **Avoiding and Minimizing Indirect Impacts to Coastal Waters**

Activities proposed for upland portions of the project site will be subject to provisions of both the DTSC-approved Demolition Soil Management Plan and a Construction Stormwater Permit from the San Diego Regional Water Quality Control Board. Those approvals will require Best Management Practices meant to ensure project activities avoid turbid or contaminated runoff and maintain stormwater flows that will not cause erosion or sedimentation. Most of the upland work will occur at sufficient distance from coastal waters to avoid direct impacts. Runoff from project areas will be directed to the site's existing stormwater management system, as modified pursuant to the Regional Board's approval.

#### *Indirect Impacts – Control of Project-related Dust:*

One of the project's main potential impacts to coastal waters is from potentially-contaminated dust generated during demolition activities and during movement and operation of heavy equipment. The project site is relatively open and in an area where strong winds could transport dust some distance from the project activities. Large amounts of dust could adversely affect water quality and habitat values of nearby coastal waters.

The project includes several measures to reduce dust generation. Dynegy submitted with its application an Air Monitoring and Dust Control Plan meant to meet requirements of the California Air Resources Board and the San Diego Air Pollution Control District and to minimize the emission of dust and particulates during demolition and dismantling activities. The Plan identifies the project activities likely to generate dust and the measures to prevent and suppress dust generation, such as watering all exposed construction areas at least twice daily, suspending excavation, grading, and demolition activities when wind speeds exceed 20 miles per hour, covering all truck loads leaving the site, and others. The Plan also describes air and dust monitoring protocols that Dynegy will employ to identify potential airborne contaminants that



may occur during project activities, and includes response measures should project activities result in exceedance of air monitoring action levels. As noted above, Dynergy will also be subject to a DTSC-approved Demolition Soil Management Plan and a City of Chula Vista-approved grading permit, both of which include conditions to minimize potential transport of dust and contaminants. With mitigation measures included in the project description and with those required in these approvals, project-related dust is not expected to adversely affect coastal waters.

*Indirect Impacts – Controlling Project-related Runoff, Stormwater, and Potential Spills:*

Project activities could also mobilize contaminants through surface water runoff. Although the site has a functioning stormwater management system, project-related activities could increase the types and volumes of contaminants the system may need to handle. To address potential water quality and habitat impacts that may arise from project-related runoff, Dynergy will implement various Best Management Practices (BMPs) and will be subject to requirements of a Construction Stormwater Plan approved by the Regional Board. The project activities are also subject to the SBPP's approved spill prevention and response plan. Dynergy additionally provided a Construction Spill Prevention and Response Plan to address these proposed project activities, which includes a number of mitigation measures meant to avoid and reduce potential spills. However, to provide further protection against spills related to project activities and to ensure the necessary response to any spills that may occur, [\*\*Special Condition 3\*\*](#) additionally requires Dynergy to implement specific spill prevention and response measures for the project, including daily vehicle and equipment inspections for leaks, identification of all materials that will be immediately available to respond to project-related spills, necessary telephone contacts for spill notifications, and others.

**Conclusion**

For the reasons described above, the Commission finds that the proposed project, as conditioned, will be carried out in a manner that is protective of coastal waters and will prevent or respond to potential spills and is therefore consistent with Coastal Act Sections 30230-30232.

**E. ENVIRONMENTALLY SENSITIVE HABITAT AREAS**

Coastal Act Section 30240 states:

- a) *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*
- b) *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

There are no project activities proposed within identified environmentally sensitive habitat areas (ESHAs). Although the project site is not believed to provide ESHA or habitat for sensitive bird species, Dynegy has included in its project description a mitigation measure to remove vegetation at the site only outside of nesting season (i.e., between September 15 and March 15 of any year) unless a nesting survey by a qualified biologist shows no active nests are present.

However, project activities could adversely affect species using nearby sensitive marsh habitats in the adjacent J Street Marsh or nearby Chula Vista Wildlife Refuge. At least two sensitive bird species – the Belding’s savannah sparrow (*Passerculus sandwichensis beldingi*) and the Light-footed clapper rail (*Rallus longirostris levipes*) have been known to occupy the Telegraph Creek estuary and J Street Marsh and Channel on the north and northwest boundary of the site. Although parts of the J Street Marsh include heavy vegetated cover, a pair of Light-footed Clapper rails was observed in the marsh during a 2011 survey.<sup>2</sup> Additionally, the Chula Vista Wildlife Refuge, which is about 3000 feet to the west of the site on a peninsula that extends into San Diego Bay, provides nesting habitat for the federally- and state-listed endangered California least tern (*Sterna antillarum browni*) and the special-status osprey (*Pandion haliaetus*).

The main potential adverse effects to these areas are those related to turbidity, runoff, and dust, which are addressed above in Section IV.D, and those that would result from project-related noise, which are addressed below. Most of the project’s construction equipment is expected to generate sound levels in a range of about 85 to 95 decibels at a 50-foot distance, with the hydraulic hammer used to demolish the power block foundation expected to generate levels of up to about 105 decibels.

Much of the project’s noise-generating activities will take place at a sufficient distance from nearby ESHAs to allow sound levels to attenuate to levels at or below 60 decibels, the threshold below which nesting birds are not expected to be adversely affected.<sup>3</sup> Sound levels decrease about six decibels with every doubling of distance from the sound source, and can be further

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<sup>2</sup> See Zembal, Richard, Susan Hoffman, and John Konecny, *Status and Distribution of the Light-footed Clapper Rail in California, 2011 Season, Nongame Wildlife Program Report 2011-11*, prepared for California Department of Fish and Game, September 6, 2011.

<sup>3</sup> See, for example, the Port of San Diego, *Final Environmental Impact Report – Chula Vista Bayfront Master Plan, Section 4.7 – Noise Impacts*, April 2010.

reduced or cause fewer adverse effects due to wind direction, relative ambient sound levels, and other factors. For example, a 90-decibel sound level at the project site would decay to less than 60 decibels at the nesting area of the California least tern, which is about 3000 feet west of the project site, and would therefore be below the identified effect threshold. In addition, ambient sound levels at and near the project site resulting from activities at nearby Interstate 5, a marina, and jet and helicopter operations from the U.S. Navy Base across the Bay, will likely “mask” some of the project noise and reduce potential impacts.

Dynergy submitted a Noise Monitoring and Control Plan as part of its application that includes several mitigation measures to avoid and reduce many of the project’s potential noise-related adverse effects. For example, all pneumatic equipment will include intake and exhaust mufflers to reduce noise levels, activities will be conducted using electric instead of air- or gasoline-powered tools when possible, and Dynergy will use moveable sound buffers, such as sound curtains, blankets, or enclosures around noise-producing equipment when necessary to reduce sound levels. Dynergy will also conduct noise monitoring at a site fenceline to ensure noise levels stay below the acceptable residential receptor threshold of 75 dBA.

However, Dynergy’s Plan did not address potential effects on wildlife in the nearby marsh areas used by nesting birds, and the expected project-generated noise levels continue to have the potential to disturb species dependent on nearby ESHA, even with the currently proposed measures in Dynergy’s Plan. Therefore, [Special Condition 4](#) requires Dynergy to revise the Plan to incorporate additional noise reduction measures and increased monitoring to ensure project-related noise stays at levels below those that would disturb nearby nesting birds. The additional measures could include increased sound barriers, timing restrictions (e.g., no use of the 105-decibel hydraulic hammer during nesting season), or other similar measures. Increased monitoring includes nest surveys and sound monitoring on the Bay side of the project site. The revised Plan would also limit project-generated noise levels in areas with active nests to no greater than 60 dBA unless nest surveys show no active nests or breeding pairs are present.<sup>4</sup>

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<sup>4</sup> **Special Condition 4** is consistent with Noise Mitigation Measure 4.7-1 in the above-referenced FEIR for the Chula Vista Bayfront Master Plan, which states:

“**Mitigation Measure 4.7-1:** The following mitigation measure would reduce **Significant Impact 4.7-1** (associated with construction noise levels exposing nesting birds in the J Street Marsh to noise levels greater than 60 dB(A) Leq.) to below a level of significance.

Construction-related noise shall be limited adjacent to the J Street Marsh during the typical breeding season of January 15 to August 31. Construction activity adjacent to these sensitive areas must not exceed 60 dB(A) Leq. at any active nest within the marsh. Prior to issuance of a building permit, the project developer shall prepare and submit to the City for review and approval an acoustical analysis and nesting bird survey to demonstrate that the 60 dB(A) Leq. noise level is maintained at the location of any active nest within the marsh. If the noise threshold is anticipated to be exceeded at the nest location, the project developer shall construct noise barriers or implement other noise control measures to ensure that construction noise levels do not exceed the threshold.”

## **Conclusion**

For the reasons described above, the Commission finds that the proposed project, as conditioned, will be carried out in a manner that is protective of environmentally sensitive habitat areas and is therefore consistent with Coastal Act Section 30240.

## **F. VISUAL RESOURCES**

Coastal Act Section 30251 states:

*The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

There are few expected visual impacts from the project's activities. The previous phase of the project removed most of the site's larger structures, including the 165-foot tall power plant boiler. Remaining structures are relatively small and most are several hundred feet from the nearest public road on the eastern boundary of the site and from the nearest public viewpoints along the shoreline.

Based on the scale of the remaining structures, the size of the site, and the distances from public viewpoints, the only adverse visual impacts from the proposed activities are expected to be minor and would occur primarily due to placement and operation of construction equipment. However, to further reduce potential visual impacts during the demolition project, [Special Condition 5](#) requires Dynegy to direct project-related lighting downward and away from offsite areas to the extent allowed pursuant to health and safety requirements.

## **Conclusion**

Based on the above, the Commission finds that the proposed project, as conditioned, is consistent with the Coastal Act's visual resource policies of Section 30251.

## **V. CALIFORNIA ENVIRONMENTAL QUALITY ACT**

In 2010, the Port certified a Final EIR for the proposed Chula Vista Bayfront Master Plan. The EIR was a combined project and programmatic EIR, with detailed analyses of short-term components of the Plan and more conceptual analyses of later phases of the Plan. The EIR presumed that SPBB would be decommissioned and removed and that the SPBB site would be redeveloped and restored.

Section 13096(a) of the Commission's administrative 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.

Because the proposed project has the potential to result in significant adverse environmental impacts, the Commission has identified and adopted seven special conditions necessary to avoid, minimize, or mitigate these impacts. With the inclusion of these special conditions, the Commission finds that, within the meaning of the California Environmental Quality Act of 1970, there are no further feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the proposed project may have on the environment. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA.

## APPENDIX

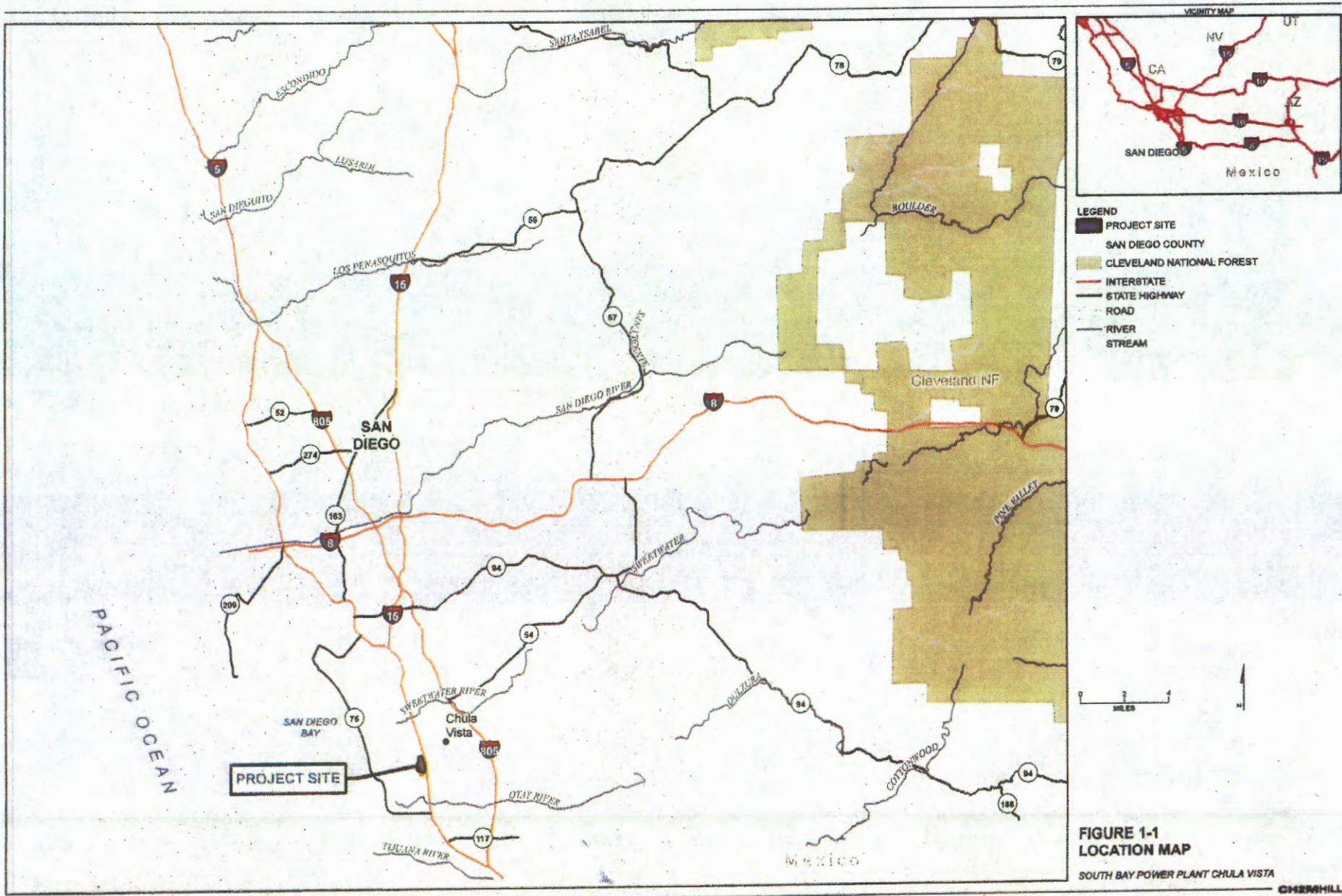
### Appendix A – Substantive File Documents

Port of San Diego, *Final Environmental Impact Report – Chula Vista Bayfront Master Plan*, April 2010.

\_\_\_\_\_, *Port Master Plan*, certified by the California Coastal Commission in 1981, and amended in August 2004.

U.S. Department of the Navy, *San Diego Bay Integrated Natural Resources Management Plan*, September 2000.

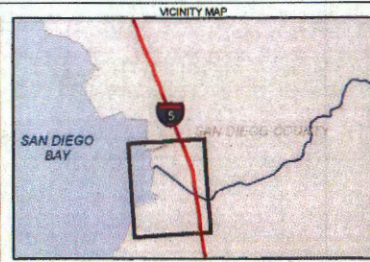
U.S. Fish and Wildlife Service, *San Diego Bay National Wildlife Refuge, Sweetwater Marsh, and South San Diego Bay Units Draft Comprehensive Conservation Plan and Environmental Impact Statement*, July 2005.



**FIGURE 1-1**  
**LOCATION MAP**  
 SOUTH BAY POWER PLANT CHULA VISTA

CH2M HILL

E-12-015  
 Exhibit 1 – Location Map



**LEGEND**  
 [Orange outline] PROJECT SITES  
 [Red outline] LEASE BOUNDARY



**FIGURE 1-2**  
**SITE MAP - GENERAL**  
 Draft Final Demolition Plan  
 SOUTH BAY POWER PLANT CHULA VISTA

CH2MHILL

E-12-015  
 Exhibit 2 – Site Map



Dynegy South Bay, LLC  
990 Bay Blvd  
Chula Vista, CA 91911-1651  
Phone 619.476-1547 ext 303



**DYNEGY**

December 16, 2013

Tom Luster  
California Coastal Commission  
45 Fremont, Suite 2000  
San Francisco, CA 94105

**RE: Noise Monitoring and Control Plan  
Coastal Development Permit Application E-12-015  
Dynegy South Bay, LLC**

Dear Mr. Luster:

Please find attached the Noise Monitoring and Control Plan (Plan), prepared by Dynegy's contractor Specialized Industrial Services, Inc. for the belowground demolition project at Dynegy's South Bay Power Plant. This Plan is being provided as part of the Coastal Development Permit Application E-12-015 for this project.

Dynegy appreciates your time and effort on our project and look forward to receiving the Staff Report and participating in the January 2014 hearing regarding our CDP Permit.

If you have any questions at all please don't hesitate to contact me at 217/519-4035.

Regards,

Barbara Irwin  
Director Environmental  
Dynegy South Bay, LLC

Attachment

cc: Meg Rosegay – Pillsbury  
Larry Randel – Dynegy South Bay  
John DiMiceli – SIS  
Sree Gopinath – The Bodhi Group

**NOISE MONITORING AND CONTROL PLAN  
SOUTH BAY POWER PLANT  
BELOW GROUND DEMOLITION PROJECT  
CHULA VISTA, CALIFORNIA**

**PREPARED FOR:**

**MR. JOHN DIMICELI  
PROJECT DIRECTOR  
SPECIALIZED INDUSTRIAL SERVICES  
14150 VINE PLACE  
CERRITOS, CALIFORNIA 90703**

**PREPARED BY:  
The Bodhi Group Inc.**

**DECEMBER 2013  
PROJECT NO. 9067002**



**The Bodhi Group**



# The Bodhi Group

December 2013  
Project No. 9067002

Mr. John DiMiceli  
Project Director  
Specialized Industrial Services, Inc.  
14150 Vine Place  
Cerritos, California 90703

Subject: Noise Monitoring and Control Plan  
South Bay Power Plant  
Below Ground Demolition Project  
Chula Vista, California

Dear Mr. DiMiceli:

Please find attached the Noise Monitoring and Control Plan (NMCP) for the Below Ground Demolition project (Project). The Project consists of demolition of terrestrial, marine, and remaining aboveground structures, disposal of waste removed incidental to the demolition, backfilling, and grading.

Respectfully,

**THE BODHI GROUP INC**

Sree Gopinath, PE  
Principal Engineer



Stephen Waide, CIH, CSP  
Certified Industrial Hygienist



Distribution eCopy only: (1) Addressee  
(1) Ms. Barbara Irwin, Dynege

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Table 1 – Typical Sound Levels of Noise Sources and Expected Reactions

Table 2 – Typical Construction Equipment Noise in dBA

Table 3 – Noise-Sensitive Receptors

Table 4 – Leq Project Noise at Receptor

## 1. INTRODUCTION

Dynegy South Bay, LLC (Dynegy) has retained Specialized Services, Inc. (SIS) for the demolition of below ground, marine, and remaining aboveground structures (Project) of the South Bay Power Plant (SBPP) in Chula Vista, California (Site, Figure 1). The Project requires the preparation of a Noise Monitoring and Control Plan (NMCP) to monitor for and mitigate construction noise to minimize, to the greatest extent feasible, disturbance to the public.

### 1.1. Scope of Project

The Project consists of the demolition of the following terrestrial and marine Site features:

- Power Block Foundation
- Cooling Water System
- Buildings (White House, Assembly Building, School House, Hazardous Waste Storage Building, and Guard Shack)
- North and South Tank Foundations and Berms
- Miscellaneous structures
- Marine Structures
- Below ground structures
- Existing Wastewater Treatment Plant Foundations
- Remaining Miscellaneous Foundations

In addition to structure demolition, the Project will include the following related activities.

- Environmentally Regulated Waste (ERM) Abatement and Waste Transport and Disposal
- Vegetation and Mulching
- Backfill, Compaction, Final Grading, and Soil Stabilization
- Concrete Processing

## 2. SITE LOCATION AND IDENTIFICATION

The former South Bay Power Plant (Site) is located at 990 Bay Boulevard in Chula Vista, California (Figure 1). The surrounding community is a mix of commercial and industrial uses.

Owner:	Port of San Diego
Operator	Dynegy
Contractor:	SIS
Contractor's Environmental Consultant	The Bodhi Group

## 3. FUNDAMENTALS OF NOISE

Physically, sound magnitude is measured and quantified in terms of the decibel (dB), which is a unit on a logarithmic scale based on the ratio of the measured sound pressure to the reference sound pressure of 20 micropascal. In addition, the human hearing system exhibits a slow time response and is not equally

sensitive to the same sound pressure level at low, middle and high acoustic frequencies. Because of this variability, a frequency-dependent, adjustment called “A-weighting” has been devised so that sound may be measured in a manner similar to the way the human hearing system responds. The A-weighted sound level is abbreviated "dBA". Table 1 below gives typical A-weighted sound levels for various noise sources and the typical reactions to these levels. Sound levels referred to in this Plan are generally A-weighted, slow response, sound pressure levels.

**Table 1 - Typical Sound Levels of Noise Sources and Expected Reactions**

Noise Source	Sound Level (dBA)	Individual or Community Response
Jet takeoff (near runway)	120	Threshold of physical discomfort
Ambulance siren at 100 feet or diesel truck (at sidewalk)	90	Hearing Damage Criteria for 8-hour workday
Gas lawn mower	80	Most residents highly annoyed
Average urban area	60	Acceptability limit for residential development

The two acoustical metrics most frequently used to provide a single number sound level for time-varying sounds over a given time period are the energy equivalent or energy average sound level (Leq) and the “slow response” maximum sound level (Lmax).

The equivalent sound level (Leq) as it relates to construction activity depends on several factors including machine power, the manner of operation and the amount of time the equipment is operated over a given time period. The most dominant source of noise for the majority of construction equipment is the engine exhaust, which is usually a diesel engine. However, for some construction work, such as using an impact hammer on concrete, the noise produced is the dominant source for the short-periods of time this work is in progress. Similar construction activities can create different noise impacts, depending on the location of the construction site, the terrain and other intervening features and the type of receptor populations in the vicinity of the construction site.

For most construction activities, different construction equipment operate in one of two modes, stationary and mobile. Stationary equipment are those that operate in one small area for one or more days at a time, with either a steady power cycle operation (e.g., concrete crushing) or a periodic impulsive operation (e.g., impact hammer). Mobile equipment are those that frequently move around a much larger area of the construction site with power applied in a rapidly changing, non-steady fashion (e.g., loaders, water trucks), or move to and from the construction site (e.g., waste and salvage haul trucks). These variations in operating power and location add a great deal of complexity in characterizing the source noise level of a given piece of construction equipment. This complexity can be simplified by determining the equipment noise level at a 50-foot reference distance from the equipment operating at full power and adjusting its full power noise level according to the duty cycle or “usage factor” of the particular construction activity and project phase to determine the characteristic noise level of the operation during each phase.

Typical 50-foot reference noise levels from representative pieces of construction equipment are listed in Table 2. The major noise producing Project activities would likely be use of impact hammer, concrete breaking, excavation, earth moving, and trucking.

**Table 2 - Typical Construction Equipment Noise in dBA**

Noise Source	Noise Level Range	50-foot Noise Level (Leq)	50-foot Maximum Noise Level (Lmax)
Air compressor	76-89	82	89
Backhoe	81-90	85	90
Dozer	77-90	80	90
Excavator	83-92	87	92
Loader	77-90	79	90
Hydraulic hammer	99-105	102	105
Concrete breaker	75-85	82	85
Jack hammer	75-88	82	85
Pneumatic tool	78-88	85	88
Loaded diesel truck	81-95	88	95
Water truck	89-94	88	94
Scraper	82-91	88	91
Grader	79-89	85	89

Noise-sensitive receptors that would be affected by such construction activities are listed in Table 3, along with their periods of greatest sensitivity to construction noise.

**Table 3 – Noise-Sensitive Receptors**

Receptor	Sensitive Time Period
Hospitals, Nursing homes	24 hours
Residential	Evening/Night
Hotels/Motels	Evening/Night
Schools, Church, Libraries	Daytime/Evening

#### 4. CONSTRUCTION NOISE THRESHOLD CRITERIA

Standardized federal or state criteria have not been adopted for assessing construction noise impacts. With regard to noise exposure and workers, the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR Section 1910.95, Code of Federal Regulations). OSHA specifies that sustained noise over 85 dBA can be a threat to workers' hearing. Monitoring and mitigation of noise exposure to workers is addressed in the Project Health and Safety Plan (Bodhi, 2013).

For this Project the municipal ordinances discussed below will be followed.

**4.1. San Diego County Code of Regulatory Ordinances Section 36.410**

Except for emergency work, it is unlawful to operate construction equipment on Sundays, legal holidays, and between the hours of 7:00 p.m. and 7:00 a.m. for all other days. During daytime hours, construction equipment must not cause noise levels above 75 dBA for more than an 8-hour period at residential properties.

**4.2. City of San Diego Municipal Code (Chapter 5, Article 9.5, Division 4)**

Although the Project is located in Chula Vista, the guidelines for this ordinance will be followed. Construction noise must be limited to daytime hours between 7:00 a.m. and 7:00 p.m., Monday through Saturday, and is generally required to cause less than an average 75 dBA at residential property boundaries during the 12-hour period.

**5. NOISE IMPACTS**

As indicated previously, Project demolition and earthwork activities would require the short-term use of heavy construction equipment that would create both intermittent and continuous noises. Continuous noise levels would be lower because most equipment would not be operated steadily at full load. The noise levels for typical construction equipment used are listed in Table 2.

**5.1. Project Location and Receptors**

The Site relative to nearest receptors is shown on Figure 1. To the west is San Diego Bay that provides a significant buffer to attenuate noise such that residential receptors across the Bay will not be exposed to construction noise generated at the Site. To the south is a former tank farm, which also provides a significant buffer to attenuate noise. To the north is a drainage channel separating a public park, located approximately 200 feet north of the Site. To the east is a strip of commercial properties and Interstate 5 (I-5). There are residential properties east of I-5, located approximately 1,000 feet east of the Site. The commercial businesses and I-5 provide a significant buffer that will attenuate any construction noise such that residential receptors will not be exposed to construction noise from the Site. Workers in the commercial businesses along Bay Boulevard across from the Site are the only receptors who may be exposed to construction noise.

**5.2. Exposure to Site Construction Noise**

Figure 2 shows the primary areas of work at the Site and the predominant noise-generating process (work process that will be dominant for the area) and the predominant noise-generating equipment (equipment with the highest Lmax with significant use to accomplish the work in the area). For example, work at the North and South Tank Farms will include demolition of concrete ring foundations, excavation of the bermed soil, and grading the area to drain. Although demolition is part of the work, the dominant work in this area will be grading, where excavators, scrapers, graders, and water trucks will be used. Among these equipment, scrapers will be likely operated at the highest hourly percentage and was therefore used to evaluate exposure to receptors.



Similarly, at the Power Block, concrete demolition will be the dominant work process and the predominant noise-generating equipment will be the hydraulic hammer (or similar equipment) with an Lmax of 105 dBA.

For evaluating the worst case one-hour Leq noise at the nearest sensitive location – workers in the buildings along Bay Boulevard, the following conservative assumptions were made:

- At the Power Block, the use of two hydraulic hammers with an hourly percentage use of 70%. The distance from the Power Block to the receptor is 1,500 feet.
- At other areas of the Site, the use of a scraper with an hourly percentage use of 70%. The average distance to the receptor is approximately 1,000 feet.

**Table 4 – Leq Project Noise at Receptor**

Noise Source	No. of Equipment	50-foot Leq	Distance to receptor (feet)	Hourly Percentage use (estimated)	Leq (worst-case hour)
Power Block Hydraulic Hammer	2	102	1,500	70	74
Scraper	2	88	1,000	70	63
Water Truck	1	88	1,000	20	55

The worst case is 74 dBA, which is within the acceptable level for residential receptors of 75 dBA. Since the receptor is a worker in these commercial buildings, the exposure is conservative and will likely not be of nuisance or have harmful effects.

### 5.3. Project Schedule

The Project work hours will generally be between the hours 7 am to 7 pm that complies with the local municipal ordinances listed in this Plan.

## 6. NOISE MONITORING

To verify that noise levels estimated in Table 4 will not be exceeded, noise monitoring will be performed along the fence line at locations and times determined by the Project Certified Industrial Hygienist, Mr. Stephen Waide.

The monitoring will be performed with a Type 2 (General Purpose) Sound Level Meter, as defined in the most recent revision of ANSI Standard S1.4.2 such as Casella CEL 254 Type 2 Sound Level Meter with a Model 282 Type 2 calibrator. The sound level meter will be calibrated using an acoustic calibrator, according to the manufacturer's specifications, each day of measurement, prior to use.

The measurement microphone will be fitted with an appropriate windscreen and the sound level meter will be placed along the Site fence line nearest the receptor with the microphone approximately 5 feet above the ground and at least 10 feet away from any vertical surfaces. Ambient noise measurements (such as that produced by traffic on I-5) will be measured during periods of the least Site noise-producing construction activity. The data will be recorded on noise measurement forms and will be kept as part of the Project documentation.

## **7. NOISE CONTROL MEASURES**

When the construction noise threshold criteria are exceeded (during measurements at the Site fence line), noise abatement measures will be implemented and adequate noise reduction achieved to bring the construction activities into compliance with the noise threshold criteria.

Construction noise mitigation may be achieved using various combinations of equipment source noise reduction and propagation path noise reduction. Noise monitoring will be performed after implementing noise control measures to verify that the control measures are effective.

### **7.1. Equipment Noise Reduction**

- Minimize the use of impact devices, such as jackhammers and hoe rams. Where possible, concrete crushers will be substituted for hoe rams.
- Pneumatic impact tools and equipment will have intake and exhaust mufflers recommended by the manufacturer.
- If feasible, impact noise producing equipment, i.e. impact hammers, will be fitted with noise attenuating shields or shrouds to reduce operating noise.
- Upgraded mufflers, acoustical lining or acoustical paneling will be provided for noisy equipment, including internal combustion engines.
- Where feasible, the following construction equipment will be used to reduce noise and vibrations:
  - Electric instead of diesel-powered equipment.
  - Hydraulic tools instead of pneumatic tools.
  - Electric saws instead of air- or gasoline-driven saws.
- Equipment will not be idled for significant periods of time.
- Equipment will be operated without excessive engine revving.

### **7.2. Noise Propagation Path Reduction Methods**

Moveable frame-mounted noise curtains, blankets or enclosures adjacent to or around noisy equipment may be considered if other noise control methods are not effective. Where appropriate, noise control shields shall be made of a durable, flexible composite material featuring a noise barrier layer bonded to a weather-protected, sound-absorptive material on the construction-activity side of the noise shield.


## **8. SELECTED REFERENCES**

The Bodhi Group, Inc., 2013, Health and Safety Plan, South Bay Power Plant, Below Ground Demolition Project, Chula Vista, California, dated: November 27.

**Figures**



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

		 <b>The Bodhi Group</b>	<b>Site Location Map</b>	Figure	
		Project No.	Date	<b>South Bay Power Plant</b> <b>990 Bay Boulevard</b> <b>Chula Vista, California</b>	1
		9067002	12/2013		



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Work Zones Site	 			<b>Noise Generating Process, Equipment, and Receptor Distance at Major Work Zones</b>	Figure 2
		Project No. 9067002	Date 12/2013		