WILLIAM T FUJIOKA
Chief Executive Officer

County of Los Angeles
CHIEF EXECUTIVE OFFICE

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"To Enrich Lives Through Effective And Caring Service"

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Fifth District

December 03, 2013

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES
38 December 3, 2013
SACHI A. HAMAI
EXECUTIVE OFFICER

Dear Supervisors:

DEPARTMENT OF PUBLIC WORKS:
MALIBU SURFRIDER BEACH TANK PROJECT
ADOPT MITIGATED NEGATIVE DECLARATION AND
MITIGATION MONITORING AND REPORTING PROGRAM;
APPROVE PROJECT AND BUDGET
THIRD DISTRICT

SUBJECT

Approval of the recommended actions will adopt the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program; approve the proposed Malibu Surfrider Project and budget; and authorize the Department of Public Works to deliver the Project using a Board-approved Job Order Contract.

IT IS RECOMMENDED THAT THE BOARD:

1. Consider the Mitigated Negative Declaration for the Malibu Surfrider Beach Tank Project together with any comments received during the public review period; find that the Mitigated Negative Declaration reflects the independent judgment and analysis of the Board; adopt the Mitigation Monitoring and Reporting Program, finding that the Mitigation Monitoring and Reporting Program is adequately designed to ensure compliance with the mitigation measures during Project implementation, and find on the basis of the whole record before the Board that there is no substantial evidence the Project will have a significant effect on the environment; and adopt the Mitigated Negative Declaration.

2. Approve the Malibu Surfrider Beach Tank Project with a total budget of $529,000 funded by prior year net County cost, Vehicle License Fee Gap Loan Special, and Extraordinary Maintenance

Funds.

3. Authorize the Acting Director of Beaches and Harbors, or his designee, to enter into a Departmental Agreement with the California Department of Parks and Recreation to reimburse the procurement and installation cost of interpretive signage of the historic saltwater swimming pool intake tank at the Adamson House Museum for a not-to-exceed amount of $8,000, included in the proposed Malibu Surfrider Beach Tank Project.

4. Authorize the Department of Public Works to deliver the Malibu Surfrider Beach Tank Project using a Board-approved Job Order Contract.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

Approval of the recommended actions will adopt the Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program (MMRP); and authorize the Department of Public Works (Public Works) to deliver the Malibu Surfrider Beach Tank Project (Project) using a Board-approved Job Order Contract (JOC).

In 2005, during a winter storm, sand erosion uncovered an underground tank structure. Subsequent field investigation and historical research revealed that the underground tank is a saltwater intake structure that was constructed in 1929 in connection with a swimming pool on the adjacent historical Adamson House property, which is listed on the California and National Register of Historic Places and is now a museum. Based on consultation with California Department of Parks and Recreation (State Parks) and the California Office of Historic Preservation, the underground tank is considered significant for its historic use associated with the Adamson House, and will be preserved and abandoned in place.

Since 2005, the Department of Beaches and Harbors has replenished the sand thereby burying the tank. The proposed Project will address public safety concerns associated with having the underground salt water intake tank buried at the public beach. The proposed Project scope includes excavation of the sand to uncover the tank, filling the tank with sand and slurry cement, and installation of reflective markers on the top outer wall surface of the tank as a safety and warning measure in the event that the tank is exposed in the future from sand erosion caused by storms. In addition, approximately 150 feet of 6-inch-diameter abandoned underground pipeline believed to carry water from the underground tank to the previous Adamson House swimming pool will be removed from the active beach sand area without disturbing the existing vegetation.

As requested by State Parks and the California Office of Historic Preservation, the County will enter into an agreement with State Parks for a not-to-exceed amount of $8,000 to reimburse the State for procurement and installation of interpretive signage at the Adamson House Museum explaining the significance of the concrete tank and its function and association with the Adamson House swimming pool, and referencing the tank's location on the beach.

The proposed Project is being administered by Public Works and will be constructed using a Board-approved JOC. It is anticipated that construction will begin in January 2014 and be completed in March 2014.

Implementation of Strategic Plan Goals

The Countywide Strategic Plan directs the provision of Operational Effectiveness (Goal 1) and Integrated Services Delivery (Goal 3) by investing in public infrastructure that will enhance recreational opportunities for County residents and visitors by providing improved public beach access.

FISCAL IMPACT/FINANCING

The total proposed Project cost, including plans and specifications, plan check, construction, consultant services, miscellaneous expenditures, and County services, is currently estimated at $529,000. The Project Schedule and Budget Summary are detailed in Attachment A.

The proposed Project is funded with $47,000 of prior year net County cost, $316,000 of Vehicle License Fee Gap Loan Special Funds, and $166,000 of Extraordinary Maintenance Funds.

The Department of Beaches and Harbors does not anticipate any one-time, start-up costs, or an increase in ongoing maintenance and operational costs as a result of the proposed Project.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

Public Works is in the process of obtaining the required permits or clearances from the U.S. Army Corps of Engineers, the Los Angeles Regional Water Quality Control Board, and the City of Malibu (Coastal Development Permit) for construction of the proposed Project.

Pursuant to your Board's Civic Art Policy adopted on December 7, 2004, and revised on December 15, 2009, the proposed Project is exempt from the Civic Art Policy funding allocation requirement because the proposed Project involves underground work and the eligible project cost is less than $500,000.

A Departmental Agreement will be used with State Parks for procurement and installation of interpretive signage at the Adamson House Museum explaining the significance of the swimming pool salt water intake tank.

ENVIRONMENTAL DOCUMENTATION

An Initial Study for the proposed Project was prepared in compliance with California Environmental Quality Act. The Initial Study identified potentially significant effects on the environmental areas of air quality, biological resources, and cultural resources as a result of the proposed Project. Prior to the release of the Initial Study and MND for public review, revisions to the proposed Project were made or agreed to which would avoid these significant effects or mitigate them to a point where clearly no significant effects would occur. Recommended mitigation measures for the proposed Project are as follows:

- Air Quality: Implement all applicable Best Available Control Measures listed in South Coast Air Quality Management District Rule 403, and operate construction equipment to minimize exhaust emissions.

- Biological Resources: Limit ground disturbing activities during construction to avoid impacts on

existing vegetation and potential grunion spawning areas.

- Cultural Resources: Prepare photographic, architectural, and written documentation of the exposed tank during construction in accordance with Historic American Building Survey and American Engineering Record standards; provide archeological monitoring during ground disturbing activities; if subsurface paleontological specimens are encountered during construction, findings shall be examined by a qualified paleontologist to assess their significance and offer recommendations for proper handling; and if human remains are encountered during construction, the Coroner will be notified and findings shall be examined by a qualified archeologist to assess their significance and offer recommendations for proper handling.

The Initial Study and proposed Project revisions showed that there is no substantial evidence, in light of the whole record before the County, that the proposed Project as revised may have a significant effect on the environment. Based on the Initial Study and proposed Project revisions, an MND was prepared for this proposed Project. A proposed MMRP (Section 3.2 of Attachment B) was prepared to ensure compliance with the environmental mitigation measures included as part of the final MND (Attachment B) during proposed Project implementation.

Since public circulation of the Draft Initial Study/MND, the proposed Project scope has been revised and scaled back in response to feedback and input received from State Parks and the California Office of Historic Preservation. Originally, the proposed Project, as described in the Draft Initial Study/MND, included removal of the top 10 feet of the tank and backfilling the remainder of the tank with sand. However, based on feedback and input from State Parks and the California Office of Historic Preservation that the tank is considered significant for its historic use associated with the Adamson House, the proposed Project was revised and scaled back to abandon the tank in place. Proposed Project revisions do not result in any new significant impacts or an increase in the severity of the previously identified project impacts.

Public Notice was published in the Malibu Times on October 28, 2010 and The Argonaut on November 14, 2010, pursuant to Public Resources Code Section 21092 and posted pursuant to Section 21092.3. During the comment period, which ended on November 23, 2010, no comment letters were received from public agencies or members of the public. After the comment period, one written response was received from California State Parks. All comments received, as well as responses to the comments, are contained in the final MND and have been sent to the commenting public agencies pursuant to Section 21092.5 of the Public Resources Code.

The location of these documents and other materials constituting the record of the proceedings upon which the Board's decision is based in this matter is the County of Los Angeles Department of Public Works, Project Management Division I, 900 South Fremont Avenue, 5th Floor, Alhambra, California 91803. The custodian of such documents and materials is Mr. Ed Andrews, Project Manager, Public Works.

The proposed Project is not exempt from payment of a fee to the California Department of Fish and Wildlife pursuant to Section 711.4 of the Fish and Game Code to defray the costs of fish and wildlife protection and management incurred by the California Department of Fish and Wildlife. Upon the Board's adoption of the MND, Public Works will file a Notice of Determination in accordance with Section 21152(a) of the California Public Resources Code and pay the required filing and processing fees with the Registrar-Recorder/County Clerk of approximately $2,231.25.

CONTRACTING PROCESS

Design and preparation of the construction documents have been completed by Halcrow, Inc., through one of Beaches and Harbors' as-needed harbor engineering consultant services contracts.

Construction of the proposed Project will be completed using a Public Works Board-approved JOC.

The Board-approved JOCs contain terms and conditions supporting your Board's ordinances, policies, and programs, including but not limited to: County's Greater Avenues for Independence (GAIN) and General Relief Opportunities for Work (GROW) Programs, Board Policy No. 5.050; Contract Language to Assist in Placement of Displaced County Workers, Board Policy No. 5.110; Reporting of Improper Solicitations, Board Policy No. 5.060; Notice to Contract Employees of Newborn Abandonment Law (Safely Surrendered Baby Law), Board Policy No. 5.135; Contractor Employee Jury Service Program, Los Angeles County Code, Chapter 2.203; Notice to Employees Regarding the Federal Earned Income Credit (Federal Income Tax Law, Internal Revenue Service Notice 1015); Contractor responsibility and Debarment, Los Angeles County Code, Chapter 2.202; the Los Angeles County's Child Support Compliance Program, Los Angeles County Code, Chapter 2.200; and the standard Board-directed clauses that provide for contract termination and renegotiation.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

Approval of the recommended actions will have no impact on current County services or projects. Malibu Surfrider Beach will remain operational and accessible to the public during construction.

CONCLUSION

Please return one adopted copy of this Board letter to the Chief Executive Office, Facilities and Asset Management Division; the Department of Beaches and Harbors; and the Department of Public Works, Project Management Division I.

Respectfully submitted,

WILLIAM T FUJIOKA

Chief Executive Officer

WTF: SHK:DJT
DKM:AC:zu

Enclosures

c: Executive Office, Board of Supervisors
County Counsel
Arts Commission
Beaches and Harbors
Public Works

December 3, 2013

ATTACHMENT A

DEPARTMENT OF PUBLIC WORKS:
MALIBU SURFRIDER BEACH TANK PROJECT
ADOPT MITIGATED NEGATIVE DECLARATION AND
MITIGATION MONITORING AND REPORTING PROGRAM;
APPROVE PROJECT AND BUDGET
THIRD DISTRICT
(3 VOTES)

I. PROJECT SCHEDULE

Project Activity	Scheduled Completion Date
Construction Documents	12/20/12*
Jurisdictional Approvals	12/19/13
Construction Start	01/13/14
Substantial Completion	03/14/14
Final Acceptance	04/30/14

* Actual completion date.

II. Project Budget Summary

Project Activity	Proposed Project Budget
Land Acquisition	$ 0
Construction	
Low Bid Construction Contract	0
Job Order Contract	$ 100,000
Change Orders	20,000
Contingency	20,000
Youth Employment	0
Misc. Expense: Utility Relocation Fees	0
Telecomm Equip – Affixed to Building	0
Civic Arts	0
Other: Gordian Group Fees	2,000
Other: State Parks Interpretive Signage	8,000
Subtotal	$ 130,000
Programming/Development	$ 0
Plans and Specifications	$ 90,000
Consultant Services	
Site Planning	$ 0
Hazardous Materials	0
Geotech/Soils Report and Soils Testing	0
Material Testing	0
Cost Estimating	0
Topographic Surveys	0
Construction Management	0
Construction Administration	0
Environmental	75,000
Move Management	0
Equipment Planning	0
Legal	0
Construction/Change Order	0
Other:	0
Subtotal	$ 75,000
Miscellaneous Expenditures	$ 4,500
Jurisdictional Review/Plan Check/Permit	$ 4,500
County Services	
Code Compliance/Quality Control Inspection	$ 15,000
Design Review	0
Design Services	0
Contract Administration	5,000
Project Management	165,000
Project Management Support Services	0
ISD Job Order Contract Management	0
DPW Job Order Contract Management	0
ISD ITS Communications	0
Project Security	0
Project Technical Support	10,000
ISD Countywide Compliance Section	10,000
County Counsel	0
Geotechnical Engineering Services (GMED)	0
Other DPW Support Divisions	0
Subtotal	$ 205,000
TOTAL	**$ 529,000**

December 3, 2013

ATTACHMENT B

DEPARTMENT OF PUBLIC WORKS:
MALIBU SURFRIDER BEACH TANK PROJECT
ADOPT MITIGATED NEGATIVE DECLARATION AND
MITIGATION MONITORING AND REPORTING PROGRAM;
APPROVE PROJECT AND BUDGET
THIRD DISTRICT
(3 VOTES)

MITAGATED NEGATIVE DECLARATION
(See Attached)

Final Initial Study/Mitigated Negative Declaration
Malibu Tank Removal Project

December 2012

Prepared by

Cardno ENTRIX

Prepared for

Halcrow, Inc. and the
County of Los Angeles, California

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County of Los Angeles Department of Beaches and Harbor

Malibu Tank Removal Project

Finial Initial Study/Mitigated Negative Declaration

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The Draft Initial Study/Mitigated Negative Declaration (IS/MND) was circulated for public review by the County of Los Angeles between October 28, 2010 and November 23, 2010. During this period one comment letter was received from the California Department of Parks and Recreation (State Parks). The letter is discussed in more detail in Section 2.7 Response to Comments and is included in Appendix C. Following the receipt of comments the County downsized the proposed Project. The modified Project will leave the tank in place, rather than remove it as originally proposed, and completely fill the inside of the tank with sand. The top six inches of the tank would be filled with a slurry cement topping to completely fill any voids. The significance determination has not changed since the Draft IS/MND was circulated for public review; however, the Project description has been updated and additional information on greenhouse gas (GHG) emissions has been added to address adopted changes to the State CEQA Guidelines, which occurred following public circulation of this document. Changes to the Draft IS/MND include:

- Updated Project Description;
- Document reformatting, and minor editorial and grammatical corrections to improve readability and reflect current Project timelines;
- Discussion of Public review and response to comments;
- Summary of Mitigation Measures;
- Addition of an appendix with comment letters; and
- Addition of an appendix with an analysis of GHG emissions.

The aforementioned changes have been incorporated directly into the FINAL IS/MND. Changes made to this document are not considered "substantial revisions" to the IS/MND pursuant to CEQA Guidelines Section 15073.5, which requires recirculation of the IS/MND if:

> 1) New, avoidable significant effects have been identified and mitigation measures or Project revisions must be added in order to reduce the effect to insignificance, or
>
> 2) The proposed mitigations measure or Project revisions will not reduce potential effects to less than significance and new measure or revisions must be required.

Revisions to the Project were made in response to comments from the State Parks but there has been no increase to the level of significance of the effects of the previously analyzed removal tank Project. The environmental impacts from the downsized Project are within the scope of the impacts analyzed in the previously circulated MND and there will be no change to the impacts as a result of the Project revisions. The Draft IS/MND was revised to clarify and support information previously presented in the circulated document. No new mitigations measures were required or added to the document. A detailed record of revisions to the Draft IS/MND is provided in the following revisions and clarifications section. Pursuant to CEQA Guidelines Section 15073.5, c (2) and (4) recirculation of the document for public review is not required if:

> (2) New Project revisions are added in response to written or verbal comments on the Project's effects identified in the proposed negative declaration which are not new avoidable significant effects, or
>
> (4) New information is added to the negative declaration which merely clarifies, amplifies, or makes insignificant modifications to the negative declaration.

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Revisions and Clarifications

Final Initial Study/Mitigated Negative Declaration

Proposed Malibu Tank Removal Project

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These revisions and clarifications provide minor corrections to the IS/MND circulated for public review from October 28, 2010 to November 23, 2010 for the Malibu Tank Removal Project, and provides further information regarding some issue areas contained in the environmental checklist. Since the public review period, certain changes to the IS/MND have been made to reflect current conditions with respect to the Project. Pursuant to Section 15073.5 of the CEQA Guidelines, recirculation is required when a document must be substantial revised after public notice has been given. "Substantial revision" is defined under CEQA to mean (1) a new, avoidable significant effect is identified and mitigation measures or Project revisions must be added in order to reduce the effect to insignificance; or (2) the lead agency determines that the proposed mitigation measures or Project revisions will not reduce the potential effects to less than significance and new measures or revisions must be required. Although the Project has been revised, these clarifications and additions to the original document do not change the Project's significance determination and would not necessitate recirculation of the document.

Minor editorial revisions have been made, and supplementary information has been added to the Final IS/MND (as included herein) as part of the CEQA process. The corrections are considered minor and would not change the findings and conclusions as presented in the original document. Revisions and additions to the Final IS/MND are included to increase the effectiveness of the mitigation measures and minimize Project impacts to the maximum extent practicable.

The following list described the changes to the document.

Table of Contents
The Table of Contents has been updated to reflect changes to page numbers and section headings and the addition of Section 2.7 Response to Comments, and Section 3.2 Mitigation, Monitoring, and Responding Program. The Table of Contents also reflects the addition of the following appendixes: Appendix A Greenhouse Gas and Air Quality Analysis, Appendix B Section 5024 Letter Report for Concrete Tank at Surfrider Beach Prepared for HPA, Inc. Long Beach, CA. August 11, 2006, and Appendix C Summary of letter and consultation with California State Parks.

Section 1 Environmental Checklist Form
This section was updated to list the current contact information for the Lead Agency and the Project Sponsor. A summary of the Project description was added to the Project description section.

Section 2.1 Introduction
The Introductory section was updated to indicate that the document is a Final Study.

Section 2.3 Project Background
The Project background section was expanded to provide additional information on the history of the Project and activities that have occurred since the circulation of the Initial Study.

Section 2.4 Proposed Project
Additional information was added to the Project description to reflect the current approach to the work.

Figure 2 was updated to show current proposed work plan.

Figure 3 was updated to show the current construction sequencing.

Section 2.4.1 Concrete Demolition
This section was removed as it is no longer part of the Project.

Section 2.4.2 Proposed Disposal of Water from Dewatering (Now Section 2.4.1)
This section was updated to indicate the procedures that would be followed if dewatering is required.

Section 2.4.3 Proposed Fill (Now Section 2.4.2)
The text in this section was modified to clarify that the tank will no longer be demolished.

Section 2.4.4 Project Duration, Construction Schedule, and Hours (Now Section 2.4.3)
This section was modified to indicate that construction is anticipated to occur in March of 2013 rather than during the summer months as stated in the Draft IS/MND. The section was also updated to state that the work would be conducted Monday - Saturday in order to minimize the impact on public access to the beach. The anticipated number of construction workers was also added.

Table 1 was updated to show current construction activities and days to complete.

Section 2.4.4.1 Construction Equipment (Now Section 2.4.3.1)
Information was added to this section to indicate that parking for construction workers would be in the same area as the storage for construction equipment.

Table 2 was updated to reflect the current list of equipment that will be used for the Project.

Section 2.7
This section was added to indicate that comments on the Project were received from State Parks and that the approach to construction has been adjusted to further minimize effects to the tank structure.

Section 3.1 CEQA Significance Criteria
A general description of the changes to the Project was added to each Criteria discussion along with a statement that there has been no change to the impacts as a result of the downsized Project.

Criteria I. Aesthetics

Discussion section a.
The discussion was updated to reflect that the estimated construction period would be less than two weeks (the previous estimate for construction was fewer than four weeks). The section was also updated to indicate that there would be no operation impacts from the Project. There is no change to the impacts in this section as a result of the downsized Project.

Criteria III. Air Quality

Discussion section a.
Minor changes were made to this section to improve readability and clarify that the impacts from the construction of the downsized Project would be small, temporary, and would cease upon Project completion.

Discussion section b.
Minor changes were made to this section to improve readability and clarify that the impacts from the construction of the downsized Project would be small, temporary, and would cease upon Project completion.

Criteria IV. Biological Resources

Discussion section a.
Changes were made to Table 3 to include California rare plant rankings (CRPR), and species that were discussed within the text (including the grunion, the Light-footed clapper rail, and California least tern). The Potential Occurrence for the Tidewater gobi was updated to note that the Project site was outside of critical habitat. The Potential Occurrence for Coulter's saltbush was updated to note that there would be no suitable habitat as the Project site is primarily an unvegetated sandy beach that is regularly disturbed by recreators.
Additional information was included to describe the Project site, provide scientific names of referenced species, clarify that the site does not support any special status plant species, and provide updated information on the suitability of the site supporting Coulter's saltbush including the most recent recorded sighting.

Mitigation Measure BIO-1 was updated to clarify that the Project would not affect special status plants (previous text stated sensitive) and to provide current information as to where construction activities would occur. There is no change to the impacts in this section from the downsized Project. The discussion regarding the distribution of brackish and coastal salt marshes was moved to discussion section e to keep discussion of local plans consistent with the items in the checklist.

Discussion section b.
Wording was added to this section indicating that the dewatering will only occur if required and to state that the Project site supports disturbed habitat providing limited value for plants and wildlife. There is no change to the impacts in this section as a result of the downsized Project.

Discussion section c.
Wording was added to this section indicating that the dewatering will only occur if required. There is no change to the impacts in this section from the downsized Project.

Discussion section e.
Additional information was provided to clarify that although the Malibu Creek Lagoon area is a stop-over for migratory birds, no impacts from the Project would occur as these habitats are located 300 feet west of the construction site. The discussion regarding the distribution of brackish and coastal salt marshes was moved to discussion section e to keep discussion of local plans consistent with the items in the checklist.

Discussion regarding the California least tern and the light-footed clapper rail was updated to indicate that these species are listed as state and federally endangered and that there are no CNDDB breeding occurrences within the Project site. There is no change to the impacts in this section from the downsized Project.

Criteria V Cultural Resources

Discussion section a.
The discussion was updated to clarify that the pipe is considered a contributing feature of the tank.

Mitigation Measure CULT-1: HABS/HAER Report and Photo Documentation was updated to specify that the photographic documentation would consist of photographs of the context, the tank, and the pipe. There is no change to the impacts in this section as a result of the downsized Project.

Discussion section c.
Mitigation Measure CULT-3: Paleontological Resources Discovery was updated to clarify that the procedures the contractor would follow in the event of a Paleontological Resources discovery.

Mitigation Measure CULT-4: Human Remains Discovery was updated to clarify the procedures the contractor would follow in the event of a Human Remains Discovery.

There is no change to the impacts in this section as a result of the downsized Project.

Criteria VI Geology and Soils

Discussion section a.
Minor changes were made to wording to clarify that no new structures would be constructed or installed. This section was clarified to state that the Project would remove a portion of the existing pipeline to the concrete tank. Additional information on procedures that will be followed to avoid sand erosion was provided. There is no change to the impacts in this section as a result of the downsized Project.

Discussion section b.
Information was added to this section to describe how the contractor will address erosion. There is no change to the impacts in this section from the downsized Project.

Discussion section c.
Minor changes were made to the wording to clarify that no new structures would be constructed or installed. There is no change to the impacts in this section as a result of the downsized Project.

Criteria VII Greenhouse Gas Emissions

Discussion section a.
The discussion for this section was updated to show that the estimated construction period would be less than two weeks (the previous estimate for construction of the tank removal Project was fewer than four weeks). A reference to the complete greenhouse gas analysis for the construction work in Appendix A was added. There is no change to the impacts in this section from the downsized Project.

Discussion section b.
The discussion for this section was updated to show that the estimated construction period would be less than two weeks (the previous estimate for construction for the tank removal was fewer than four weeks). Additional information was added to clarify that the Project would not conflict with any plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases from stationary sources. A reference to the complete greenhouse gas analysis in Appendix A was added. There is no change to the impacts in this section from the downsized Project.

Criteria IX Hydrology and Water Quality

Discussion section b.
The wording in this section was updated to indicate that the temporary change in the groundwater table would only occur if dewatering is required. There is no change to the impacts in this section from the downsized Project.

Discussion section c.
The discussion was updated to show that the estimated construction period would be less than two weeks (the previous estimate for construction of the tank removal was fewer than four weeks). There is no change to the impacts in this section from the downsized Project.

Criteria X Land Use and Planning

Discussion section b.
The discussion was updated to provide additional information on the types/sources of noise and vibration from construction and to show that the construction period would be less than two weeks (the previous estimate for construction was fewer than four weeks). There is no change to the impacts in this section from the downsized Project.

Criteria XII Noise

Discussion section b.
The discussion was updated to show that the construction period would be less than two weeks (the previous estimate for construction was fewer than four weeks). There is no change to the impacts in this section as a result of the downsized Project.

Table 4 (Noise Levels for Proposed Construction Equipment) was updated to show the noise levels for the equipment that will be in current Proposal. There is no change to the impacts in this section from the downsized Project.

Criteria XIII Transportation/Traffic

Discussion section a.
The discussion was updated to show that the construction period would be less than two weeks (the previous estimate for construction was fewer than four weeks). There is no change to the impacts in this section from the downsized Project.

Criteria XVIII Mandatory Findings of Significance

Discussion section b.
Additional discussion was added to clarify that there are no projects planned that would overlap with the proposed Project and result in cumulative impacts. There is no change to the impacts in this section from the downsized Project.

Discussion section c.
Additional discussion was added to describe how impacts to public safety would be addressed by the proposed Project. There is no change to the impacts in this section from the downsized Project.

Section 3.2 Mitigation, Monitoring, and Reporting Program
The Mitigation, Monitoring, and Reporting Program (MMRP) section was added to describe the mitigation measures that will be implemented as part of the Project to mitigate impacts to a less than significant level.

The following appendices were added to the document:

Appendix A
Greenhouse Gas Analysis

Appendix B
Section 5024 Letter Report for Concrete Tank at Surfrider Beach. Prepared for HPA, Inc. Long Beach, CA. August 11, 2006.

Appendix C
Meeting Notes and email correspondence with California State Parks

The list of acronyms was updated to include:

CDP – Coastal Development Permit

SWRCB – State Water Resources Control Board

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A p p e n d i x A

Green House Gas and Air Quality Analysis

A p p e n d i x B

5024 Letter Report for Concrete Tank at Surfrider Beach. Prepared for HPA, Inc. Long Beach, CA. August 11, 2006.

A p p e n d i x C

Meeting Notes and email correspondence with California State Parks

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Acronyms

AQMP	Air Quality Management Plan
ASBS	Area of Special Biological Significance
CDP	Coastal Development Permit
CNDDB	California Natural Diversity Database
CalEPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CO	Carbon monoxide
ESHA	Environmental Sensitive Habitat Area
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
LCP	Local Coastal Program
LIP	Implementation Plan
LUP	Land Use Plan
MCZ	Malibu Coastal Zone
MCZ	Malibu Coastal Zone
MLLW	Mean Low Low Water
NRHP	National Register of Historic Places
NO	Nitric oxide
NOx	Nitrogen oxides
NO2	Nitrogen dioxide

PCH	Pacific Coast Highway
PM	particulate matter
POS	Public Open Space
ROGs	reactive organic gases
RWQCB	Regional Water Quality Control Board
SEAs	Significant Ecological Areas
SHPO	State Historic Preservation Officer
SCAQMD	South Coast Air Quality Management District
SEA	Significant Ecological Area
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers

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S E C T I O N 1

Environmental Checklist Form

1.	Project title:	Malibu Tank Removal Project
2.	Lead agency name and address:	County of Los Angeles by the Department of Beaches and Harbor 13483 Fiji Way, Tr #3 Marina Del Rey, CA 90292
3.	Lead Agency Contact:	Ed Andrews County of Los Angeles Department of Public Works 900 S. Fremont Avenue Alhambra, CA 91803 (626) 300-2319
4.	Project location:	The proposed Project is located at 23060.5 Pacific Coast Highway, on Malibu Lagoon Beach, in the City of Malibu, Los Angeles County, California.
5.	Project sponsor's name and address:	County of Los Angeles Department of Beaches and Harbors 13839 Fiji Way Marina Del Rey, CA 90292
6.	General plan designation:	Public Open Space (POS)
7.	Zoning:	POS

8. Description of Project:

   The proposed Project addresses safety concerns relating to a tank buried on Malibu Lagoon Beach. The Project will fill the inside of the tank with sand and top it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top two feet of the tank. While the tank is exposed it will be photo documented by architectural historians. After the tank has been filled and the documentation completed the tank will be recovered and the beach regraded.

9. Surrounding Land Uses and Setting:

   The Project site is surrounded by public beach (Malibu Lagoon Beach) on the east and west, Pacific Coast Highway (PCH) to the north, and the Pacific Ocean to the south.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

    - U.S. Army Corps of Engineers (USACE) – Jurisdictional Determination to determine if a permit is needed.
    - Regional Water Quality Control Board (RWQCB) – Los Angeles Region, Permit R4-2008-0032 waste discharge permit.
    - City of Malibu – Coastal Development Permit.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- ☐ Aesthetics
- ☐ Agriculture and Forestry Resources
- ☒ Air Quality
- ☒ Biological Resources
- ☒ Cultural Resources
- ☐ Geology/Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards & Hazardous Materials
- ☐ Hydrology/Water Quality
- ☐ Land Use/Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population/Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation/Traffic
- ☐ Utilities/Service Systems
- ☐ Mandatory Findings of Significance Determination: (To Be Completed By the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: _____

Date: _____

Printed Name: _____

S E C T I O N 2

Project Description

2.1 INTRODUCTION

The County of Los Angeles has prepared this Final Initial Study and Mitigated Negative Declaration in compliance with the California Environmental Quality Act (CEQA). For CEQA purposes, the County of Los Angeles is the lead agency and will make the final determination regarding CEQA compliance. Per CEQA Guidelines Section 15381, the City of Malibu is a responsible agency because the Malibu Planning Commission will decide on the Project's consistency with its certified Local Coastal Program (LCP). If the Project is consistent with the LCP, the Planning Commission will issue a Coastal Development Permit (CDP).

2.2 PROJECT AREA

The Project is located in the City of Malibu, on an area locally known as Malibu Lagoon Beach (see Figure 1). The Project site is near the Malibu Pier on the east and Malibu Lagoon State Park on the west. The subject property lies within the Appealable Jurisdiction as depicted on the LCP Appeal Map (Malibu 2002). The Project is within the City's permitting jurisdiction for the California Coastal Commission. The property is not designated as an Environmental Sensitive Habitat Area (ESHA); however, the parcel is adjacent to Malibu Lagoon which is a mapped ESHA. Malibu Lagoon Beach is developed with a lifeguard tower, public restrooms, and a parking lot.

2.3 PROJECT BACKGROUND

During a winter storm in 2005, a buried concrete tank, approximately 60 feet from the High Tide Line at Malibu Lagoon Beach, was uncovered due to shoreline erosion.

Historical research revealed that the tank is a saltwater intake structure constructed in 1929 in connection with construction of a saltwater swimming pool on the Adamson House property. The house is listed on the California and National Register of Historic Places and is approximately 200 feet from the tank location. Accordingly, it was determined that the buried tank is considered significant for its historic use associated with the Adamson House. Although the top of the tank is located below the top of the ground surface, it presents a potential safety hazard due to it being an unmonitored confined space on a public beach. After initial coordination with the State Historian of the California State Parks (State Parks), it was determined that the buried tank should be protected and marked by concrete bollards marking the location of the tank. However, in the process of presenting the CDP to the Malibu Planning Commission in August 2009, strong objections were received from the Surfrider Foundation to install the concrete bollards on the Malibu Lagoon Beach. After further discussion and negotiation, the State Parks representative verbally agreed to allow the partial removal and subsequent backfilling of the remaining buried tank, provided that proper mitigation is taken to record the existence of this historical feature pursuant to CEQA requirements.

An Initial Study and Mitigated Negative Declaration were also completed under CEQA to assess the Project impacts of removing a portion of the buried tank. Copies of the Initial Study and Mitigated Negative Declaration were available for full public review from October 28, 2010 to November 23, 2010. The County received correspondence from State Parks, dated January 13, 2011, which recommended a "treatment option that would result in the complete preservation of the Adamson House Saltwater Well 'Tank' structure in lieu

of partial demolition and mitigation" as proposed. This Project was subsequently downsized and modified to preserve the tank in place while preventing access to a confined space.

2.4 PROPOSED PROJECT

The Project has been redesigned to leave and abandon the tank in place. The sand around the top of the tank will be excavated so that contractors can completely fill the inside of the tank. While the tank is exposed it will be photographed by architectural historians. The tank will be filled with clean sand up to six inches below the concrete cover. The remaining gap will be filled with slurry cement. Once the work is complete, the tank will be recovered with beach sand and the contractor will re-grade the beach to its pre-construction contours (see Figures 2 and 3). The Project site and the contractor staging area would be fenced off, using six foot high chain link fence with fabric screen material, from the public during construction

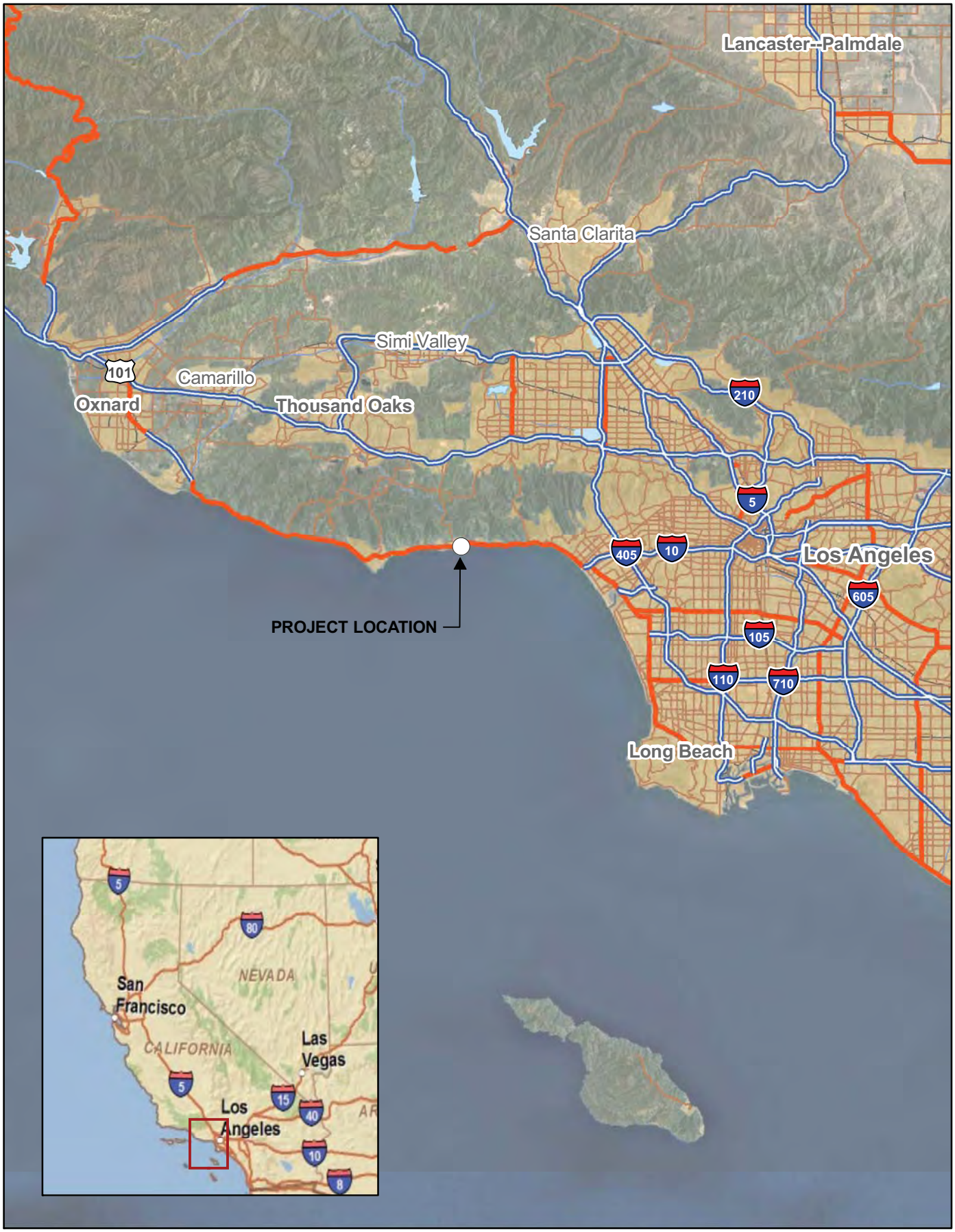
No details of the tank's original construction are available. It is currently not known how deep the tank is or the type of bottom the tank has. However, field observations estimate the cylindrical tank to be anywhere from 16 feet to 20 feet deep. Based on the observation that the inside of the tank walls have a moist surface, it is indicated that the water levels vary within the tank due to tide levels. The tank bottom is most likely porous and probably resting on sand with no structural foundation. The water level within the tank is estimated to fluctuate due to the tidal fluctuations between elevation +5.0 to +7.0 Mean Low Low Water (MLLW).

During construction, exposure of the tank will be limited to the top two feet of the structure to keep the excavation above the ground water to avoid dewatering and still be able to photo document the exposed tank. An eight-inch diameter perforated PVC pipe will be placed inside the tank to allow the water inside the tank to filter down through the inside of the tank during sand placement. The objective is to keep the water inside the tank from spilling over the top and therefore not requiring dewatering operations. The contractor will wait for the water to drain through the PVC pipe and the newly placed fill material, before continuing filling operations. The top limit of the sand fill material will be six inches from the bottom of the tank concrete cover. The remaining six inches will be filled with cement slurry to completely fill any voids within the tank.

Prior to replacing the sand to cover the tank, reflective circles or placards will be placed on the top outer wall surface and concrete cover. This will be a safety measure in the event that the tank is exposed in the future as a result of a severe storm or other event causing erosion of the sand on the top of the tank.

While the tank is uncovered, the top two feet will be photographed as historical mitigation (see Mitigation Measure CULT-1). The State Historic Preservation Officer (SHPO) and State Parks Historian reviewed this plan and verbally agreed to this approach. Minutes from the meeting among the County, California State Parks, and the SHPO are provided in Appendix C.

During the Project construction, an existing six-inch diameter pipeline believed to carry water from the tank to the Adamson House would be removed. Only the portion of the pipeline within the active beach sand would be removed, approximately 150 feet or prior to disturbing any existing vegetation, whichever is less. The pipeline is estimated to be above the groundwater table and dewatering would not be required to complete the pipeline removal.



Date: 09-15-10

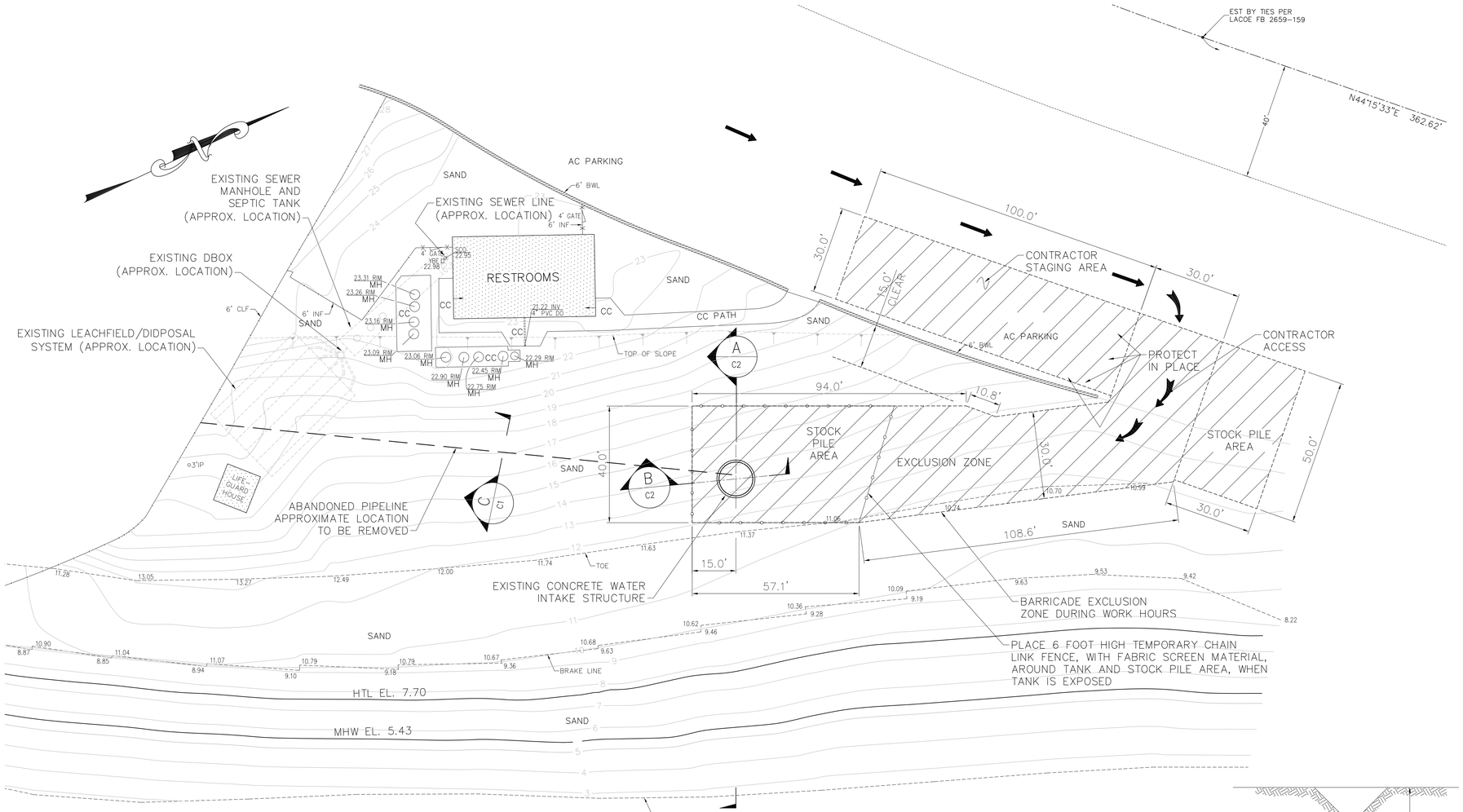
MALIBU TANK REMOVAL PROJECT

Figure 1: Project Location

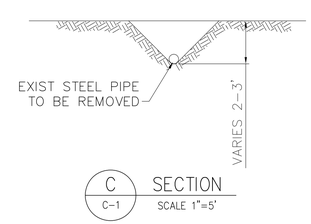
0 5 10 20 Miles

ENTRIX

Back of Figure 1



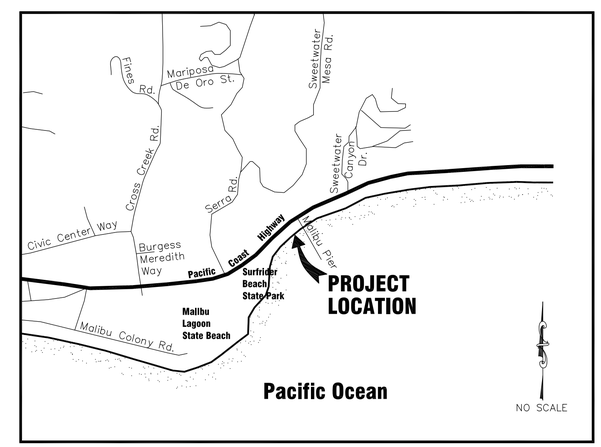
PLAN
SCALE 1"=20'-0"



C / C-1 SECTION
SCALE 1"=5'

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", 2004 EDITION, WITH SUPPLEMENTS AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE COUNTY ENGINEER.
2. APPROVAL OF THIS PLAN BY THE COUNTY OF LOS ANGELES DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCCURACY OF THE LOCATION, OR EXISTENCE OR NON EXISTENCE OF ANY UNDER-GROUND UTILITY, PIPE, OR STRUCTURE WITHIN THE LIMITS OF THE PROJECT.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AND SHALL NOTIFY THE COUNTY ENGINEER OF ANY DISCREPANCIES BEFORE STARTING WORK.
4. CONTRACTOR SHALL "PROTECT IN PLACE" ALL UTILITY LINES ADJACENT TO OR UNDER EXISTING PAVE ACCESS ROAD. ANY DAMAGE TO THESE LINES SHALL BE REPAIRED OR REPLACED AS APPROVED BY THE COUNTY ENGINEER AT THE CONTRACTORS EXPENSE.
5. THE CONTRACTOR SHALL "PROTECT IN PLACE" THE HISTORIC WALL ADJACENT TO SITE.
6. REPAIR ALL EXISTING HARDSCAPE DAMAGED BY REMOVAL WORK. ALL REPAIR WORK NECESSARY SHALL BE AS APPROVED AND AT CONTRACTORS EXPENSE.
7. WASTE MATERIALS OF ANY KIND RESULTING FROM DEMOLITION CLEARING OR EXCAVATION SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR WHO WILL BE REQUIRED TO MAKE ALL NECESSARY ARRANGEMENTS. NO ADDITIONAL PAYMENT WILL BE MADE FOR HAULING OR DISPOSAL OF WASTE MATERIALS.
8. THE CONTRACTOR SHALL NOTIFY THE COUNTY OF LOS ANGLES AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS CONTRACT.
9. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10.4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION IN REGARD TO SAFETY ORDERS.
10. CONTRACTOR SHALL PREVENT AND IMMEDIATELY CLEAN-UP ANY MATERIALS THAT FALL ON THE ACCESS ROAD OR ANY AREA OUTSIDE OF THE TEMPORARY FENCE BOUNDARY.
11. BEACH PROFILE TO BE RETURNED TO ORIGINAL LEVEL ON COMPLETION OF WORK.



VICINITY MAP

BENCH MARK

COUNTY OF LOS ANGELES BENCH MARK NO. Y-11375

ELEV: 25.315

DATUM: NAVD 88

YEAR OF ADJUSTMENT: 2003

DESCRIPTION: SM SPK IN TOP CONC RAIL @ E END BRIDGE OVER MALIBU CREEK 14M S/O C/L PACIFIC COAST HWY & 302M E/O CROSS CREEK RD.

MEAN SEA LEVEL FROM WHICH MLLW IS MEASURED SHALL BE CONSIDERED TO BE +2.80 FEET ABOVE THE DATUM ELEVATION.

REFERENCE DRAWINGS

TOPOGRAPHIC SURVEY "SURFRIDER BEACH"

SITE INFORMATION

ADDRESS: 23060.5 PACIFIC COAST HIGHWAY, MALIBU, CA, 90265
PARCEL NUMBER: 4452-005-902
LAND USE ZONE/DESIGNATION: OPEN PUBLIC SPACE
AREA OF LIMITS OF WORK: 8700SQFT

SHEET INDEX

C1 SITE PLAN FOR BURIED TANK SITE PLAN
C2 SECTIONS - CONSTRUCTION SEQUENCE

LEGEND:

_____MHW_____ MEAN HIGH WATER
_____HTL _____ HIGH TIDE LINE
_____ 27 _____ EXISTING GRADE

ABBREVIATIONS

AC	ASPHALT CONCRETE
BWL	BLOCK WALL
CC	CONCRETE
CLF	CHAIN LINK FENCE
DO	DRAIN OUTLET
INV	INVERT
IP	IRON PIPE
SMH	SEWER MANHOLE
TT	TOP OF TANK

BEST MANAGEMENT PRACTICES/MITIGATION MEASURES:

1. THE CONTRACTOR SHALL IMPLEMENT ALL APPLICABLE BEST AVAILABLE CONTROL MEASURES LISTED IN THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULE 403, TABLE 1.
2. THE CONTRACTOR SHALL LIMIT VEHICLE IDLING TIME TO A 5-MINUTE MAXIMUM.
3. A QUALIFIED ARCHAEOLOGIST WILL PERFORM ON-SITE MONITORING DURING GROUND DISTURBING ACTIVITIES. THE COUNTY WILL PROVIDE THE QUALIFIED ARCHAEOLOGIST. THE CONTRACTOR SHALL PROVIDE AT LEAST 7 CALENDAR DAYS NOTICE TO THE COUNTY PRIOR TO ANY GROUND DISTURBANCE. THE CONTRACTOR SHALL NOT PERFORM ANY GROUND DISTURBANCE WITHOUT THE QUALIFIED ARCHAEOLOGIST MONITORING THE WORK.
4. THE COUNTY WILL PREPARE PHOTOGRAPHIC, ARCHITECTURAL, AND WRITTEN DOCUMENTATION THAT MEETS HISTORIC AMERICAN BUILDING SURVEY (HABS) AND HISTORIC AMERICAN ENGINEERING RECORD (HAER) STANDARDS. THE PHOTOGRAPHIC DOCUMENTATION WILL OCCUR DURING CONSTRUCTION ACTIVITIES, AND WRITTEN DOCUMENTATION WILL BE SUBMITTED TO THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, NATIONAL PARK SERVICE, MALIBU PUBLIC LIBRARY AND THE MALIBU LAGOON INTERPRETIVE ASSOCIATION WITHIN 12 MONTHS OF COMPLETING CONSTRUCTION.

1"=20' 0 20 40 FT.

GRAPHIC SCALES
CHECK BEFORE USE

IF SHEET IS LESS THAN 24" X 36" IT IS A REDUCED PRINT. SCALE ACCORDINGLY

P:\PROJECTS\Maritime\DRMLBU - LACOBH - Malibu Tank\RWPMLB Malibu Tank Remediation Project\60 Proj Execution\62 100% Construction Documentation\c - Dwg\Contract\02-Civil\RWPMLB-01A-C001-00.dwg

REVISIONS	NO.	DESCRIPTION	DATE	BY	NO.	DESCRIPTION	DATE	BY

Halcrow
6700 E. PACIFIC COAST HIGHWAY
SUITE 180
LONG BEACH, CALIFORNIA 90803
TEL (562) 493-8300

REGISTERED PROFESSIONAL ENGINEER MATTHEW D. MARTIN No. C 69869 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

COUNTY OF LOS ANGELES
DEPARTMENT OF BEACHES AND HARBORS
13837 FIJI WAY
MARINA DEL REY, CALIFORNIA 90292
TEL (310) 305-9505
FAX (310) 821-7856

DESIGNED BY J. MENDOZA	
DRAWN BY D. WILSON	
CHECKED BY E. ANDREWS	
PROJECT ENGR J. MENDOZA	

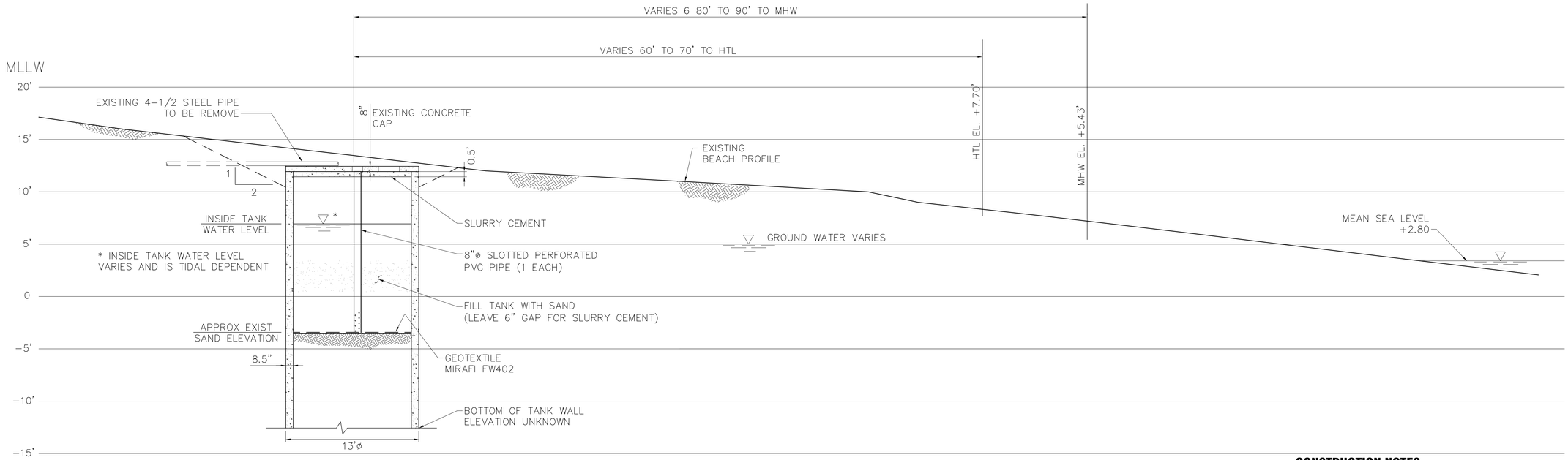
SALTWATER TANK REMEDIATION
COUNTY OF LOS ANGELES, ZUMA BEACH

SCALE AS NOTED
DATE 07/02/2012
REVISION

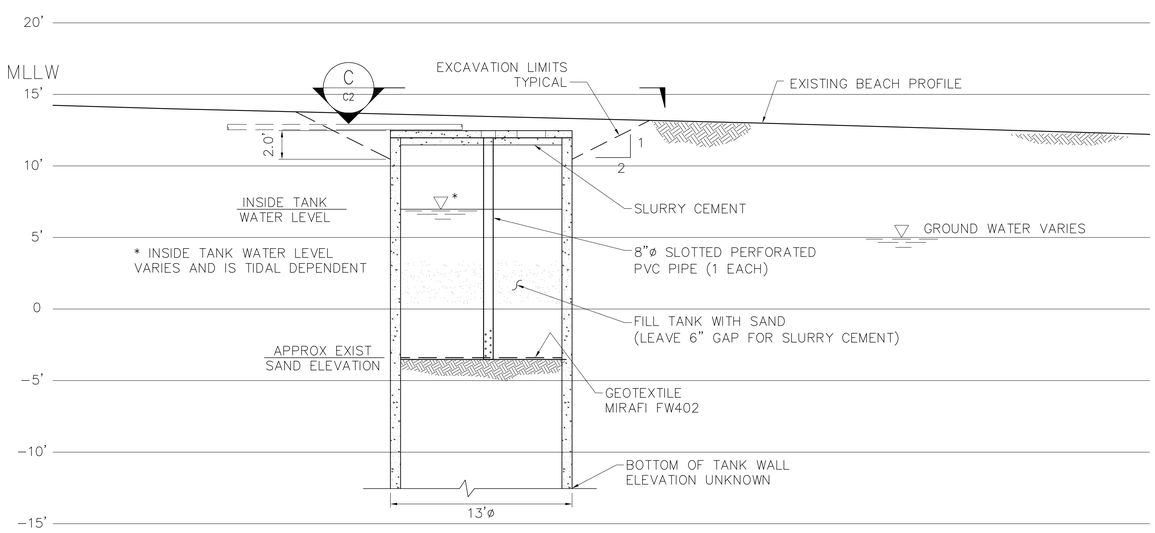
SITE PLAN FOR BURIED TANK SITE PLAN

DRAWING NO. C1

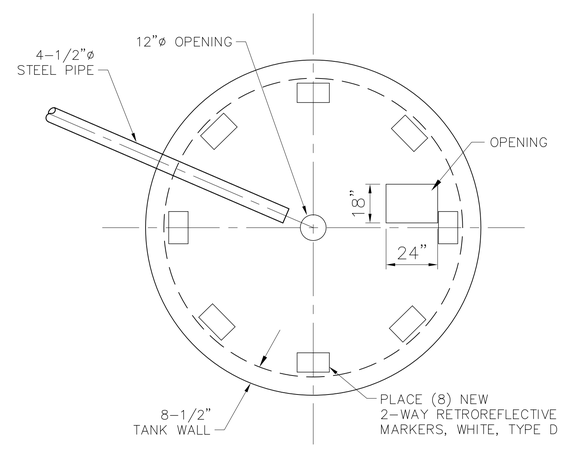
Back of Figure 2



A / C2 SECTION
VERTICAL SCALE 1"=5'



B / C2 SECTION
VERTICAL SCALE 1"=5'



C / C2 SECTION
VERTICAL SCALE 1/2" = 1'

CONSTRUCTION NOTES:

1. EXCAVATE THE TOP 2 FEET OF THE TANK. IF GROUNDWATER IS ENCOUNTERED DURING EXCAVATION, THE CONTRACTOR IS TO STOP WORK AND NOTIFY THE ENGINEER.
2. THE CONTRACTOR WILL EXCAVATE AROUND THE TANK DURING DAYLIGHT HOURS ONLY IN ACCORDANCE WITH THE CITY OF MALIBU'S CONSTRUCTION HOUR LIMITS. IN ACCORDANCE WITH GRUNION PROTECTION, THE CONTRACTOR SHALL NOT EXTEND THE EXCAVATION BEYOND THE HIGHEST TIDE LEVEL (HTL) LINE.
3. ALLOW ARCHITECTURAL HISTORIAN TO PHOTOGRAPH AND MEASURE THE VISIBLE PORTION OF THE TANK.
4. REMOVE STEEL PLATES COVERINGS AT THE TOP OF THE TANK EXPOSING THE OPENINGS. DISPOSE OF THE STEEL PLATES OFFSITE.
5. INSTALL GEOTEXTILE FABRIC THROUGH THE OPENINGS. CONTACT MUST BE MADE WITH BOTTOM SAND LAYER BEFORE PLACING NEW INFILL SAND. GEOTEXTILE SHALL BE SPECIFIED MANUFACTURER TENCATE MIRAFI® FW 402 OR EQUAL. GEOTEXTILE SHALL BE INERT TO BIOLOGICAL DEGRADATION AND RESISTS NATURALLY ENCOUNTERED CHEMICALS, ALKALIS AND ACIDS.
6. PLACE 8" DIAMETER PERFORATED PVC PIPE THROUGH THE 12" DIAMETER OPENING LOCATED AT THE CENTER OF THE TANK. THE CONTRACTOR SHALL PROVIDE SUPPORT OF THE PVC DURING SAND FILLING.
7. PLACE SAND INTO TANK THROUGH THE 18" x 24" OPENING UP TO SIX (6) INCHES FROM THE BOTTOM OF THE CONCRETE CAP. IMPORT SAND AS REQUIRED.
8. DO NOT ALLOW WATER TO FLOW OVER TANK. ALLOW WATER LEVEL TO SUBSIDE BEFORE CONTINUING SAND PLACEMENT
9. ALL WATER SHALL BE ALLOWED TO FILTER THROUGH BEFORE PLACEMENT OF SLURRY CEMENT. COMPLETELY FILL ALL VOIDS AND GAPS WITH THE SLURRY CEMENT.
10. DEMOLISH THE STEEL PIPE AND DISPOSE AT LANDFILL. THE CONCTRACTOR SHALL AVOID ANY VEGETATED AREAS DURING PIPE REMOVAL.
11. PALCE (8) NEW 2-WAY RETROREFLECTIVE MARKERS ON TOP OF TANK. MARKERS SHALL FOLLOW CALTRANS STANDARD SPECIFICATIONS, SECTION 85, PAVEMENT MARKERS.
12. RE-GRADE BEACH TO PREVIOUS EXISTING CONDITIONS

1" = 5' 0 2.5 5 FT.

GRAPHIC SCALES
CHECK BEFORE USE

IF SHEET IS LESS THAN 24" X 36"
IT IS A REDUCED PRINT.
SCALE ACCORDINGLY

P:\PROJECTS\Maritime\DRMLBU - LACDBH - Malibu Tank\RWPMLB Malibu Tank Remediation Project\60 Proj Execution\62 100% Construction Documentation\c - Dwg\Contract\02-Civil\RMLBU010-014-C002-00.dwg

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DESIGNED BY J. MENDOZA
DRAWN BY D. WILSON
CHECKED BY E. ANDREWS
PROJECT ENGR J. MENDOZA

SALTWATER TANK REMEDIATION
COUNTY OF LOS ANGELES, ZUMA BEACH

SCALE 1"=5'-0"
DATE 07/02/2012
REVISION

SECTIONS
CONSTRUCTION SEQUENCE

DRAWING NO.
C2

Back of Figure 3

2.4.1 Proper Disposal of Water from Dewatering

During the field investigation conducted in January 2006, the water inside the tank was approximately five feet below the top of the tank at elevation +7 MLLW. Water samples were taken during the field investigation and no environmental hazards were identified. Further water sampling would occur prior to start of construction to confirm water quality. If the water inside the tank needs to be dewatered during sand filling, disposal of the water would be made into adjacent watershed or off-site facilities as allowed by the RWQCB – Los Angeles Region, Permit R4-2008-0032 waste discharge permit. The discharged water would be tested and monitored to confirm that effluent constituents fall below limits identified in the permit. The Project may also use a filter system if required by RWQCB.

While not anticipated to be required, the "worst-case scenario" of using dewatering is analyzed herein. Although groundwater is not expected within the excavation limits, the contractor will be required to sample the area around the tank prior to the start of construction. If groundwater is encountered and dewatering is required, disposal would be made into adjacent watershed or off-site facilities as allowed by the RWQCB – Los Angeles Region, Permit R4-2008-0032 water discharge permit.

2.4.2 Proposed Fill

The tank would be filled with sand. If local sand is found to not be suitable or desired quantities are not available, imported soil approved by the County will be used for filling the inside of the tank. Sand import quantities are based on field measurement of existing sand elevation within the tank. After the beach is backfilled and regraded, the site and beach surface would be left with clean beach sand and free of any rocks or other deleterious materials.

2.4.3 Project Duration, Construction Schedule, and Hours

The Project would be scheduled such that construction would occur in March 2013 to avoid the busy summer season. Construction hours would be from 7 am to 6 pm and would not include nighttime operations. Construction would be conducted continuously, excluding working on Sunday, to complete the work as quickly as possible. It is anticipated that four workers would be involved in construction activities. See Table 1 for construction durations and quantities.

Table 1: Tank Filling

Activity	Quantity	Units	Days to Complete
Mobilization/Demobilization			2 days
Excavation	450	Cubic Feet	½ day
Sand Fill	1,930	Cubic Feet	5 days
Slurry Cement	70	Cubic Feet	½ day
Demolish steel pipe	150	Lineal Feet	1 day
Backfill and re-grade beach (includes original excavation plus fill inside tank)	450	Cubic Feet	1 day
Total			10 days

2.4.3.1 Construction Equipment

All equipment would be on-site for the duration of work. However, the equipment would be parked at night in the parking lot adjacent to the Project site. Construction workers would also use this lot for parking during the construction process. See Table 2 for construction equipment details.

Table 2: Construction Equipment

Activity	Equipment Needed	Typical Equipment Type	Total Length of Use (Days)
Excavation	½ Cubic Yard bucket hydraulic backhoe on wheels (1 each)	Excavator	7.5 days
Fill	8 gallon per minute *GPM) grout pump (1 each)	Grout Pump	½ day

2.5 LOCAL COASTAL PROGRAM

The City of Malibu's LCP consists of a Land Use Plan (LUP) and Local Implementation Plan (LIP). The LUP contains programs and policies to implement the Coastal Act of 1976 in Malibu. The purpose of the LIP is to carry out the policies of the LUP. The LIP contains specific policies and regulations to which every project requiring a CDP must adhere.

There are 13 sections within the LIP that potentially require findings to be made, depending on the nature and location of the Project. Of these, three are for conformance review only and require no specific findings.

2.6 PUBLIC REVIEW

Pursuant to CEQA Guidelines Sections 15072 and 15073, the County of Los Angeles prepared this Initial Study and Mitigated Negative Declaration to identify and evaluate the potential environmental impacts that could be associated with the Project. Based on that evaluation, the County has concluded that a Mitigated Negative Declaration would reduce those impacts to a less than significant level. Thus, a Notice of Intent to Adopt a Mitigated Negative Declaration for the Project was released on October 28, 2010, beginning the public review period, which ended November 23, 2010. Comments were sent to:

Greg Woodell
County of Los Angeles
Department of Beaches and Harbor
13483 Fiji Way, Tr #3
Marina Del Rey, CA 90292
E-mail: GWoodell@bh.lacounty.gov

2.7 RESPONSE TO COMMENTS

Comments on the document were received from State Parks following the close of the public comment period. After consultation with State Parks and the California SHPO the revised approach to the Project was developed in order to further minimize impacts to the tank. This Final Initial Study and Mitigated Negative Declaration reflects the changes in approach agreed to during consultation. The comment letter and meeting notes are provided in Appendix C.

S E C T I O N 3

Environmental Assessment

3.1 CEQA SIGNIFICANCE CRITERIA

I. AESTHETICS Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Have substantially adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

DISCUSSION

a) The City of Malibu has not designated a scenic vista in the Project vicinity (City of Malibu 1995). However, the Project location is adjacent to the Pacific Ocean, and is viewed by travelers on the PCH (also known as California Highway 1) and recreationists visiting Malibu Lagoon Beach. The Project site would be surrounded by temporary perimeter fencing with wind and/or visual screens. Therefore, Project construction would cause a temporary diminishment of those views; however, construction would last fewer than two weeks, and would not change the nature of the site.

b) The Project site is adjacent to PCH, which is designated as a scenic road under the City of Malibu LCP/LUP (Malibu 2002). This segment is eligible for scenic highway designation by the California Scenic Highway Program (Caltrans 2010). In addition, the Scenic Highway Element of the Los Angeles County General Plan (1980) designates this section of PCH a "first priority" route for study and special protection from development. The City of Malibu General Plan describes Malibu Lagoon Beach as a "significant natural resource" and strives to balance public access with environmental protection. However, the Project would not damage scenic resources such as trees, rock outcroppings and historic buildings, because no permanent change to the beach would occur, and the beach would be returned to its existing condition once construction is complete.

c) The Project would return the Malibu Lagoon Beach to the same condition after construction is complete. There would be no long-term or permanent changes to the existing visual character or quality of the site.

d) No permanent light sources would be created by the proposed Project, and no nighttime construction is proposed that would require night lighting. Although windshields on construction equipment could produce temporary glare to passing motorists, no significant glare would be produced that would adversely affect daytime views in the area.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

II. AGRICULTURAL and FOREST RESOURCES **In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board.** **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

DISCUSSION

a-e) Less than 0.5 percent of the City of Malibu is designated as agricultural lands and there are no designated forest lands (City of Malibu 1995). There are no Williamson Act contract lands within the City as Los Angeles County does not offer Williamson Act contracts. There are no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance designated lands within or next to the Project boundaries. Therefore, the Project would not impact agricultural or forest lands nor would it convert any to non-agricultural or forest use.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

III. AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations: Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

DISCUSSION

a) The Project site is located in the South Coast Air Basin and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Under state law, the SCAQMD is required to prepare an overall plan for air quality improvement. SCAQMD adopted the 2007 Air Quality Management Plan (AQMP) on June 1, 2007 (SCAQMD 2007). The Project would not create either short or long-term quantities of criteria pollutants above the significance thresholds published by SCAQMD. The Project would not result in significant localized air quality impacts, and is consistent with the goals of the 2007 AQMP for the Project area. No impact would occur.

b) The South Coast Air Basin is a state nonattainment area for ozone, PM_{10}, $PM_{2.5}$, NO_2, and lead, and a federal nonattainment area for ozone, PM_{10}, $PM_{2.5}$, and lead. Ground-level ozone is a secondary pollutant formed in the atmosphere by a series of complex chemical reactions and transformations in the presence of sunlight above urban areas due to the mixing effects of temperature inversions. Nitrogen oxides (NO_X) and reactive organic gases (ROGs) are the principal constituents in these reactions. NO_X and ROG emissions are predominantly attributed to mobile sources (on-road motor vehicles and other mobile sources). Thus, regulation and control of NO_X and ROGs from these sources is essential to reduce the formation of ground-level ozone. Nitrogen dioxide (NO_2) is formed in the atmosphere primarily by the rapid reaction of the colorless gas nitric oxide (NO) with atmospheric oxygen. Carbon monoxide (CO) is a common, colorless, odorless, highly toxic gas. It is produced by natural and anthropogenic (caused by human activity) combustion processes. The major source of carbon monoxide in urban areas is incomplete combustion of carbon-containing fuels (primarily gasoline, diesel fuel, and natural gas). Particulate Matter (PM) is measured in microns ($PM_{2.5}$ and PM_{10}). PM_{10} consists of particulate matter, fine dusts and aerosols, 10 microns or smaller in diameter. Since all excavated material will be coarse and moist beach sand, no quantifiable amount of fugitive dust can – or will – be generated during the course of the work. When inhaled, particles larger than 10 microns generally are caught in the nose and throat and do not enter the lungs. $PM_{2.5}$ is a mixture of particulate matter fine dusts and aerosols 2.5 microns or smaller in aerodynamic diameter. $PM_{2.5}$ can enter the deepest portions of the lungs where gas exchange occurs between the air and the blood stream. These are the most dangerous particles because the lungs have no efficient mechanisms for removing them.

Project construction would have a limited potential to contribute to existing violations of state and federal air quality standards in the Project vicinity for ozone, PM_{10} and $PM_{2.5}$, primarily through diesel engine exhaust and fugitive dust emissions during construction activities. However, incremental impacts would be small, temporary, and would cease upon Project completion. Except for peak daily NO_X emissions comprising on-site and off-site sources, no applicable quantitative emissions thresholds would be exceeded in the District. Due to off-site geographic dispersion and effective on-site fugitive dust mitigation measures, no ambient air quality violations would occur solely due to Project emissions for any pollutant, including CO, NO_X, PM_{10}, and $PM_{2.5}$.

The use of newer, less polluting Tier 1, 2, and 3 engines in most construction equipment used on-site is a mitigating factor for combustion emissions of NO_X, volatile organic compounds, CO, PM_{10}, and $PM_{2.5}$. California ultra-low sulfur diesel fuel with a maximum sulfur content of 15 parts per million (ppm) by weight would be used in all diesel-powered equipment to minimize sulfur dioxide and particulate emissions. However, since Tiered emission standards and California ultra-low sulfur diesel fuel are the current baseline for the state, their use does not comprise mitigation per se.

Therefore, the impact would be significant and would require the following mitigation measures, which are based on SCAQMD Rule 403 fugitive dust control measures (SCAQMD 2005).

- **Mitigation Measure AIR-1: Best Management Practices**

  During construction, the contractor will implement all applicable Best Available Control Measures listed in SCAQMD Rule 403, Table 1.

- **Mitigation Measure AIR-2: Limit Idling Time**

  During construction, the contractor will limit vehicle idling time to a 5-minute maximum.

Implementation of Mitigation Measures AIR-1 and AIR-2 would reduce impacts associated with emissions to a less than significant impact.

c) The Project would be in conformance with the AQMP (SCAQMD 2007), and would not result in operational impacts that would increase criteria pollutants. Furthermore, Project construction activities are not considered to be a significant source of criteria pollutants on an individual basis. The CEQA Guidelines Section 15064(h)(3) stipulates that for an impact involving a resource that is addressed by an approved plan or mitigation program, the lead agency may determine that a project's incremental contribution is not cumulatively considerable if the Project complies with the adopted plan or program. In addressing cumulative effects for air quality, the AQMP is the most appropriate document to use because the AQMP sets forth a comprehensive program that will lead the South Coast Air Basin, including the Project area, into compliance with all federal and state air quality standards and uses control measures and related emission reduction estimates based on emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. The Project is in conformance with the AQMP and the Project has no long-term impacts, and is not significant on an individual basis during construction activities. Therefore, the Project's incremental contribution to criteria pollutant emissions is not cumulatively considerable. A less than significant impact would occur.

d) Certain population groups are considered more sensitive to air pollution and odors than others; in particular, children, elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases such as asthma and bronchitis. Sensitive receptors (land uses) indicate locations where such individuals are typically found, namely schools, daycare centers, hospitals, convalescent homes, residences of sensitive persons, and parks with active recreational uses, such as

youth sports. The closest sensitive receptor to the Project site is the Gan Malibu Preschool (approximately 0.25 mile to the northeast). However, with implementation of Mitigation Measures AIR-1 and AIR-2, the Project would not expose sensitive receptors to substantial pollutant concentrations.

e) Due to the relatively small scale of the proposed construction activity, its short-term temporary nature and the size of its footprint, Mitigation Measures AIR-1 and AIR-2 would lower the concentrated release of particles such that the exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

f) California ultra-low sulfur diesel fuel with a maximum sulfur content of 15 ppm by weight would be used in all diesel-powered equipment which minimizes emissions of sulfurous gases (sulfur dioxide, hydrogen sulfide, carbon disulfide, and carbonyl sulfide). Therefore, no objectionable odors are anticipated from construction activities or normal pipeline maintenance. The Project would not create objectionable odors affecting a substantial number of people; therefore, there would be no impact.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

IV. BIOLOGICAL RESOURCES **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

DISCUSSION

a) Special-status wildlife species include species that are federally listed as endangered or threatened, federal candidate species for listing, species protected by the state of California as endangered or threatened, California species of special concern and California fully protected species.

Table 3 contains a list of special-status plant and wildlife species and sensitive habitats. The table includes common and scientific names, state and/or federal status, California Rare Plant Rank (CRPR), habitat requirements, and potential for occurrence on the Project site based on the California Natural Diversity Database (CNDDB) (CDFG 2012) and the City of Malibu General Plan (1995).

Table 3: Special-Status Plant and Wildlife Species and Sensitive Habitats Potentially Occurring in Project Site

Species	Federal Status	State Status/CRPR	Habitat	Potential Occurrence
Invertebrates				
Monarch butterfly (*Danaus plexippus)*		——	Winter roost sites in wind protected tree groves with water and nector sources nearby.	None, no suitable habitat.
Reptiles				
Western pond turtle (*Emys marmorata*)	——	CSC	Ponds, marshes, streams, rivers and irrigation ditches with aquatic vegetation.	None, no suitable habitat.
California mountain kingsnake (San Diego population) (*Lampropeltis zonata*)	——	CSC	Valley-foothill hardwood, coniferous, chaparral, riparian and wet meadows.	None, no suitable habitat.
Coast horned lizard (*Phrynosoma blainvillii*)	——	CSC	Sandy washes with scattered low shrubs.	None, no suitable habitat.
San Bernardino ringneck snake (*Diadophis punctatus modestus*)	——	——	Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous vegetation.	None, no suitable habitat.
Birds				
Light-footed clapper rail *(Rallus longirostris levipes)*	FE	SE	Salt marshes with cordgrass and pickleweed. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover.	None, no suitable habitat.
California least tern *(Sterna antillarum browni)*	FE	SE	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Potential suitable breeding habitat, but not known to breed in the vicinity of the Project site.
Golden eagle (*Aquila chrysaetos*)	——	CFP	Cliff-walled canyons and large trees provide nesting habitat.	None, no suitable habitat.
Mammals				
Spotted bat (*Euderma maculatum*)	——	CSC	Needs rock crevices in cliffs or caves for roosting.	None, no suitable habitat.
Western mastiff bat (*Eumops perotis californicus*)	——	CSC	Roosts in crevices in cliff faces, high buildings, trees and tunnels.	None, no suitable habitat.
Western red bat (*Lasiurus blossevillii*)	——	CSC	Roosts primarily in trees, 2-40 feet above ground.	None, no suitable habitat.

Table 3: Special-Status Plant and Wildlife Species and Sensitive Habitats Potentially Occurring in Project Site

Species	Federal Status	State Status/CRPR	Habitat	Potential Occurrence
Western small-footed myotis (*Myotis ciliolabrum)*	____	____	Seeks cover in caves, buildings, mines and crevices in arid woody and brushy uplands.	None, no suitable habitat.
Yuma myotis (Myotis yumanensis)	____	____	Seeks cover in caves, buildings, mines and crevices in arid woody and brushy uplands near water.	None, no suitable habitat.
San Diego desert woodrat (*Neotoma lepida intermedia*)	____	CSC	Coastal scrub/chaparral, rocky outcrops and rocky cliffs and slopes.	None, no suitable habitat.
Fish				
Tidewater gobi (*Eucyclogobius newberryi*)	FE	CSC	Brackish waters along the California coast (Malibu creek and lagoon).	None, no suitable habitat. Project site is outside critical habitat.
Arroyo chub (*Gila orcuttii*)	____	CSC	Slow water sections of streams with mud or sand bottoms.	None, no suitable habitat.
Southern steelhead-southern California DPS (*Oncorhynchus mykiss irideus)*	FE	CSC	Malibu Creek and Lagoon.	None, no suitable habitat.
Grunion *(Leuresthes tenuis)*	____	unique recreational fishery	Nearshore waters; spawn on beach during high tide.	Suitable spawning habitat on beach adjacent to Project site.
Plants				
Coulter's saltbush (*Atriplex coulteri*)	____	____/1B.2	Coastal bluff scrub, coastal dunes, alkaline low places within valley foothill grasslands.	None, no suitable habitat. Project site is primarily an unvegetated sandy beach that is regularly disturbed by recreators.
Braunton's milk-vetch (*Astragalus brauntonii*)	FE	____/1B.1	Recent burns or disturbances in stiff gravelly clay soils (Malibu Lagoon).	None, no suitable habitat.
Malibu baccharis (*Baccharis malibuensis*)	____	____/1B.1	Coastal scrub, chaparral and woodlands.	None, no suitable habitat.
Round-leaved filaree (*California macrophylla*)	____	____/1B.1	Woodland and valley foothill grasslands.	None, no suitable habitat.
Slender mariposa-lily (*Calochortus clavatus* var. *gracilis*)	____	____/1B.2	Chaparral and coastal scrub.	None, no suitable habitat.
Plummer's mariposa-lily (*C. plummerae*)	____	1B.2	Woodland and valley foothill grasslands, chaparral and coastal scrub, on dry rocky slopes.	None, no suitable habitat.
Santa Susana tarplant (*Deinandra minthornii*)	____	SR/1B.2	Chaparral, coastal scrub on sandstone outcrops and crevices.	None, no suitable habitat.
Marcescent dudleya (*Dudleya cymosa* ssp. *marcescens*)	FT	SR/1B.2	Chaparral on sheer rock surfaces and rocky volcanic cliffs.	None, no suitable habitat.
Blochman's dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*)	____	____/1B.1	Coastal scrub, coastal bluff scrub and valley foothill grasslands in rocky areas with shallow soils.	None, no suitable habitat.

Table 3: Special-Status Plant and Wildlife Species and Sensitive Habitats Potentially Occurring in Project Site

Species	Federal Status	State Status/CRPR	Habitat	Potential Occurrence
Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*)	FT	____/1B.2	Chaparral, coastal scrub on north facing slopes in canyons.	None, no suitable habitat.
Lyon's pentachaeta (*Pentachaeta lyonii*)	FE	SE/1B.1	Chaparral, valley foothill grasslands usually in the ecotone between the two plant communities.	None, no suitable habitat.
Sensitive Habitats				
Southern California Coastal Lagoon including Coastal Brackish marsh	____	____	Malibu Creek Lagoon	Not within Project site. Located immediately west of site.
Southern California Steelhead Stream	____	____	Malibu Creek	Not within Project site. Located north and west of site.
Southern Coastal Saltmarsh	____	____	Malibu Creek Lagoon	Not within Project site. Located west of site.
Valley Oak Woodland	____	____	Liberty Canyon in Malibu State Park	Not within Project site. Located north of site.

Notes::

FT = Federally Threatened
FE = Federally Endangered
FC = Federal Candidate Species
FD = Federally Delisted
ST = State Threatened
SCD-State Candidate (Delisting)
SD = State Delisted
SR = State Rare (plants)

SE = State Endangered
CSC = State Species of Special Concern
CFP = California Fully Protected
DPS = Distinct Population Segment
CRPR = California Rare Plant Rank; 1B = Rare, threatened, or endangered in California and elsewhere.
.1 = Seriously endangered in California
.2 = Fairly endangered in California

Historically, the Project site potentially supported dunes or coastal scrub habitats prior to the development of the site for recreation, but currently the Project site supports disturbed sandy beach areas that are primarily unvegetaed and which do not function as a natural dune system. The Project site does not support suitable habitat for any special-status plant species listed in Table 3. Coulter's saltbush (*Atriplex coulteri*) has been reported to occur in sand dune habitats; however, sandy areas at the Project site are too disturbed to provide suitable habitat for this perennial species. There is only one CNDDB record of this plant in the Malibu Beach quadrangle (CDFG 2012). This occurrence is approximately 1.6 miles west of the Project site and was last observed in 2009 in coastal bluff scrub and was potentially extirpated by a fire.

However, to avoid impacts on any special-status plants, the following mitigation measure would be required:

- **Mitigation Measure BIO-1: Special-status Plant Protection**

  To ensure the Project would not affect any special-status plants, the contractor will limit ground disturbances during construction to existing disturbed areas. The contractor will avoid any vegetated areas west of the construction site during pipeline removal. Only the portion of the pipeline within the active beach sand would be removed. This would be approximately 150 feet or would stop prior to disturbing any existing vegetation, whichever is less.

With implementation of Mitigation Measure BIO-1, impacts on sensitive special-status plants would be reduced to less than significant.

b) Table 3 lists four sensitive habitat types reported to occur in the vicinity of the Project area, but not within the Project area. Three of the four sensitive habitats are located on Malibu lagoon or Malibu Creek which are approximately 300 feet southwest of the site and a 0.25 mile west of the site respectively. Dewatering is not expected to be required but in the event that it is required, the Project would not dispose of the water from the dewatering of the construction site into the lagoon. If, dewatering is required the water would be disposed of in one of two ways: into a storm drain, sanitary sewer, or into a Baker Tank in the staging area and then disposed of at an appropriate location per RWQCB waste discharge permit requirements.

The Project site is located within the most extensive natural coastline in Los Angeles County. Significant marine resources along the Malibu coast include kelp beds, tide pools, marine fisheries, offshore reefs and are located immediately south of the Project site. Other significant biological coastal resources include sandy beaches, rocky headlands, sea lion haul outs, coastal dunes and isolated wetlands. To protect these sensitive resources, the State Water Resources Control Board (SWRCB) designated the entire coastline from Point Mugu to Latigo Point as an Area of Special Biological Significance (ASBS). Based on the quality of the biological resources in the ASBS, the City of Malibu General Plan (1995) has designated the coastline between Point Mugu and Latigo Point as an ESHA, consistent with the resource protection language of the California Coastal Act. However, the planned construction site is not expected to significantly disrupt or degrade the habitat values in the construction site because of the short construction duration and that the post-construction site conditions would be restored to pre-construction conditions. The Project construction site is sited and designed to prevent impacts that would significantly degrade the ESHA and is to be compatible with the continuance of the habitat values and existing land uses. In addition, the Project site supports disturbed habitat that provides limited value for plants and wildlife. Consequently, the Project would not have a substantial adverse effect on the ESHA and no mitigation measures would be required.

c) Although not anticipated, dewatering of the excavation site, if required, is expected to have a zone of influence that is unlikely to include the lagoon immediately to the west. The amount of groundwater to be removed would not be significant in comparison to the lagoon recharge water from the ocean and Malibu Creek. If this should become a concern, monitoring wells may be placed between the tank and the lagoon to determine if the dewatering is significantly affecting water levels in the lagoon. However, given that the dewatering would be regulated by the RWQCB (see Section 2.4.2), the Project would not have a significant impact on federally protected wetlands, and no mitigation measures would be required.

d) This portion of the Southern California coastline is known to support grunion (*Leuresthes tenuis*) spawning activities or "runs." Grunions inhabit the nearshore waters from the surf to a depth of 60 feet. The CDFG considers grunion as a unique recreational fishery. Grunions leave the water at night to spawn on beaches during the spring and summer months. For four consecutive nights, beginning on the nights of the full and new moons, spawning occurs after high tides and continues for several hours. As waves break on the beach, grunions swim as far up the slope towards the uplands as possible. The female arches her body and excavates the semi-fluid sand with her tail to create a nest. She twists her body and digs into the sand until she is half buried, with her head sticking up. She then deposits her eggs in the nest. Males curve around the female and release milt. The milt flows down the female's body until it reaches and fertilizes the eggs. After spawning, the males immediately retreat toward the water while the female twists free and returns with the next wave. While spawning may take only 30 seconds, some fish remain stranded on the beach for several minutes (CDFG 2010b).

Despite local concentrations, grunions are not abundant. The most critical problem facing the grunion resource is the loss of spawning habitat caused by beach erosion, harbor construction, and pollution. In 1947 the closed season for grunion was established from April through May. This closure is still in effect to protect grunion during their peak spawning period. During the open season, grunion may be taken by sport fishermen using their hands only. No holes may be dug in the beach to entrap them, and there is no bag limit.

To avoid impacts on grunion, the following mitigation measure would be required:

- **Mitigation Measure BIO-2: Grunion Protection**

  The contractor will excavate around the tank during daylight hours in accordance with the City of Malibu's construction hour limits. The contractor will not extend excavation in a horizontal direction beyond the highest astronomical tide (HAT) line, which in this case is estimated to be approximately 5 feet above the MLLW. This would place the outer horizontal edge of the excavation at approximately 19 to 20 feet from the outer side of the tank and be at minimum 43 feet outside of the HAT line and potential grunion spawning areas.

Construction would start in March which is in the grunion spawning season. However, with implementation of Mitigation Measure BIO-2, the Project would have less than significant impacts to grunion spawning habitat.

e) The City of Malibu General Plan (City of Malibu 1995) identifies the following resources as Environmentally Sensitive Resources in the Conservation Element of the Plan. Several habitats including sandy beach, rocky beach, coastal dune salt marsh, mud flats and salt-water to brackish estuary are supported by Malibu Creek Lagoon. The distribution of brackish and coastal salt marshes has been severely restricted along the Southern California coast and much of the habitat has been degraded. The Malibu Creek Lagoon is the only estuary in Los Angeles County providing a stop-over for various migratory birds. Therefore, this community is considered a highest priority community in need of protection by the City of Malibu. The Project is not expected to affect these habitats in the Malibu Creek Lagoon located approximately 300 feet west of the construction site, and thus no additional mitigation measures would be required.

Grunion spawn at the western end of Decker Beach, Zuma Beach, Solstice Beach, and other locations throughout the Malibu area (City of Malibu 1995). The spawning grounds are considered sensitive because the continued success of the species depends on the availability of the spawning habitat. Mitigation Measure BIO-2 would reduce potential impacts to grunion spawning to a less-than-significant level.

Gray whales (*Eschrichtius robustus*), a federally endangered species, and southern sea otters (*Enhydra lutris nereis*), a federally threatened species, have been observed passing by the Malibu coastline (City of Malibu 1995). Harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*), which are found along the Malibu coast, are afforded protection under the federal Marine Mammal Protection Act (City of Malibu 1995). None of these marine mammals are known to use the beach in which the Project site is located and thus are unlikely to be negatively affected by construction activities. In addition, the short construction duration and the fact the post-construction site conditions would be restored to pre-construction conditions would further indicate the Project would not have any effect on these species and thus no mitigation measures would be required.

Two state and federal endangered birds, the California least tern *(Sterna antillarum browni)* and the light-footed clapper rail *(Rallus longirostris levipes*), have been observed passing through, but not breeding in the area of the Malibu Creek Lagoon (City of Malibu 1995). There are no CNDDB

breeding occurrences of these two bird species in the Malibu Beach United States Geological Survey (USGS) 7.5 minute quadrangle, which is the quadrangle where the Project site is located (CDFG 2012). The Project is sited and designed to prevent impacts that would significantly degrade the Malibu Creek lagoon and would be compatible with the continuance of the habitat values associated with the lagoon (see items b and c above), and thus no mitigation measures would be required.

Los Angeles County has defined Significant Ecological Areas (SEAs) as ecologically fragile or important land and water areas which are valuable as plant or wildlife habitat. In the Malibu Coastal Zone (MCZ) there are eight designated SEAs including the following SEAs in the Project area; a portion of Malibu Canyon including Malibu Lagoon (3,638 acres), and Malibu Creek State Park Buffer (195 acres). Both of these SEAs are located outside of the Project site and thus would not be directly affected. In addition, the Project site is designed to prevent impacts that would significantly degrade the Malibu Creek Lagoon or the Malibu Creek State Park and would be compatible with the continuance of the habitat values associated with these areas (see items b and c above), and thus no mitigation measures would be required.

f) The Project site does not occur within nor would it conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, and thus would have no effect on any such plan.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

V. CULTURAL RESOURCES **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?	☐	☒	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

DISCUSSION

a) The Adamson House, a Moorish and Spanish-Mediterranean style building constructed in 1929, features Malibu tiles, hand-carved ceiling beams and doors, decorative murals, molded ceilings, hand-wrought ironwork, and lead-framed bottle glass windows. The approximately 4,500-square foot house is located on a 13-acre parcel adjacent to Malibu Lagoon Beach. Sweeping views of the Pacific Ocean and the house gardens can be seen from most rooms in the house.

A pool house and rectangular pool are located to the south of the house. The pool house historically had male and female dressing rooms and bathrooms as well as rooms to hold large water tanks and boilers to heat the water. The pool was originally filled with salt water, provided from ocean water. The pool water was changed weekly and heated in boilers housed under the pool. When the property was leased to the Pepperdine University Chancellor in 1971, the pool was converted from salt water to fresh water (ENTRIX 2006).

The subject of the Project, a concrete tank that is located approximately 300 feet from the Adamson House, is assumed to be associated with the house's salt water pool. The tank measures 13 feet in outside diameter and is at least 16 feet deep. A 12-inch diameter access hole is located near the center of the tank and an 18- by 24-inch access hole is located near the east edge of the tank. A 4.5-inch abandoned steel pipe, which runs in the direction of the Adamson House, is aligned with the 12-inch hole in the center. The top slab of the tank is 6 inches thick and the concrete walls are about 8.5-inch thick. Water levels at the time of the excavation were about 5.5 feet below the top of the tank slab elevation. Water levels appeared to change with the tide, as observed by the wetted concrete surface on the inside of the tank.

The Adamson House was listed on the NRHP in 1977 and was designated a California Historical Landmark in 1985. The Adamson House was eligible for listing in the NRHP because the house is an outstanding example of a 1920s Spanish Colonial Revival style designed by a major California architect.

Although no architectural or engineering plans are available that show definitively that the concrete tank on Malibu Lagoon Beach provided salt water to the Adamson House pool, there is information that strongly links the tank to the pool (ENTRIX 2006). The pool house and the pool are still fully intact, as are the heaters and tanks that are located in the pool house. The buried concrete tank is an unseen feature of the Adamson House and is significant for its historical use associated with the conveyance of salt water from the ocean into the pool. Because the tank is considered a contributing feature to the Adamson House, listed on both federal and state registers, under PRC Section 5024 alteration of a historic element associated with the house (i.e., concrete tank) would constitute a significant impact. The pipe is assumed to be a contributing feature of the tank. Therefore, the following mitigation measure would be required:

- **Mitigation Measure CULT-1: HABS/HAER Report and Photo Documentation**

  The Project Sponsor will prepare photographic, architectural, and written documentation that meets Historic American Building Survey (HABS) and Historic American Engineering Record (HAER) standards. The documentation will include contextual photograph, images of the partially excavated tank, and the pipe. The photographic documentation will occur during construction activities, and written documentation will be submitted to the California State Historic Preservation Officer, National Park Service, Malibu Public Library and the Malibu Lagoon Interpretive Association within 12 months of completing construction.

Implementation of Mitigation Measure CULT-1 would reduce the Project's impact on historic resources to less than significant.

b) A search was performed by the California Historical Resources Information System of archaeological sites within 0.25 mile of the Project area. The Project area includes a known archaeological site called Humaliwo (LAN-264). The site represents occupation from 3,000 B.P. to the Spanish Mission period. The site consists of shell midden and fish bones. Two cemeteries from the prehistoric and historic periods are documented within the site. At least six excavations, led by archaeologists from the University of California, Los Angeles, have taken place at the site. Six additional sites are located

within 0.5 mile of the Project area: LAN-267, LAN-690, LAN-1449, LAN-2936, LAN-3125, and LAN-3766. All sites are prehistoric and consist of shell, bone, lithics, or a combination of the three.

The Project area and beach are both located within and outside the site LAN-264 boundaries. The Project area is located on the errosional/depositional beach and in previously disturbed areas. There is little potential to discover cultural materials in the Project area. However, the Project has the potential to disturb previously unknown archeological resources. Therefore, the following mitigation measure would be required:

- **Mitigation Measure CULT-2: Archeological Resources Monitoring**

  A qualified archaeologist, per Secretary of the Interior Standards, will perform on-site monitoring during ground disturbing decommissioning activities. Should the presence of important prehistoric cultural resources or ethno historic Chumash cultural resources be found, an evaluation and Phase III mitigation program will be conducted in consultation with a qualified Chumash cultural resources monitor.

Implementation of Mitigation Measure CULT-2 would reduce the Project's impact on archeological resources to less than significant.

c) In September 2010 Cardno ENTRIX performed a search of records of paleontological resources in Los Angeles County held by the University of California Berkeley, Museum of Paleontology Specimens (UCMP 2010). No paleontological specimens were identified within the Project area. However, Project activities that involve groundwork have the potential to uncover previously unknown paleontological resources. Therefore, the following mitigation measure would be required:

- **Mitigation Measure CULT-3: Paleontological Resources Discovery**

  If paleontological resources are discovered or accidentally disturbed during decommissioning activities, the contractor will immediately notify the County who will retain the services of a qualified paleontologist. Upon determining the significance of this resource, the consulting paleontologist, in coordination with the County, will determine the appropriate actions to be taken.

Implementation of Mitigation Measure CULT-3 would reduce the Project's impact on paleontological resources to less than significant.

d) The Project area is previously disturbed with little potential to encounter human remains. However, there is always the potential to encounter unknown human remains; therefore, the following mitigation measure would be required:

- **Mitigation Measure CULT-4: Human Remains Discovery**

  If human remains are encountered during construction activities, as per 70.50.1 of the CA Health & Safety Code, the contractor will stop all work in the vicinity and immediately notify the Coroner and the contractor will immediately notify the County. In addition, a qualified consulting archaeologist will be retained by the County to evaluate the discovery. If the human remains are Native American in origin, then the County will coordinate with the Coroner to notify the California Native American Heritage Commission within 24 hours of this identification.

Implementation of Mitigation Measure CULT-4 would reduce the Project's impact on human remains to less than significant.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

VI. GEOLOGY AND SOILS Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

DISCUSSION

a) The Project would not construct or install new structures within the Project area, and would instead remove some of the existing structure, specifically a portion of the underground pipeline to the concrete tank. Therefore, the Project would not expose people or structures to potential substantial adverse effects from earthquakes, strong seismic ground-shaking, ground failure or landslides.

b) Because the Project occurs on a beach, it would not involve soil removal and would not result in the loss of topsoil. Sand erosion will be addressed by requiring the contractor to properly step back the slope of the sand while the excavation is expose.

c) The Project would not construct or install any structures that would potentially result in landslides, lateral spreading, subsidence, liquefaction or collapse.

d) The Project would not include proposed new structures that would meet the Uniform Building Code. Therefore, the Project would not create substantial risks to life or property.

e) The Project would not require waste water disposal. Therefore, there would be no impact on soils to support the use of septic tanks or alternative waste water disposal systems.

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There are no operational impacts anticipated as a result of the Project.

VII. GREENHOUSE GAS EMISSIONS Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

DISCUSSION

a) Construction equipment and truck trips to and from the site would generate greenhouse gas emissions; however, emissions would not be significant because they would be generated for fewer than two weeks during which Mitigation Measures AIR-1 and AIR-2 would be implemented to reduce emissions to the greatest extent possible by reducing fuel consumption. Appendix A contains additional information on the green house gas emissions from the Project (including construction).

b) The Project would involve short-term construction only (fewer than two weeks) and would not conflict with any plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases from stationary sources. Since the Project would not construct a stationary source of greenhouse gases, such plans, policies or regulations would not apply. Notwithstanding its temporary (i.e., exempt) status, no present or foreseeable future greenhouse gas emissions thresholds would be exceeded due to the very small size of the Project compared to large industrial facilities (i.e., major sources). Thus, the Project would nevertheless be exempt from regulatory limits on its emissions of greenhouse gases. Appendix A contains additional information on the green house gas emissions from the Project.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

VIII. HAZARDS AND HAZARDOUS MATERIALS Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
f. For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

DISCUSSION

a) As with typical construction activities, the operation of equipment and vehicles during Project construction would require the use of fuels, lubricants, and other hazardous substances. The use of hazardous materials would be similar to other construction activities in the county. Improper transport, use, storage, or disposal of hazardous substances could result in the accidental release of substances during decommissioning activities. The transport, use, storage, and disposal of hazardous substances during construction are regulated by various state, federal, and local statutes and regulations. Adherence to existing laws and regulations controlling the transport and use of hazardous materials would reduce the risk of accidental hazardous material releases to a less-than-significant level.

b) The Project would not use or remove hazardous materials. The underground tank was previously used to store salt water and does not contain any hazardous materials (Calscience Environmental Laboratories 2006). However, there is the potential for fuel releases during transport to the Project area or during fueling of equipment during construction activities. Such releases could potentially result in contamination of air, soil, groundwater, or surface water depending on the location of the release. However, any accidental release during construction would be handled in accordance with federal, state and local regulations, and these requirements would be included in the Project contract specifications. Therefore, the impact would be less than significant and no mitigation would be required.

c) Project construction could involve the temporary use of hazardous materials such as solvents, cements and petroleum products such as oil and fuel. Although there is one school, the Gan Malibu Preschool, within .25 mile of the Project site, the hazardous materials that would be used during construction are commonly used and would only be used in relatively small quantities and on a temporary basis. These requirements would be included in the Project contract specifications. Therefore, the impact would be less than significant.

d) According to the California Environmental Protection Agency (CalEPA), the Project site is not listed on a hazardous materials site list (CalEPA 2010a; 2010b). Therefore, there would be no impact.

e) The closest airport to the Project area is the Los Angeles International Airport, located approximately 17 miles southeast. The Project area is not located within an airport land use plan, or within two miles of a public airport. Therefore, The Project would not expose people to airport-related hazards.

f) The Project area is not located within the vicinity of a private airstrip. Therefore, the Project would not expose people to an airport-related safety hazards.

g) The Project would not introduce any new structures or uses to the Project area. In addition, the Project would not significantly alter the existing transportation system surrounding the Project area. As such, the Project would not impact emergency response or evacuation plans.

h) According to the California Department of Forestry and Fire Protection (CAL FIRE), the Project site is not located near an area of high wildland fire risk (CAL FIRE 2007). Therefore, there would be no impacts from wildland fires due to the Project.

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There are no operational impacts anticipated as a result of the Project.

IX. HYDROLOGY AND WATER QUALITY **Would the Project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒

IX. HYDROLOGY AND WATER QUALITY Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f. Otherwise substantially degrade water quality?	☐	☐	☐	☒
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

DISCUSSION

a) The Project would not add pollutants to the existing stormwater runoff nor would it violate water quality standards during construction. The Project site includes only pavement (parking lot) and beach sand. Post-construction conditions would be the same as pre-construction conditions. Additionally, the Project would comply with all the requirements of the RWQCB – Los Angeles Region, Permit R4-2008-0032 waste discharge permit.

b) The Project would not deplete groundwater resources or lower the groundwater table. If required, the dewatering would cause a temporary change in the groundwater table, but would not constitute a substantial impact on groundwater resources because the amount of water removed would be less than 65,000 gallons over the entire course of construction. The temporary removal of groundwater would be less than significant.

c) Project construction would be scheduled to be completed in fewer than two weeks) and would return the beach to the existing grade. The Project would not alter the drainage pattern of the area (tidal waters to the Pacific Ocean) such that substantial erosion or siltation on- or off-site would result. Therefore, no impact would result.

d) The Project would return the beach to the existing grade and would not alter the drainage pattern of the area such that flooding on- or off-site would result. Therefore, no impact would result.

e) After construction is complete, the Project site would return to its pre-construction condition. Therefore, the Project would not change the surface hydrology such that additional water would enter the existing stormwater system, nor would it provide substantial additional sources of polluted runoff.

f) The Project proposes no housing. Therefore, no impact would result.

g) The Project is a temporary construction project that would return the Project site to its pre-construction condition. The Project would comply with all the requirements of the RWQCB – Los Angeles Region, Permit R4-2008-0032 waste discharge permit. Therefore, the Project would not otherwise substantially degrade water quality.

h) The Project proposes no structures. Therefore, no impact would result.

j) The Project proposes no structures that would be inundated by seiche, tsunami or mudflow. Therefore, no impact would result.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

X. LAND USE AND PLANNING **Would the project:**	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a. Physically divide an established community?	☐	☐	☐	☒
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

DISCUSSION

a) The Project proposes no structures or facilities that would physically divide an established community. Therefore, no impact would occur.

b) The Project would not introduce activities not currently occurring within the Project vicinity. No changes in existing land uses either at or outside of the Project site would occur. The existing adjacent land uses would remain the same as under existing conditions.

Construction activities could pose a temporary conflict with adjacent land uses, such as could occur with the generation of dust, noise, and temporary interruptions of traffic routes. Mitigation measures to ensure that these conflicts would not result in a significant effect are provided in the air quality and noise sections. In addition, the construction fencing would temporarily restrict movement of beachgoers; however, this is for public safety reasons and would last fewer than two weeks. Therefore, impacts would be less than significant.

c) The Project site would not occur within nor would it conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, and thus would have no effect on any such plan.

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There are no operational impacts anticipated as a result of the Project.

XI. MINERAL RESOURCES Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

DISCUSSION

a-b) Sand and gravel resources are the only mineral resources which have been mapped in western Los Angeles County. However, to date the State Division of Mines and Geology has not mapped these resources or other mineral resources in the Malibu area (City of Malibu 1995). Therefore, the Project would not result in the loss of availability of a mineral resource

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There are no operational impacts anticipated as a result of the Project.

XII. NOISE Would the Project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the project?	☐	☐	☐	☒

XII. NOISE Would the Project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the project?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒
f. For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

DISCUSSION

a) The existing dominant noise source in the Project vicinity is roadway noise from PCH traffic, which is located approximately 150 feet to the north of the Project site. A community noise survey conducted on July 16, 1992 for the City of Malibu's General Plan (1995), shows the current ambient noise averages between 68 and 74 A-weighted decibels (dBA). Other than traffic noise, the only other significant noise source comes from wave action at the shoreline.

The City of Malibu General Plan (1995) identifies noise sensitive land uses as single and multiple family residences, schools, libraries, medical facilities, retirement/rest homes, and places of religious worship. Land uses in the Project vicinity that may be sensitive to increased noise levels include residential areas located as close as 450 feet away and the Gan Malibu Preschool approximately 0.25 mile to the northeast. Once completed, the Project would not result in noise levels above existing conditions because the Project would not result in traffic increases or permanent facilities. Impacts would be less than significant.

b) Construction and demolition would generate intermittent and short-term vibrations from the backhoe/excavator. Construction noise is not expected to be greater than the existing noise created by the highway at the identified sensitive receptors. In addition, construction would last fewer than two weeks. Therefore, vibration and groundborne noise levels would have a less-than-significant impact at the noise sensitive land uses.

c) The Project proposes no permanent structures or equipment that would generate noise once construction is complete. Therefore, no impact would result.

d) Construction activities would be expected to increase ambient noise levels at the Project site and in areas immediately adjacent to the site during the demolition and construction periods. Noise levels would vary throughout the day depending on the type of equipment in use at any one time. However, the distance to the closest sensitive noise receptor would attenuate equipment noise levels to at or below existing noise levels (see Table 4). Therefore, construction activities would have a less than significant impact on existing noise levels.

Table 4: Noise Levels for Proposed Construction Equipment (at 400 feet)

Equipment	Approximate Attenuated L_{max} (dBA) at Closest Sensitive Receptor
Backhoe/excavator	60
Grout Pump[1]	65
Dump Truck	56

Source: Federal Highway Administration 2006

Notes:

dBA = A-weighted decibels

L_{max} = maximum continuous noise level

1Value is for concrete pump

e-f) The Project is not located within an airport land use plan or within 2 miles of a public airport or private airstrip. Therefore, the Project would not expose people residing or working in the Project vicinity to excessive airport-related noise levels. No impact would occur.

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There are no operational impacts anticipated as a result of the Project.

XIII. POPULATION AND HOUSING Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION

a-c) The Project would not induce population growth, either directly or indirectly, because no facilities would be constructed. Also, no housing or people would be displaced by the Project. Therefore, no impact on population and housing would result from Project implementation.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

XIV. PUBLIC SERVICES Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
▪ Fire protection?	☐	☐	☐	☒
▪ Police protection?	☐	☐	☐	☒
▪ Schools?	☐	☐	☐	☒
▪ Parks?	☐	☐	☐	☒
▪ Other public facilities?	☐	☐	☐	☒

DISCUSSION

a) The Project would not induce population growth such that it would require the provision of new or physically altered government facilities the construction of which would cause significant environmental impacts. Therefore, the Project would have no impact on public services.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

XV. RECREATION Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION

a-b) The Project would not induce population growth causing an increase in the use of existing parks or other recreational facilities. The Project does not include recreational facilities or require the

construction or expansion of recreational facilities. Therefore, the Project would have no impact on recreation.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

XVI. TRANSPORTATION/TRAFFIC Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance policy establishing a measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e. Result in inadequate emergency access?	☐	☐	☐	☒
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

DISCUSSION

a) Because Project construction would occur in fewer than two weeks and there would be no permanent changes to traffic, there would be no conflict with an existing traffic plan or ordinance. No impact would occur.

b) See Item a) above.

c) The Project would have no impact on air traffic patterns.

d) Project design would not increase hazards. Project staging and construction would be located at the end of the public parking lot, and would not impact current design features. Slow moving construction

vehicles would use the left-turn median lane to enter the site from northbound PCH, and would not result in a safety hazard to vehicular traffic. No impact would occur.

e) Project staging and construction would be located at the end of the public parking lot, and would not impact emergency access.

f) Project implementation would not change the existing or planned transportation network in the City of Malibu, and would therefore not conflict with policies, plans or programs related to transit, bicycle or pedestrian travel. No impact would occur.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

XVII. UTILITIES AND SERVICE SYSTEMS Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d. Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e. Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

DISCUSSION

a) The Project would not generate wastewater requiring treatment or requiring the construction of new wastewater treatment facilities. Therefore, no impacts would occur.

b) See Item a) above.

c) No stormwater drainage facilities would be constructed as part of the Project, and none would be required. No impact would occur.

d) The Project would not require water to be supplied for construction. Therefore, no impacts would occur.

e) The Project would not generate wastewater requiring treatment. Therefore, no impacts would occur.

f) The Project plans to leave the existing concrete tank in place. Therefore, no impacts on landfills would occur.

g) See Item f) above.

The proposed Project will leave the tank in place and fill the inside of the tank with sand and topping it off with slurry cement to fill in all voids. The existing sand currently covering the tank will be excavated to expose the top 2 feet of the tank. While the tank is exposed it will be photo documented by architectural historians. The tank will be recovered and the beach backfilled and regraded. There is no change to the impacts for this criteria from the downsized Project.

There are no operational impacts anticipated as a result of the Project.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Have impacts that are individually limited, but cumulatively considerable? *("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)*	☐	☐	☒	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

DISCUSSION

a) As discussed herein, the Project could result in impacts on sensitive plant species and grunion. Mitigation Measures BIO-1 and BIO-2 would be required to reduce these impacts to a less-than-significant level. In addition, the Project would have potential impacts on historic and archeological resources. However, implementation of Mitigation Measures CULT-1 through CULT-4 would further reduce these impacts to a less-than-significant level.

b) Since the Project is a short-term construction Project that would return Malibu Lagoon Beach to its current condition, there are no related projects planned which would overlap with the implementation of

the tank Project, and impacts would be reduced to a less-than-significant level through implementation of mitigation measures, the Project would not contribute to any cumulatively considerable impacts.

c) The Project's impacts on the human environment would only occur during construction. These impacts would include air quality, noise, and traffic and transportation. All of these impacts would be less than significant either on their own or with the implementation of mitigation measures. As a result, the Project's impact on human beings would be less than significant.

   Additionally, potential impacts to human beings could result if the tank were left in place. The Project is being proposed to reduce the potential hazard to the public in the event that the tank is exposed during a storm or other event causing severe erosion. Filling the tank with sand will ensure that the tank remains in place and cannot be entered. The use of reflective material to mark the tank once the work is complete will help the public to identify the potential hazard in the event that the tank is uncovered in the future.

3.2 MITIGATION, MONITORING, AND REPORTING PROGRAM

In accordance with the California Environmental Quality Act (CEQA), the County of Los Angeles (County) prepared a Mitigated Negative Declaration (MND) and Initial Study (IS) for the Malibu Tank Removal Project (Project).

The MND/IS indicated that the Project will result in the potential for significant environmental impacts associated with air quality, biological resources, and cultural resources. Mitigation measures have been incorporated into the Project to reduce impacts to less than significant levels. The mitigation measures for the Project must be adopted by the County, in conjunction with adoption of the MND/IS.

Section 21081.6 of the Public Resources Code (PRC) and CEQA Guidelines section 15097 require the Lead Agency for each project that is subject to the CEQA to monitor performance of the mitigation measures included in any environmental document to ensure that implementation does, in fact, take place. The PRC requires the Lead Agency to adopt a monitoring and reporting program for assessing and ensuring the implementation of required mitigation measures. Specific reporting and/or monitoring requirements that will be enforced during Project implementation shall be adopted coincidental to final approval of the Project by the responsible decision maker(s).

In accordance with PRC Section 21081.6, the County has developed this Mitigation Monitoring and Reporting Program (MMRP) for the Project. The purpose of the MMRP is to ensure that the Project complies with all applicable environmental mitigation and permit requirements.

Mitigation measures incorporated into the Project include measures that would reduce short-term environmental impacts associated with construction activities on the site, as well as minimize impacts by restoring the affected environment. These measures will be implemented during construction activities.

The monitoring table below lists the mitigation measures, which will be implemented as part of the Project.

The County's Department of Public Works is responsible for review of all monitoring actions, enforcement actions, and document disposition and field check mitigation measure status as required.

Checklist Criteria	Mitigation Measure	Description
Criteria III: Air Quality	Mitigation Measure AIR-1: Best Management Practices	During construction, the contractor will implement all applicable Best Available Control Measures listed in SCAQMD Rule 403, Table 1.
	Mitigation Measure AIR-2: Limit Idling Time	During construction, the contractor will limit vehicle idling time to a 5-minute maximum.
Criteria IV: Biological Resources	Mitigation Measure BIO-1: Special-status Plant Protection	To ensure the Project would not affect any special-status plants, the contractor will limit ground disturbances during construction to existing disturbed areas. The contractor will avoid any vegetated areas west of the construction site during pipeline removal. Only the portion of the pipeline within the active beach sand would be removed. This would be approximately 150 feet or would stop prior to disturbing any existing vegetation, whichever is less.
	Mitigation Measure BIO-2: Grunion Protection	The contractor will excavate around the tank during daylight hours in accordance with the City of Malibu's construction hour limits. The contractor will not extend excavation in a horizontal direction beyond the highest astronomical tide (HAT) line, which in this case is estimated to be approximately 5 feet above the MLLW. This would place the outer horizontal edge of the excavation at approximately 19 to 20 feet from the outer side of the tank and be at minimum 43 feet outside of the HAT line and potential grunion spawning areas.
Criteria V: Cultural Resources	Mitigation Measure CULT-1: HABS/HAER Report and Photo Documentation	The Project Sponsor will prepare photographic, architectural, and written documentation that meets Historic American Building Survey (HABS) and Historic American Engineering Record (HAER) standards. The documentation will include contextual photograph, images of the partially excavated tank, and the pipe. The photographic documentation will occur during construction activities, and written documentation will be submitted to the California State Historic Preservation Officer, National Park Service, Malibu Public Library and the Malibu Lagoon Interpretive Association within 12 months of completing construction.
	Mitigation Measure CULT-2: Archeological Resources Monitoring	A qualified archaeologist, per Secretary of the Interior Standards, will perform on-site monitoring during ground disturbing decommissioning activities. Should the presence of important prehistoric cultural resources or ethno historic Chumash cultural resources be found, an evaluation and Phase III mitigation program will be conducted in consultation with a qualified Chumash cultural resources monitor.
	Mitigation Measure CULT-3: Paleontological Resources Discovery	If paleontological resources are discovered or accidentally disturbed during decommissioning activities, the contractor will immediately notify the County who will retain the services of a qualified paleontologist. Upon determining the significance of this resource, the consulting paleontologist, in coordination with the County, will determine the appropriate actions to be taken.
	Mitigation Measure CULT-4: Human Remains Discovery	If human remains are encountered during construction activities, as per 70.50.1 of the CA Health & Safety Code the contractor will stop all work in the vicinity and immediately notify the Coroner. The contractor will also immediately notify the County. In addition, a qualified consulting archaeologist will be retained by the County to evaluate the discovery. If the human remains are Native American in origin, then the County will coordinate with the Coroner to notify the California Native American Heritage Commission within 24 hours of this identification.

3.3 REFERENCES

California Department of Fish and Game (CDFG). 2012. Rarefind 3, California Natural Diversity Database (CNDDB). Records for Malibu Beach USGS 7.5 minute quadrangle.

California Department of Fish and Game (CDFG). 2010b. "California Grunion Facts and Runs." Available online at: http://www.dfg.ca.gov/marine/grunionschedule.asp.

California Department of Forestry and Fire Protection (CAL FIRE). 2007. Los Angeles County: Fire Hazard Severity Zones in SRA. Available online at: http://frap.cdf.ca.gov/webdata/maps/los_angeles/fhszs_map.19.pdf.

California Environmental Protection Agency (CalEPA). 2010a. Department of Toxic Substance Control (DTSC). EnviroStor. Available online at http://www.envirostor.dtsc.ca.gov/public. Accessed on September 10, 2010.

California Environmental Protection Agency (CalEPA). 2010b. State Water Resources Control Board (SWRCB). GeoTracker. Available online at http://geotracker.swrcb.ca.gov. Accessed on September 10, 2010.

California Department of Transportation (Caltrans). 2010. California Scenic Highway Mapping System. http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm.

Calscience Environmental Laboratories, Inc. 2006. Memo regarding Surfrider Beach, Malibu analytical results from Calscience to HPA, Inc. January 2006.

ENTRIX, Inc. 2006. Section 5024 Letter Report for Concrete Tank at Surfrider Beach. Prepared for HPA, Inc. Long Beach, CA. August 11.

Federal Highway Administration. 2006. FHWA Roadway Construction Noise Model User's Guide. Washington, DC.

County of Los Angeles. 1980. General Plan. Available online at: http://planning.lacounty.gov/generalplan#gp-existing.

City of Malibu. 2002. Local Coastal Program, Land Use Plan and Local Implementation Plan, as amended 2007. Available online at: http://www.ci.malibu.ca.us/index.cfm/fuseaction/detailgroup/navid/204/cid/1576/.

City of Malibu. 1995. City of Malibu General Plan. Available online at: http://www.ci.malibu.ca.us/index.cfm/fuseaction/nav/navid/250/.

South Coast Air Quality Management District (SCAQMD). 2007. Air Quality Management Plan. June. Available online at: http://www.aqmd.gov/aqmp/07aqmp/index.html.

South Coast Air Quality Management District (SCAQMD). 2005. Rule 403. Fugitive Dust. Amended June 3. Available online at: http://www.aqmd.gov/rules/reg/reg04/r403.pdf.

University of California Museum of Paleontology (UCMP). 2010. Paleontological resources records search. Available online at: http://ucmpdb.berkeley.edu/.

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Appendix A
Green House Gas and Air Quality Analysis

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Green House Gas Analysis for Malibu Tank Removal Project

Construction Emissions Estimation for Offroad Equipment and Onroad Vehicles

Mass emissions of criteria pollutants and greenhouse gases (GHG) for offroad equipment and onroad vehicles were estimated using CEQA/NEPA emission factors published by the South Coast Air Quality Management District (SCAQMD 2008) and U.S. Environmental Protection Agency (EPA 2011, 2012). The project schedule and equipment/vehicle list served as the basis for the analysis. The results of the analysis are presented in the emissions summary tables contained in this section and compared against significance thresholds (SCAQMD 2011).

For general engine exhaust emissions, the pre-processed SCAQMD factors are output from the California Air Resources Board (CARB) EMFAC and OFFROAD software applications and are the same conservative factors used in the official statewide URBEMIS and CalEEMod software applications for general land use planning in all 58 counties. For federal relevancy in all 50 states, the onroad and offroad factors are consistent with 40 CFR Parts 9, 69, 80, 86, 89, 94, 1039, 1048, 1051, 1065, and 1068 as applicable. For diesel offroad equipment with specified Tiers (1, 2, 3 or 4), engine exhaust emissions are based on applicable standards pursuant to 40 CFR 89.112, 13 CCR 2423, and 69 FR 38957-39273.

SCAQMD onroad and offroad factors were used for volatile organic compounds (VOC), carbon monoxide (CO), nitrogen oxides (NO_X), sulfur oxides (SO_X), respirable particulate matter (PM_{10}), carbon dioxide (CO_2), and methane (CH_4). EPA factors were used for nitrous oxide (N_2O), which are not included in the SCAQMD factors. For specified offroad Tiers, EPA factors for VOC, CO, NO_X , SO_X, PM_{10}, CO_2 , CH_4 and N_2O were used. For estimation purposes, fine particulate matter ($PM_{2.5}$) was quantified as 92 percent of PM_{10} for consistency with EMFAC (SCAQMD 2008). Where applicable, offroad and/or onroad fugitive dust emissions were estimated using EPA algorithms contained in Chapters 11 and 13 of AP-42. (EPA 2011, 2012)

Global Warming Potential (GWP) coefficients developed by the Intergovernmental Panel on Climate Change (IPCC) were used to quantify the globally averaged relative radiative forcing effects of a given GHG, using carbon dioxide as the reference gas. Accordingly, GWP coefficients of 1 for CO_2, 21 for CH_4, and 310 for N_2O were applied to aggregate GHGs as CO_2 equivalents (CO_2e). (EPA 2012, CCAR 2009)

Table 1: Planned Tank Filling			
Planned Activity	**Quantity**	**Units**	**Days to Complete**
Mobilization/Demobilization	—	—	2
Excavation	450	Cubic Feet	0.5
Sand fill	1,930	Cubic Feet	5
Slurry cement	70	Cubic Feet	0.5
Demolish steel pipe	150	Linear Feet	1
Backfill and re-grade beach	450	Cubic Feet	1
Estimated Time Required			**10**
Source: Halcrow/LA County 2012			

Table 2: Planned Construction Equipment for Project				
Activity	**Equipment Needed**	**Quantity**	**Rating**	**Operating Hours**
Mobilization/Demobilization	Work truck with trailer (equipment transport)	1	MD	5
Excavation	Caterpillar 272C Skid Steer Loader	1	94 hp	5
Sand fill	Caterpillar 272C Skid Steer Loader	1	94 hp	50
Slurry cement	ChemGrout CG-555 Grout Pump	1	12 hp	5
Demolish steel pipe	Caterpillar 272C Skid Steer Loader	1	94 hp	10
Backfill and re-grade beach	Caterpillar 272C Skid Steer Loader	1	94 hp	10
Estimated Equipment Running Time				**85**
Source: Halcrow/LA County 2012 *Notes:* *Working hours 7 am to 6 pm assuming 1 hour total breaks and lunch periods (10 hours per day operations)* *MD = "Medium Duty" weight class (onroad)* *hp = horsepower (offroad)*				

Table 3: Emissions Significance Thresholds - South Coast AQMD		
Criteria Pollutant	**Temporary Construction**	**Permanent Operation[1]**
	pounds per day	**pounds per day**
Volatile Organic Compounds (VOC as CH_4)	75	55
Carbon Monoxide (CO)	550	550
Oxides of Nitrogen (NO_X as NO_2)	100	55
Sulfur Dioxide (SO_X as SO_2)	150	150
Respirable Particulates (PM_{10})	150	150
Fine Particulates ($PM_{2.5}$)	55	55
Source: SCAQMD 2011 *Notes:* *[1] does not apply to this project (not a stationary nor indirect source)*		

Table 4: Estimated Criteria Emissions					
Criteria Emissions	Maximum	Threshold	Significant	Project Total	
	lbs/day	lbs/day		pounds	tons
Volatile Organic Compounds (VOC as CH_4)	0.6	75	No	4.8	0.002
Carbon Monoxide (CO)	3.6	550	No	31.5	0.016
Oxides of Nitrogen (NO_X as NO_2)	3.0	100	No	24.7	0.012
Sulfur Dioxide (SO_X as SO_2)	0.0	150	No	0.1	0.000
Combustion Particulates (C-PM_{10})	0.2	150	No	1.8	0.001
Combustion Particulates (C-$PM_{2.5}$)	0.2	55	No	1.6	0.001

Sources: SCAQMD 2008, 2011

Note:

Estimated emissions include daily worker commuting to/from job site

Table 5: Estimated Greenhouse Gas Emissions			
Greenhouse Gas Emissions	Daily	Project Total	
	lbs/day	tons	tonnes
Carbon Dioxide (GHG - CO_2)	529	2.34	2.13
Methane (GHG - CH_4)	0.1	0.0002	0.0002
Nitrous Oxide (GHG - N_2O)	0.0	0.0002	0.0001
Carbon Dioxide Equivalents (CO_2 eqv)	540	2.39	2.17

Sources: SCAQMD 2008, EPA 2012, CCAR 2009

Notes:

1 short ton = 2,000 lbs

1 metric tonne = 1,000 kg or 2,204.6 lbs

Estimated emissions include daily worker commuting to/from job site

Estimated Equipment and Vehicle Schedule for Proposed Project							
Phase or Activity	Equipment and Vehicles		Rating	Planned	Activity Schedule		
	Type	Category	BHP	quantity	days	hrs/day	mi/day
Offroad Equipment & Onroad Vehicles							
Mobilization/Demobilization	Work Truck	onroad MD		1	2		50
Excavation	Skid Steer Loader	offroad	94	1	0.5	10	
Sand fill	Skid Steer Loader	offroad	94	1	5	10	
Slurry cement	Grout Pump	offroad	12	1	0.5	10	
Demolish steel pipe	Skid Steer Loader	offroad	94	1	1	10	
Backfill and re-grade beach	Skid Steer Loader	offroad	94	1	1	10	
Worker Commuting	Pickup Truck/SUV	onroad LD		3	10		50

Source: Halcrow/LA County 2012

Notes:

LD = light duty, MD = medium duty, HHD = heavy heavy duty, BHP = brake horsepower

Estimated Equipment and Vehicle Activity for Proposed Project								
Phase or Activity	**Equipment and Vehicles**		**Rating**	**Planned**	**Max Daily**		**Project Total**	
	Type	**Category**	**BHP**	**quantity**	**hours**	**VMT**	**hours**	**VMT**
Offroad Equipment & Onroad Vehicles								
Mobilization/ Demobilization	Work Truck	onroad MD		1		50		100
Excavation	Skid Steer Loader	offroad	94	1	10		5	
Sand fill	Skid Steer Loader	offroad	94	1	10		50	
Slurry cement	Grout Pump	offroad	12	1	10		5	
Demolish steel pipe	Skid Steer Loader	offroad	94	1	10		10	
Backfill and re-grade beach	Skid Steer Loader	offroad	94	1	10		10	
Worker Commuting	Pickup Truck/SUV	onroad LD		3		150		1500

Source: Halcrow/LA County 2012

Notes:

LD = light duty, MD = medium duty, HHD = heavy heavy duty, BHP = brake horsepower

Emission Factors for Proposed Project														
Phase or Activity	Equipment and Vehicles		Rating	Planned	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_20	CO_2 eqv
	Type	Category	BHP	quantity	lbs/unit	lbs/unit	lbs/unit	lbs/unit	lbs/unit	lbs/unit	lbs/unit	lbs/unit	lbs/unit	lbs/unit
Offroad Equipment & Onroad Vehicles														
Mobilization/ Demobilization	Work Truck	onroad MD		1	0.0021	0.0141	0.0158	0.0000	0.0006	0.0005	2.7816	0.0001	0.0001	2.8120
Excavation	Skid Steer Loader	offroad	94	1	0.0461	0.2567	0.2900	0.0004	0.0212	0.0195	36.3574	0.0042	0.0019	37.0184
Sand fill	Skid Steer Loader	offroad	94	1	0.0461	0.2567	0.2900	0.0004	0.0212	0.0195	36.3574	0.0042	0.0019	37.0184
Slurry cement	Grout Pump	offroad	12	1	0.0100	0.0398	0.0602	0.0001	0.0040	0.0036	5.9390	0.0009	0.0004	6.0822
Demolish steel pipe	Skid Steer Loader	offroad	94	1	0.0461	0.2567	0.2900	0.0004	0.0212	0.0195	36.3574	0.0042	0.0019	37.0184
Backfill and re-grade beach	Skid Steer Loader	offroad	94	1	0.0461	0.2567	0.2900	0.0004	0.0212	0.0195	36.3574	0.0042	0.0019	37.0184
Worker Commuting	Pickup Truck/SUV	onroad LD		3	0.0007	0.0071	0.0007	0.0000	0.0001	0.0001	1.1009	0.0001	0.0001	1.1346
Sources: SCAQMD 2008, EPA 2012														

Notes:

SCAQMD emission factors for 2012-13 (SCAQMD 2008)

Offroad diesel exhaust $PM_{2.5}$ = 92% of PM_{10} per EMFAC 2007 version 2.3 (SCAQMD 2008)

N_2O & CO_2 eqv per Inventory of U.S. GHG Emissions & Sinks - Annex 3 (EPA 2012)

Non-matching application-specific values interpolated or extrapolated for improved accuracy

Daily Emissions for Proposed Project														
Phase or Activity	Equipment and Vehicles		Max Daily		VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_20	CO_2 eqv
	Type	Category	hours	VMT	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs
Offroad Equipment & Onroad Vehicles														
Mobilization/ Demobilization	Work Truck	onroad MD		50	0.1031	0.7039	0.7887	0.0013	0.0300	0.0251	139.0817	0.0049	0.0046	140.5992
Excavation	Skid Steer Loader	offroad	10		0.4614	2.5674	2.9001	0.0044	0.2120	0.1951	363.5741	0.0416	0.0185	370.1843
Sand fill	Skid Steer Loader	offroad	10		0.4614	2.5674	2.9001	0.0044	0.2120	0.1951	363.5741	0.0416	0.0185	370.1843
Slurry cement	Grout Pump	offroad	10		0.1000	0.3979	0.6017	0.0009	0.0396	0.0364	59.3900	0.0090	0.0040	60.8224
Demolish steel pipe	Skid Steer Loader	offroad	10		0.4614	2.5674	2.9001	0.0044	0.2120	0.1951	363.5741	0.0416	0.0185	370.1843
Backfill and re-grade beach	Skid Steer Loader	offroad	10		0.4614	2.5674	2.9001	0.0044	0.2120	0.1951	363.5741	0.0416	0.0185	370.1843
Worker Commuting	Pickup Truck/SUV	onroad LD		150	0.1118	1.0638	0.1067	0.0016	0.0136	0.0088	165.1312	0.0101	0.0157	170.1942
Maximum Daily Emissions, pounds					**0.57**	**3.63**	**3.01**	**0.01**	**0.23**	**0.20**	**528.71**	**0.05**	**0.03**	**540.38**
Sources: SCAQMD 2008, EPA 2012														

Notes:
SCAQMD emission factors for 2012-13
(SCAQMD 2008)
Offroad diesel exhaust $PM_{2.5}$ = 92% of PM_{10} per EMFAC 2007 version 2.3 (SCAQMD 2008)
N_2O & CO_2 eqv per Inventory of U.S. GHG Emissions & Sinks - Annex 3 (EPA 2012)
Non-matching application-specific values interpolated or extrapolated for improved accuracy

Total Emissions for Proposed Project														
Phase or Activity	Equipment and Vehicles		Project Total		VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_20	CO_2 eqv
	Type	Category	hours	VMT	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs
Offroad Equipment & Onroad Vehicles														
Mobilization/ Demobilization	Work Truck	onroad MD		100	0.2063	1.4078	1.5773	0.0027	0.0600	0.0502	278.1635	0.0097	0.0091	281.1983
Excavation	Skid Steer Loader	offroad	5		0.2307	1.2837	1.4500	0.0022	0.1060	0.0975	181.7871	0.0208	0.0093	185.0921
Sand fill	Skid Steer Loader	offroad	50		2.3070	12.8372	14.5003	0.0219	1.0601	0.9753	########	0.2082	0.0925	########
Slurry cement	Grout Pump	offroad	5		0.0500	0.1989	0.3009	0.0005	0.0198	0.0182	29.6950	0.0045	0.0020	30.4112
Demolish steel pipe	Skid Steer Loader	offroad	10		0.4614	2.5674	2.9001	0.0044	0.2120	0.1951	363.5741	0.0416	0.0185	370.1843
Backfill and re-grade beach	Skid Steer Loader	offroad	10		0.4614	2.5674	2.9001	0.0044	0.2120	0.1951	363.5741	0.0416	0.0185	370.1843
Worker Commuting	Pickup Truck/SUV	onroad LD		1500	1.1185	10.6384	1.0674	0.0161	0.1360	0.0875	########	0.1006	0.1565	########
Project Emissions, tons					**0.002**	**0.016**	**0.012**	**0.000**	**0.001**	**0.001**	**2.343**	**0.000**	**0.000**	**2.395**
Sources: SCAQMD 2008, EPA 2012														

Notes:
SCAQMD emission factors for 2012-13 (SCAQMD 2008)
Offroad diesel exhaust $PM_{2.5}$ = 92% of PM_{10} per EMFAC 2007 version 2.3 (SCAQMD 2008)
N_2O & CO_2 eqv per Inventory of U.S. GHG Emissions & Sinks - Annex 3 (EPA 2012)
Non-matching application-specific values interpolated or extrapolated for improved accuracy

SCAB Fleet Average Emission Factors (Diesel)

A-6 Offroad 2012-13

Air Basin	SC

Extrapolation (down)
Interpolation
Extrapolation (up)

		(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Equipment	**MaxHP**	**ROG**	**CO**	**NOX**	**SOX**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**CO2 eqv**
	10	0.0068	0.0352	0.0424	0.0001	0.0018	0.0017	5.8	0.0006	0.0003	5.9
Aerial Lifts	15	0.0101	0.0528	0.0637	0.0001	0.0027	0.0025	8.7	0.0009	0.0004	8.8
	25	0.0166	0.0503	0.0937	0.0001	0.0051	0.0047	11.0	0.0015	0.0007	11.2
	50	0.0592	0.1757	0.1840	0.0003	0.0156	0.0143	19.6	0.0053	0.0024	20.5
	85	0.0575	0.2091	0.2799	0.0004	0.0227	0.0209	28.8	0.0052	0.0023	29.7
	120	0.0558	0.2425	0.3758	0.0004	0.0299	0.0275	38.1	0.0050	0.0022	38.9
	175	0.0650	0.2750	0.5430	0.0007	0.0320	0.0295	63.4	0.0059	0.0026	64.3
	500	0.1191	0.4671	1.5310	0.0021	0.0448	0.0413	213	0.0107	0.0048	214.6
	750	0.2221	0.8443	2.8534	0.0039	0.0825	0.0759	385	0.0200	0.0089	387.9
	800	0.2369	0.9006	3.0436	0.0041	0.0880	0.0810	410.4	0.0214	0.0095	413.8
Aerial Lifts Composite		0.0529	0.1925	0.3059	0.0004	0.0202	0.0186	34.7	0.0048	0.0021	35.5
Air Compressors	15	0.0122	0.0484	0.0732	0.0001	0.0048	0.0044	7.2	0.0011	0.0005	7.4
	25	0.0266	0.0744	0.1306	0.0002	0.0081	0.0074	14.4	0.0024	0.0011	14.8
	50	0.0921	0.2546	0.2221	0.0003	0.0220	0.0203	22.3	0.0083	0.0037	23.6
	120	0.0825	0.3251	0.4991	0.0006	0.0456	0.0419	47.0	0.0074	0.0033	48.1
	175	0.1059	0.5054	0.8385	0.0010	0.0472	0.0434	88.5	0.0096	0.0042	90.0
	250	0.1007	0.2955	1.1320	0.0015	0.0347	0.0319	131	0.0091	0.0040	132.7
	500	0.1626	0.5399	1.7639	0.0023	0.0570	0.0525	232	0.0147	0.0065	234.1
	750	0.2547	0.8344	2.8139	0.0036	0.0898	0.0826	358	0.0230	0.0102	361.8
	1000	0.4190	1.4213	5.0841	0.0049	0.1474	0.1356	486	0.0378	0.0168	492.4
Air Compressors Composite		0.0913	0.3376	0.6065	0.0007	0.0434	0.0399	63.6	0.0082	0.0037	64.9
Bore/Drill Rigs	15	0.0120	0.0632	0.0754	0.0002	0.0029	0.0027	10.3	0.0011	0.0005	10.5
	25	0.0193	0.0658	0.1226	0.0002	0.0049	0.0045	16.0	0.0017	0.0008	16.3
	50	0.0289	0.2282	0.2568	0.0004	0.0120	0.0110	31.0	0.0026	0.0012	31.5
	120	0.0447	0.4698	0.4583	0.0009	0.0257	0.0237	77.1	0.0040	0.0018	77.8
	175	0.0704	0.7538	0.6931	0.0016	0.0302	0.0277	141	0.0063	0.0028	142.1

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2 eqv
	250	0.0795	0.3429	0.7632	0.0021	0.0221	0.0203	188	0.0072	0.0032	189.2
	300	0.0895	0.3846	0.8449	0.0023	0.0249	0.0229	212.7	0.0081	0.0036	214.0
	500	0.1295	0.5517	1.1717	0.0031	0.0361	0.0332	311	0.0117	0.0052	313.2
	750	0.2565	1.0899	2.3376	0.0062	0.0715	0.0658	615	0.0231	0.0103	618.8
	1000	0.4163	1.6675	5.9553	0.0093	0.1544	0.1420	928	0.0376	0.0167	934.2
Bore/Drill Rigs Composite		0.0786	0.5044	0.8125	0.0017	0.0302	0.0278	165	0.0071	0.0032	166.1
Cement and Mortar Mixers	15	0.0074	0.0386	0.0470	0.0001	0.0021	0.0020	6.3	0.0007	0.0003	6.4
	25	0.0270	0.0813	0.1510	0.0002	0.0083	0.0076	17.6	0.0024	0.0011	17.9
Cement and Mortar Mixers Composite		0.0091	0.0421	0.0556	0.0001	0.0026	0.0024	7.2	0.0008	0.0004	7.4
Concrete/Industrial Saws	25	0.0199	0.0678	0.1257	0.0002	0.0049	0.0045	16.5	0.0018	0.0008	16.8
	50	0.0955	0.2918	0.2858	0.0004	0.0247	0.0227	30.2	0.0086	0.0038	31.6
	120	0.1065	0.4836	0.7154	0.0009	0.0589	0.0542	74.1	0.0096	0.0043	75.7
	175	0.1569	0.8701	1.3612	0.0018	0.0706	0.0649	160	0.0142	0.0063	162.4
Concrete/Industrial Saws Composite		0.1002	0.4088	0.5572	0.0007	0.0452	0.0416	58.5	0.0090	0.0040	59.9
Cranes	50	0.1015	0.2892	0.2394	0.0003	0.0239	0.0220	23.2	0.0092	0.0041	24.6
	120	0.0919	0.3618	0.5508	0.0006	0.0493	0.0453	50.1	0.0083	0.0037	51.5
	175	0.1031	0.4821	0.7769	0.0009	0.0445	0.0410	80.3	0.0093	0.0041	81.8
	250	0.1040	0.2948	0.9948	0.0013	0.0351	0.0323	112	0.0094	0.0042	113.6
	350	0.1245	0.3886	1.1661	0.0015	0.0418	0.0384	139.3	0.0112	0.0050	141.1
	500	0.1551	0.5292	1.4230	0.0018	0.0518	0.0477	180	0.0140	0.0062	182.3
	750	0.2625	0.8887	2.4614	0.0030	0.0885	0.0814	303	0.0237	0.0105	306.8
	1000	0.9491	3.3249	10.3665	0.0098	0.3189	0.2934	971	0.0856	0.0381	984.2
Cranes Composite		0.1348	0.4737	1.1934	0.0014	0.0508	0.0468	129	0.0122	0.0054	130.6
Crawler Tractors	50	0.1176	0.3246	0.2627	0.0003	0.0270	0.0248	24.9	0.0106	0.0047	26.6
	120	0.1293	0.4858	0.7686	0.0008	0.0677	0.0623	65.8	0.0117	0.0052	67.7
	125	0.1328	0.5093	0.8127	0.0008	0.0681	0.0626	70.8	0.0120	0.0053	72.7
	175	0.1674	0.7448	1.2529	0.0014	0.0713	0.0656	121	0.0151	0.0067	123.6
	250	0.1764	0.5000	1.5945	0.0019	0.0613	0.0564	166	0.0159	0.0071	168.7
	300	0.1920	0.5901	1.7234	0.0020	0.0664	0.0611	184.8	0.0173	0.0077	187.5
	500	0.2542	0.9504	2.2389	0.0025	0.0868	0.0799	259	0.0229	0.0102	262.9
	750	0.4574	1.6983	4.1042	0.0047	0.1573	0.1447	465	0.0413	0.0183	471.2
	1000	0.6901	2.6950	7.3731	0.0066	0.2361	0.2172	658	0.0623	0.0277	668.0
Crawler Tractors Composite		0.1584	0.5900	1.1593	0.0013	0.0697	0.0641	114	0.0143	0.0064	116.3

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2 eqv
Crushing/Proc. Equipment	50	0.1741	0.5009	0.4359	0.0006	0.0422	0.0389	44.0	0.0157	0.0070	46.5
	100	0.1499	0.5548	0.7354	0.0009	0.0677	0.0623	72.0	0.0135	0.0060	74.1
	120	0.1402	0.5764	0.8552	0.0010	0.0779	0.0717	83.1	0.0127	0.0056	85.2
	175	0.1942	0.9615	1.5237	0.0019	0.0864	0.0795	167	0.0175	0.0078	170.0
	250	0.1848	0.5425	2.0202	0.0028	0.0620	0.0571	245	0.0167	0.0074	247.2
	500	0.2608	0.8480	2.7097	0.0037	0.0884	0.0813	374	0.0235	0.0105	377.4
	750	0.4147	1.3191	4.4498	0.0059	0.1418	0.1305	589	0.0374	0.0166	594.8
	1000	1.1270	3.6752	13.3218	0.0131	0.3880	0.3569	1,308	0.1017	0.0452	1323.9
Crushing/Proc. Equipment Composite		0.1733	0.6773	1.1752	0.0015	0.0748	0.0688	132	0.0156	0.0070	134.8
Dumpers/Tenders	25	0.0097	0.0320	0.0601	0.0001	0.0029	0.0027	7.6	0.0009	0.0004	7.8
Dumpers/Tenders Composite		0.0097	0.0320	0.0601	0.0001	0.0029	0.0027	7.6	0.0009	0.0004	7.8
Excavators	25	0.0198	0.0677	0.1253	0.0002	0.0047	0.0043	16.4	0.0018	0.0008	16.7
	50	0.0816	0.2841	0.2458	0.0003	0.0212	0.0195	25.0	0.0074	0.0033	26.2
	120	0.1086	0.5177	0.6791	0.0009	0.0586	0.0539	73.6	0.0098	0.0044	75.2
	130	0.1108	0.5448	0.7180	0.0009	0.0573	0.0527	80.6	0.0100	0.0044	82.2
	175	0.1208	0.6668	0.8932	0.0013	0.0512	0.0471	112	0.0109	0.0048	114.0
	200	0.1220	0.5626	0.9741	0.0014	0.0466	0.0428	127.7	0.0110	0.0049	129.5
	250	0.1242	0.3541	1.1360	0.0018	0.0372	0.0343	159	0.0112	0.0050	160.5
	300	0.1341	0.3887	1.2041	0.0019	0.0401	0.0369	173.7	0.0121	0.0054	175.6
	500	0.1735	0.5271	1.4763	0.0023	0.0516	0.0475	234	0.0157	0.0070	236.2
	750	0.2895	0.8731	2.5290	0.0039	0.0871	0.0802	387	0.0261	0.0116	391.6
Excavators Composite		0.1220	0.5338	0.9071	0.0013	0.0481	0.0442	120	0.0110	0.0049	121.3
Forklifts	50	0.0445	0.1623	0.1431	0.0002	0.0121	0.0111	14.7	0.0040	0.0018	15.3
	100	0.0440	0.2018	0.2400	0.0003	0.0207	0.0190	26.5	0.0040	0.0018	27.1
	120	0.0438	0.2176	0.2788	0.0004	0.0241	0.0222	31.2	0.0040	0.0018	31.9
	175	0.0572	0.3307	0.4261	0.0006	0.0246	0.0226	56.1	0.0052	0.0023	56.9
	250	0.0570	0.1614	0.5281	0.0009	0.0168	0.0154	77.1	0.0051	0.0023	77.9
	500	0.0781	0.2208	0.6592	0.0011	0.0228	0.0210	111	0.0070	0.0031	112.1
Forklifts Composite		0.0541	0.2235	0.3950	0.0006	0.0204	0.0188	54.4	0.0049	0.0022	55.2
Generator Sets	15	0.0149	0.0684	0.1016	0.0002	0.0058	0.0053	10.2	0.0013	0.0006	10.4
	25	0.0266	0.0908	0.1594	0.0002	0.0091	0.0083	17.6	0.0024	0.0011	18.0
	40	0.0629	0.1946	0.2346	0.0003	0.0177	0.0163	25.4	0.0057	0.0025	26.3
	50	0.0872	0.2639	0.2847	0.0004	0.0234	0.0215	30.6	0.0079	0.0035	31.9

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2 eqv
	120	0.1106	0.4905	0.7587	0.0009	0.0590	0.0543	77.9	0.0100	0.0044	79.5
	175	0.1347	0.7388	1.2314	0.0016	0.0592	0.0544	142	0.0122	0.0054	143.9
	250	0.1277	0.4365	1.6763	0.0024	0.0464	0.0427	213	0.0115	0.0051	214.3
	500	0.1818	0.7230	2.3955	0.0033	0.0690	0.0635	337	0.0164	0.0073	339.5
	750	0.3035	1.1671	3.9863	0.0055	0.1134	0.1044	544	0.0274	0.0122	548.1
	1000	0.7957	2.8065	10.2314	0.0105	0.2844	0.2616	1,049	0.0718	0.0319	1060.0
Generator Sets Composite		0.0767	0.3045	0.5430	0.0007	0.0324	0.0298	61.0	0.0069	0.0031	62.1
Graders	50	0.1080	0.3263	0.2772	0.0004	0.0262	0.0241	27.5	0.0097	0.0043	29.1
	120	0.1254	0.5310	0.7729	0.0009	0.0676	0.0622	75.0	0.0113	0.0050	76.8
	140	0.1331	0.6050	0.8989	0.0011	0.0660	0.0607	92.8	0.0120	0.0053	94.7
	175	0.1467	0.7345	1.1193	0.0014	0.0631	0.0581	124	0.0132	0.0059	126.0
	250	0.1492	0.4331	1.4184	0.0019	0.0494	0.0454	172	0.0135	0.0060	174.3
	300	0.1565	0.4723	1.4716	0.0020	0.0517	0.0475	183.6	0.0141	0.0063	185.8
	500	0.1855	0.6289	1.6842	0.0023	0.0608	0.0559	229	0.0167	0.0074	232.1
	750	0.3952	1.3289	3.6674	0.0049	0.1306	0.1202	486	0.0357	0.0158	491.4
Graders Composite		0.1446	0.6053	1.1663	0.0015	0.0593	0.0546	133	0.0130	0.0058	134.8
Off-Highway Tractors	120	0.2113	0.7191	1.2368	0.0011	0.1078	0.0992	93.7	0.0191	0.0085	96.8
	175	0.2045	0.8335	1.5337	0.0015	0.0871	0.0801	130	0.0185	0.0082	133.3
	250	0.1641	0.4691	1.4453	0.0015	0.0601	0.0553	130	0.0148	0.0066	132.8
	750	0.6538	2.8815	5.8130	0.0057	0.2353	0.2165	568	0.0590	0.0262	577.5
	1000	0.9818	4.4978	10.0554	0.0082	0.3436	0.3161	814	0.0886	0.0394	828.4
Off-Highway Tractors Composite		0.2077	0.7649	1.7062	0.0017	0.0818	0.0753	151	0.0187	0.0083	154.4
Off-Highway Trucks	175	0.1441	0.7580	1.0305	0.0014	0.0602	0.0554	125	0.0130	0.0058	127.2
	250	0.1400	0.3837	1.2373	0.0019	0.0412	0.0379	167	0.0126	0.0056	168.6
	300	0.1554	0.4342	1.3471	0.0020	0.0457	0.0420	187.7	0.0140	0.0062	189.9
	500	0.2170	0.6362	1.7865	0.0027	0.0634	0.0583	272	0.0196	0.0087	275.4
	750	0.3542	1.0311	2.9938	0.0044	0.1046	0.0962	442	0.0320	0.0142	446.8
	1000	0.5484	1.6691	5.9808	0.0063	0.1796	0.1652	625	0.0495	0.0220	632.6
Off-Highway Trucks Composite		0.2141	0.6361	1.8543	0.0027	0.0644	0.0593	260	0.0193	0.0086	263.1
Other Construction Equipment	5	0.0039	0.0206	0.0246	0.0001	0.0010	0.0009	3.4	0.0004	0.0002	3.4
	15	0.0118	0.0617	0.0737	0.0002	0.0029	0.0026	10.1	0.0011	0.0005	10.3
	25	0.0160	0.0544	0.1013	0.0002	0.0041	0.0037	13.2	0.0014	0.0006	13.4
	50	0.0753	0.2653	0.2585	0.0004	0.0205	0.0189	28.0	0.0068	0.0030	29.1

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2 eqv
	120	0.1006	0.5277	0.7025	0.0009	0.0567	0.0522	80.9	0.0091	0.0040	82.3
	175	0.0935	0.5873	0.8011	0.0012	0.0420	0.0386	107	0.0084	0.0038	107.9
	500	0.1452	0.5234	1.5187	0.0025	0.0491	0.0452	254	0.0131	0.0058	256.3
Other Construction Equipment Composite		0.0872	0.3765	0.7938	0.0013	0.0330	0.0304	123	0.0079	0.0035	123.9
Other General Industrial Equipment	15	0.0066	0.0391	0.0466	0.0001	0.0018	0.0017	6.4	0.0006	0.0003	6.5
	25	0.0185	0.0632	0.1170	0.0002	0.0044	0.0040	15.3	0.0017	0.0007	15.6
	50	0.0980	0.2738	0.2243	0.0003	0.0232	0.0214	21.7	0.0088	0.0039	23.1
	100	0.1121	0.3987	0.5490	0.0006	0.0526	0.0484	50.5	0.0101	0.0045	52.1
	120	0.1177	0.4487	0.6789	0.0007	0.0644	0.0593	62.0	0.0106	0.0047	63.7
	175	0.1261	0.5728	0.9333	0.0011	0.0549	0.0505	95.9	0.0114	0.0051	97.7
	250	0.1174	0.3177	1.2013	0.0015	0.0380	0.0350	136	0.0106	0.0047	137.3
	300	0.1366	0.3818	1.3739	0.0017	0.0443	0.0407	161.5	0.0123	0.0055	163.5
	500	0.2135	0.6384	2.0642	0.0026	0.0693	0.0638	265	0.0193	0.0086	268.5
	750	0.3546	1.0522	3.5146	0.0044	0.1165	0.1072	437	0.0320	0.0142	442.5
	1000	0.5246	1.6793	6.0067	0.0056	0.1805	0.1660	560	0.0473	0.0210	567.1
Other General Industrial Equipment Composite		0.1542	0.5159	1.3484	0.0016	0.0580	0.0533	152	0.0139	0.0062	154.4
Other Material Handling Equipment	50	0.1361	0.3789	0.3119	0.0004	0.0323	0.0297	30.3	0.0123	0.0055	32.3
	120	0.1144	0.4370	0.6628	0.0007	0.0628	0.0578	60.7	0.0103	0.0046	62.3
	175	0.1591	0.7257	1.1860	0.0014	0.0696	0.0640	122	0.0144	0.0064	124.4
	200	0.1474	0.5966	1.2183	0.0015	0.0599	0.0551	129.7	0.0133	0.0059	131.8
	250	0.1241	0.3385	1.2829	0.0016	0.0405	0.0372	145	0.0112	0.0050	146.8
	300	0.1297	0.3627	1.3240	0.0017	0.0423	0.0390	154.3	0.0117	0.0052	156.2
	500	0.1521	0.4596	1.4883	0.0019	0.0498	0.0458	192	0.0137	0.0061	193.8
	1000	0.7021	2.2197	7.9424	0.0073	0.2379	0.2188	741	0.0634	0.0282	751.4
Other Material Handling Equipment Composite		0.1473	0.4951	1.3132	0.0015	0.0562	0.0517	141	0.0133	0.0059	143.3
Pavers	25	0.0247	0.0799	0.1500	0.0002	0.0075	0.0069	18.7	0.0022	0.0010	19.0
	50	0.1366	0.3592	0.2948	0.0004	0.0308	0.0283	28.0	0.0123	0.0055	29.9
	120	0.1387	0.5057	0.8357	0.0008	0.0729	0.0671	69.2	0.0125	0.0056	71.2
	175	0.1777	0.7784	1.3769	0.0014	0.0769	0.0707	128	0.0160	0.0071	130.8
	250	0.2072	0.6081	1.9469	0.0022	0.0756	0.0695	194	0.0187	0.0083	197.3
	500	0.2275	0.9254	2.1080	0.0023	0.0818	0.0752	233	0.0205	0.0091	236.5
Pavers Composite		0.1511	0.5357	0.8542	0.0009	0.0603	0.0555	77.9	0.0136	0.0061	80.1

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2 eqv
Paving Equipment	25	0.0153	0.0520	0.0968	0.0002	0.0039	0.0036	12.6	0.0014	0.0006	12.8
	50	0.1166	0.3049	0.2514	0.0003	0.0263	0.0242	23.9	0.0105	0.0047	25.6
	120	0.1087	0.3958	0.6561	0.0006	0.0574	0.0528	54.5	0.0098	0.0044	56.1
	175	0.1387	0.6079	1.0816	0.0011	0.0602	0.0554	101	0.0125	0.0056	103.0
	250	0.1277	0.3763	1.2206	0.0014	0.0467	0.0430	122	0.0115	0.0051	124.1
Paving Equipment Composite		0.1142	0.4316	0.7709	0.0008	0.0536	0.0493	68.9	0.0103	0.0046	70.6
Plate Compactors	15	0.0050	0.0263	0.0314	0.0001	0.0012	0.0011	4.3	0.0005	0.0002	4.4
Plate Compactors Composite		0.0050	0.0263	0.0314	0.0001	0.0012	0.0011	4.3	0.0005	0.0002	4.4
Pressure Washers	15	0.0071	0.0328	0.0487	0.0001	0.0028	0.0025	4.9	0.0006	0.0003	5.0
	25	0.0108	0.0368	0.0646	0.0001	0.0037	0.0034	7.1	0.0010	0.0004	7.3
	50	0.0315	0.1037	0.1284	0.0002	0.0094	0.0086	14.3	0.0028	0.0013	14.7
	120	0.0302	0.1443	0.2235	0.0003	0.0157	0.0145	24.1	0.0027	0.0012	24.5
Pressure Washers Composite		0.0159	0.0619	0.0878	0.0001	0.0058	0.0053	9.4	0.0014	0.0006	9.6
Pumps	12	0.0100	0.0398	0.0602	0.0001	0.0040	0.0036	5.9	0.0009	0.0004	6.1
	15	0.0125	0.0497	0.0752	0.0001	0.0049	0.0046	7.4	0.0011	0.0005	7.6
	25	0.0359	0.1004	0.1761	0.0002	0.0109	0.0100	19.5	0.0032	0.0014	20.0
	50	0.1052	0.3116	0.3228	0.0004	0.0275	0.0253	34.3	0.0095	0.0042	35.8
	120	0.1149	0.4984	0.7706	0.0009	0.0617	0.0568	77.9	0.0104	0.0046	79.6
	175	0.1385	0.7405	1.2344	0.0016	0.0611	0.0562	140	0.0125	0.0056	142.1
	250	0.1266	0.4210	1.6140	0.0023	0.0457	0.0421	201	0.0114	0.0051	203.2
	500	0.1952	0.7595	2.4849	0.0034	0.0734	0.0675	345	0.0176	0.0078	348.0
	750	0.3326	1.2556	4.2353	0.0057	0.1235	0.1136	571	0.0300	0.0133	575.5
	1000	1.0536	3.7127	13.3750	0.0136	0.3744	0.3444	1,355	0.0951	0.0423	1369.9
Pumps Composite		0.0748	0.2926	0.4705	0.0006	0.0323	0.0297	49.6	0.0067	0.0030	50.7
Rollers	15	0.0074	0.0386	0.0461	0.0001	0.0018	0.0016	6.3	0.0007	0.0003	6.4
	25	0.0161	0.0549	0.1023	0.0002	0.0041	0.0038	13.3	0.0015	0.0006	13.6
	50	0.1025	0.2911	0.2583	0.0003	0.0245	0.0225	26.0	0.0092	0.0041	27.5
	100	0.0997	0.3734	0.5204	0.0006	0.0451	0.0415	49.6	0.0090	0.0040	51.0
	120	0.0986	0.4063	0.6253	0.0007	0.0534	0.0491	59.0	0.0089	0.0040	60.4
	175	0.1247	0.6199	1.0114	0.0012	0.0550	0.0506	108	0.0113	0.0050	109.9
	250	0.1262	0.3887	1.3124	0.0017	0.0451	0.0415	153	0.0114	0.0051	154.9
	500	0.1654	0.6313	1.6820	0.0022	0.0593	0.0545	219	0.0149	0.0066	221.5

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2 eqv
Rollers Composite		0.0973	0.4060	0.6546	0.0008	0.0453	0.0417	67.1	0.0088	0.0039	68.4
Rough Terrain Forklifts	50	0.1181	0.3778	0.3316	0.0004	0.0300	0.0276	33.9	0.0107	0.0047	35.6
	100	0.1020	0.4170	0.5230	0.0006	0.0464	0.0427	54.3	0.0092	0.0041	55.7
	120	0.0955	0.4327	0.5995	0.0007	0.0529	0.0487	62.4	0.0086	0.0038	63.8
	175	0.1352	0.7256	1.0448	0.0014	0.0592	0.0545	125	0.0122	0.0054	126.8
	250	0.1294	0.3798	1.2955	0.0019	0.0416	0.0382	171	0.0117	0.0052	172.7
	500	0.1824	0.5717	1.7096	0.0025	0.0584	0.0537	257	0.0165	0.0073	259.2
Rough Terrain Forklifts Composite		0.1009	0.4642	0.6526	0.0008	0.0532	0.0489	70.3	0.0091	0.0040	71.7
Rubber Tired Dozers	175	0.2119	0.8457	1.5561	0.0015	0.0893	0.0821	129	0.0191	0.0085	132.5
	250	0.2435	0.6833	2.0817	0.0021	0.0881	0.0810	183	0.0220	0.0098	187.0
	500	0.3211	1.4228	2.7305	0.0026	0.1133	0.1043	265	0.0290	0.0129	269.5
	750	0.4843	2.1329	4.1797	0.0040	0.1716	0.1579	399	0.0437	0.0194	405.7
	1000	0.7496	3.4322	7.4509	0.0060	0.2591	0.2384	592	0.0676	0.0301	602.6
Rubber Tired Dozers Composite		0.2986	1.1749	2.5452	0.0025	0.1064	0.0979	239	0.0269	0.0120	243.4
Rubber Tired Loaders	25	0.0204	0.0697	0.1292	0.0002	0.0050	0.0046	16.9	0.0018	0.0008	17.2
	50	0.1200	0.3641	0.3118	0.0004	0.0292	0.0269	31.1	0.0108	0.0048	32.9
	120	0.0971	0.4152	0.6015	0.0007	0.0525	0.0483	58.9	0.0088	0.0039	60.3
	175	0.1238	0.6274	0.9501	0.0012	0.0535	0.0492	106	0.0112	0.0050	108.1
	250	0.1259	0.3685	1.2125	0.0017	0.0417	0.0384	149	0.0114	0.0050	150.8
	500	0.1867	0.6397	1.7158	0.0023	0.0613	0.0564	237	0.0168	0.0075	239.7
	750	0.3850	1.3084	3.6184	0.0049	0.1276	0.1174	486	0.0347	0.0154	491.0
	1000	0.5190	1.8389	5.9660	0.0060	0.1795	0.1651	594	0.0468	0.0208	601.3
Rubber Tired Loaders Composite		0.1195	0.4763	0.9346	0.0012	0.0508	0.0467	109	0.0108	0.0048	110.3
Scrapers	120	0.1877	0.6943	1.1141	0.0011	0.0983	0.0904	93.9	0.0169	0.0075	96.6
	175	0.2070	0.9107	1.5564	0.0017	0.0884	0.0813	148	0.0187	0.0083	151.0
	250	0.2252	0.6408	2.0481	0.0024	0.0791	0.0727	209	0.0203	0.0090	212.7
	400	0.2813	0.9831	2.5165	0.0028	0.0976	0.0898	276.6	0.0254	0.0113	280.7
	500	0.3186	1.2113	2.8288	0.0032	0.1099	0.1011	321	0.0287	0.0128	326.0
	750	0.5525	2.0861	4.9949	0.0056	0.1918	0.1764	555	0.0499	0.0222	563.2
Scrapers Composite		0.2783	1.0395	2.4118	0.0027	0.1005	0.0925	262	0.0251	0.0112	266.5
Signal Boards	15	0.0072	0.0377	0.0450	0.0001	0.0018	0.0016	6.2	0.0006	0.0003	6.3
	50	0.1151	0.3456	0.3415	0.0005	0.0296	0.0272	36.2	0.0104	0.0046	37.8
	120	0.1176	0.5214	0.7807	0.0009	0.0644	0.0593	80.2	0.0106	0.0047	81.9

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2 eqv
	175	0.1535	0.8341	1.3333	0.0017	0.0685	0.0630	155	0.0139	0.0062	156.7
	250	0.1632	0.5350	1.9963	0.0029	0.0580	0.0534	255	0.0147	0.0065	257.6
Signal Boards Composite		0.0192	0.0934	0.1399	0.0002	0.0077	0.0071	16.7	0.0017	0.0008	17.0
Skid Steer Loaders	25	0.0202	0.0620	0.1166	0.0002	0.0063	0.0058	13.8	0.0018	0.0008	14.1
	50	0.0517	0.2263	0.2279	0.0003	0.0157	0.0144	25.5	0.0047	0.0021	26.3
	94	0.0461	0.2567	0.2900	0.0004	0.0212	0.0195	36.4	0.0042	0.0019	37.0
	120	0.0429	0.2748	0.3267	0.0005	0.0245	0.0225	42.8	0.0039	0.0017	43.4
Skid Steer Loaders Composite		0.0468	0.2309	0.2522	0.0004	0.0179	0.0165	30.3	0.0042	0.0019	30.9
Surfacing Equipment	50	0.0477	0.1403	0.1359	0.0002	0.0119	0.0109	14.1	0.0043	0.0019	14.8
	120	0.0970	0.4215	0.6523	0.0007	0.0517	0.0475	63.8	0.0088	0.0039	65.2
	175	0.0894	0.4730	0.7742	0.0010	0.0392	0.0360	85.8	0.0081	0.0036	87.1
	250	0.1025	0.3374	1.1177	0.0015	0.0376	0.0346	135	0.0092	0.0041	136.3
	500	0.1532	0.6418	1.6597	0.0022	0.0567	0.0522	221	0.0138	0.0061	223.4
	750	0.2443	1.0046	2.6697	0.0035	0.0900	0.0828	347	0.0220	0.0098	350.5
Surfacing Equipment Composite		0.1277	0.5182	1.2760	0.0017	0.0468	0.0431	166	0.0115	0.0051	167.8
Sweepers/Scrubbers	15	0.0124	0.0729	0.0870	0.0002	0.0034	0.0031	11.9	0.0011	0.0005	12.1
	25	0.0237	0.0808	0.1496	0.0002	0.0058	0.0054	19.6	0.0021	0.0009	20.0
	50	0.1048	0.3425	0.3055	0.0004	0.0271	0.0249	31.6	0.0095	0.0042	33.1
	120	0.1107	0.5147	0.6989	0.0009	0.0622	0.0573	75.0	0.0100	0.0044	76.6
	175	0.1439	0.7997	1.1204	0.0016	0.0637	0.0586	139	0.0130	0.0058	141.1
	250	0.1146	0.3382	1.1784	0.0018	0.0362	0.0333	162	0.0103	0.0046	163.7
Sweepers/Scrubbers Composite		0.1148	0.5145	0.6862	0.0009	0.0510	0.0469	78.5	0.0104	0.0046	80.2
Tractors/Loaders/Backhoes	25	0.0195	0.0657	0.1237	0.0002	0.0056	0.0052	15.9	0.0018	0.0008	16.1
	50	0.0893	0.3199	0.2893	0.0004	0.0238	0.0219	30.3	0.0081	0.0036	31.6
	100	0.0751	0.3434	0.4087	0.0005	0.0342	0.0314	45.6	0.0068	0.0030	46.7
	120	0.0694	0.3529	0.4565	0.0006	0.0383	0.0352	51.7	0.0063	0.0028	52.7
	175	0.0988	0.5861	0.7696	0.0011	0.0428	0.0394	101	0.0089	0.0040	102.8
	250	0.1204	0.3666	1.1658	0.0019	0.0370	0.0340	172	0.0109	0.0048	173.5
	300	0.1421	0.4421	1.3459	0.0023	0.0436	0.0401	206.4	0.0128	0.0057	208.4
	500	0.2290	0.7443	2.0659	0.0039	0.0701	0.0645	345	0.0207	0.0092	348.1
	750	0.3462	1.1159	3.2041	0.0058	0.1072	0.0986	517	0.0312	0.0139	522.2
Tractors/Loaders/Backhoes Composite		0.0792	0.3782	0.5392	0.0008	0.0387	0.0356	66.8	0.0071	0.0032	67.9

Equipment	MaxHP	ROG	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O	CO2 eqv
Trenchers	15	0.0099	0.0517	0.0617	0.0001	0.0024	0.0022	8.5	0.0009	0.0004	8.6
	25	0.0397	0.1355	0.2511	0.0004	0.0097	0.0090	32.9	0.0036	0.0016	33.5
	50	0.1566	0.4082	0.3432	0.0004	0.0353	0.0325	32.9	0.0141	0.0063	35.2
	120	0.1281	0.4684	0.7862	0.0008	0.0669	0.0615	64.9	0.0116	0.0051	66.7
	175	0.1955	0.8632	1.5520	0.0016	0.0849	0.0781	144	0.0176	0.0078	146.7
	250	0.2354	0.7089	2.2485	0.0025	0.0880	0.0810	223	0.0212	0.0094	226.3
	500	0.2985	1.3011	2.8470	0.0031	0.1105	0.1016	311	0.0269	0.0120	315.6
	750	0.5663	2.4440	5.4715	0.0059	0.2099	0.1931	587	0.0511	0.0227	595.0
Trenchers Composite		0.1427	0.4675	0.6684	0.0007	0.0549	0.0505	58.7	0.0129	0.0057	60.8
Welders	15	0.0104	0.0416	0.0629	0.0001	0.0041	0.0038	6.2	0.0009	0.0004	6.4
	25	0.0208	0.0581	0.1020	0.0001	0.0063	0.0058	11.3	0.0019	0.0008	11.6
	50	0.0979	0.2753	0.2535	0.0003	0.0240	0.0221	26.0	0.0088	0.0039	27.4
	120	0.0654	0.2659	0.4099	0.0005	0.0358	0.0330	39.5	0.0059	0.0026	40.4
	175	0.1101	0.5455	0.9083	0.0011	0.0490	0.0451	98.2	0.0099	0.0044	99.8
	250	0.0855	0.2618	1.0026	0.0013	0.0301	0.0277	119	0.0077	0.0034	120.3
	500	0.1092	0.3838	1.2526	0.0016	0.0394	0.0363	168	0.0098	0.0044	169.2
Welders Composite		0.0646	0.2096	0.2564	0.0003	0.0225	0.0207	25.6	0.0058	0.0026	26.5

Notes:

SCAQMD emission factors for 2012-13 (SCAQMD 2008)

Offroad diesel exhaust $PM_{2.5}$ = 92% of PM_{10} per EMFAC 2007 version 2.3 (SCAQMD 2008)

N_2O & CO_2 eqv per Inventory of U.S. GHG Emissions & Sinks - Annex 3 (EPA 2012)

Non-matching application-specific values interpolated or extrapolated for improved accuracy

SCAB Fleet Average Emission Factors

A-7 Onroad 2012-13

Air Basin	SC

	(lb/mi)	(lb/mi)	(lb/mi)	(lb/mi)	(lb/mi)	(lb/mi)	(lb/mi)	(lb/mi)	(lb/mi)	(lb/mi)
Vehicle Type	**ROG**	**CO**	**NOX**	**SOX**	**PM10**	**PM2.5**	**CO2**	**CH4**	**N2O**	**CO2 eqv**
Light Duty (pickup trucks)	0.00075	0.00709	0.00071	0.00001	0.00009	0.00006	1.10087	0.00007	0.00010	1.13463
Medium Duty (work trucks)	0.00206	0.01408	0.01577	0.00003	0.00060	0.00050	2.78163	0.00010	0.00009	2.81198
Heavy Heavy Duty (tractor/trailers)	0.00226	0.00932	0.02743	0.00004	0.00134	0.00115	4.21519	0.00010	0.00010	4.24784

Notes:

SCAQMD 2008

HHD includes tire & brake wear

N_2O & CO_2 eqv per Inventory of U.S. GHG Emissions & Sinks - Annex 3 (EPA 2012)

Highest (Most Conservative) EMFAC2007 (version 2.3)
Emission Factors for On-Road Passenger Vehicles & Delivery Trucks
Projects in the SCAQMD (Scenario Years 2011 - 2026)
Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)
Vehicle Class:
Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model, taking the weighted average of vehicle types and simplifying into two categories:
Passenger Vehicles & Delivery Trucks.

These emission factors can be used to calculate on-road mobile source emissions for the vehicle categories listed in the tables below, by use of the following equation:
Emissions (pounds per day) = N x TL x EF
where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

This methodology replaces the old EMFAC emission factors in Tables A-9-5-J-1 through A-9-5-L in Appendix A9 of the current SCAQMD CEQA Handbook. All the emission factors account for the emissions from start, running and idling exhaust. In addition, the ROG emission factors include diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors include tire and brake wear.

Scenario Year: **2011**
All model years in the range 1967 to 2011

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00826276	CO	0.01693242
NOx	0.00084460	NOx	0.01893366
ROG	0.00085233	ROG	0.00241868
SOx	0.00001077	SOx	0.00002728
PM10	0.00008879	PM10	0.00070097
PM2.5	0.00005653	PM2.5	0.00059682
CO2	1.10235154	CO2	2.75180822
CH4	0.00007678	CH4	0.00011655
N2O	0.00011943	N2O	0.00010970
CO2 eqv	1.14098746	CO2 eqv	2.78826189

Scenario Year: **2012**
All model years in the range 1968 to 2012

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00765475	CO	0.01545741
NOx	0.00077583	NOx	0.01732423
ROG	0.00079628	ROG	0.00223776
SOx	0.00001073	SOx	0.00002667
PM10	0.00008979	PM10	0.00064975
PM2.5	0.00005750	PM2.5	0.00054954
CO2	1.10152540	CO2	2.76628414
CH4	0.00007169	CH4	0.00010668
N2O	0.00011151	N2O	0.00010040
CO2 eqv	1.13760039	CO2 eqv	2.79964841

Scenario Year: **2013**
All model years in the range 1969 to 2013

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00709228	CO	0.01407778
NOx	0.00071158	NOx	0.01577311
ROG	0.00074567	ROG	0.00206295
SOx	0.00001072	SOx	0.00002682
PM10	0.00009067	PM10	0.00059956
PM2.5	0.00005834	PM2.5	0.00050174
CO2	1.10087435	CO2	2.78163459
CH4	0.00006707	CH4	0.00009703
N2O	0.00010434	N2O	0.00009133
CO2 eqv	1.13462778	CO2 eqv	2.81198332

Scenario Year: **2014**
All model years in the range 1970 to 2014

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00660353	CO	0.01284321
NOx	0.00065484	NOx	0.01425162
ROG	0.00070227	ROG	0.00189649
SOx	0.00001069	SOx	0.00002754
PM10	0.00009185	PM10	0.00054929
PM2.5	0.00005939	PM2.5	0.00045519
CO2	1.10257205	CO2	2.79845465
CH4	0.00006312	CH4	0.00008798
N2O	0.00009818	N2O	0.00008280
CO2 eqv	1.13433310	CO2 eqv	2.82597096

Scenario Year: **2015**

All model years in the range 1971 to 2015

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00614108	CO	0.01169445
NOx	0.00060188	NOx	0.01285026
ROG	0.00066355	ROG	0.00173890
SOx	0.00001070	SOx	0.00002741
PM10	0.00009259	PM10	0.00050307
PM2.5	0.00006015	PM2.5	0.00041268
CO2	1.10192837	CO2	2.81247685
CH4	0.00005923	CH4	0.00008076
N2O	0.00009213	N2O	0.00007601
CO2 eqv	1.13173218	CO2 eqv	2.83773531

Scenario Year: **2016**

All model years in the range 1972 to 2016

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00575800	CO	0.01080542
NOx	0.00055658	NOx	0.01172881
ROG	0.00063254	ROG	0.00161521
SOx	0.00001071	SOx	0.00002767
PM10	0.00009392	PM10	0.00046606
PM2.5	0.00006131	PM2.5	0.00037868
CO2	1.10677664	CO2	2.83134285
CH4	0.00005623	CH4	0.00007355
N2O	0.00008747	N2O	0.00006922
CO2 eqv	1.13507331	CO2 eqv	2.85434695

Scenario Year: **2017**

All model years in the range 1973 to 2017

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00537891	CO	0.00998101
NOx	0.00051297	NOx	0.01070034
ROG	0.00060109	ROG	0.00150242
SOx	0.00001079	SOx	0.00002723
PM10	0.00009446	PM10	0.00043131
PM2.5	0.00006192	PM2.5	0.00034605
CO2	1.10627489	CO2	2.84005015
CH4	0.00005300	CH4	0.00006663
N2O	0.00008245	N2O	0.00006271
CO2 eqv	1.13294795	CO2 eqv	2.86088993

Scenario Year: **2018**

All model years in the range 1974 to 2018

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00502881	CO	0.00923234
NOx	0.00047300	NOx	0.00979416
ROG	0.00057178	ROG	0.00139856
SOx	0.00001071	SOx	0.00002749
PM10	0.00009494	PM10	0.00040110
PM2.5	0.00006234	PM2.5	0.00031792
CO2	1.10562643	CO2	2.84646835
CH4	0.00005003	CH4	0.00006203
N2O	0.00007782	N2O	0.00005838
CO2 eqv	1.13080168	CO2 eqv	2.86587008

Scenario Year: **2019**

All model years in the range 1975 to 2019

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00471820	CO	0.00857192
NOx	0.00043716	NOx	0.00900205
ROG	0.00054654	ROG	0.00130563
SOx	0.00001072	SOx	0.00002706
PM10	0.00009523	PM10	0.00037393
PM2.5	0.00006259	PM2.5	0.00029276
CO2	1.10496100	CO2	2.85060182
CH4	0.00004743	CH4	0.00005619
N2O	0.00007378	N2O	0.00005289
CO2 eqv	1.12882815	CO2 eqv	2.86817714

Scenario Year: **2020**

All model years in the range 1976 to 2020

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00444247	CO	0.00799617
NOx	0.00040506	NOx	0.00831802
ROG	0.00052463	ROG	0.00122382
SOx	0.00001073	SOx	0.00002733
PM10	0.00009550	PM10	0.00035054
PM2.5	0.00006279	PM2.5	0.00027128
CO2	1.10456157	CO2	2.85148109
CH4	0.00004495	CH4	0.00005330
N2O	0.00006992	N2O	0.00005016
CO2 eqv	1.12718066	CO2 eqv	2.86815105

Scenario Year: **2021**

All model years in the range 1977 to 2021

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00421218	CO	0.00748303
NOx	0.00037757	NOx	0.00773500
ROG	0.00050573	ROG	0.00115568
SOx	0.00001073	SOx	0.00002755
PM10	0.00009640	PM10	0.00033125
PM2.5	0.00006364	PM2.5	0.00025331
CO2	1.11009559	CO2	2.86434187
CH4	0.00004322	CH4	0.00004905
N2O	0.00006724	N2O	0.00004616
CO2 eqv	1.13184726	CO2 eqv	2.87968274

Scenario Year: **2022**

All model years in the range 1978 to 2022

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00397866	CO	0.00699290
NOx	0.00035150	NOx	0.00722470
ROG	0.00048658	ROG	0.00108569
SOx	0.00001072	SOx	0.00002774
PM10	0.00009661	PM10	0.00031501
PM2.5	0.00006389	PM2.5	0.00023906
CO2	1.11019931	CO2	2.87006769
CH4	0.00004121	CH4	0.00004557
N2O	0.00006411	N2O	0.00004289
CO2 eqv	1.13093833	CO2 eqv	2.88431947

Scenario Year: **2023**

All model years in the range 1979 to 2023

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00377527	CO	0.00658123
NOx	0.00032851	NOx	0.00679147
ROG	0.00046900	ROG	0.00102852
SOx	0.00001070	SOx	0.00002790
PM10	0.00009676	PM10	0.00030109
PM2.5	0.00006405	PM2.5	0.00022582
CO2	1.11023373	CO2	2.87466338
CH4	0.00003951	CH4	0.00004218
N2O	0.00006146	N2O	0.00003970
CO2 eqv	1.13011498	CO2 eqv	2.88785549

Scenario Year: **2024**

All model years in the range 1980 to 2024

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00358611	CO	0.00625076
NOx	0.00030721	NOx	0.00647083
ROG	0.00045136	ROG	0.00096578
SOx	0.00001080	SOx	0.00002807
PM10	0.00009676	PM10	0.00029407
PM2.5	0.00006410	PM2.5	0.00021880
CO2	1.11061572	CO2	2.88010717
CH4	0.00003781	CH4	0.00004019
N2O	0.00005881	N2O	0.00003782
CO2 eqv	1.12964186	CO2 eqv	2.89267641

Scenario Year: **2025**

All model years in the range 1981 to 2025

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00342738	CO	0.00595363
NOx	0.00028846	NOx	0.00615945
ROG	0.00043545	ROG	0.00092178
SOx	0.00001070	SOx	0.00002761
PM10	0.00009679	PM10	0.00028425
PM2.5	0.00006418	PM2.5	0.00020958
CO2	1.11078571	CO2	2.88143570
CH4	0.00003641	CH4	0.00003765
N2O	0.00005663	N2O	0.00003543
CO2 eqv	1.12910559	CO2 eqv	2.89321111

Scenario Year: **2026**

All model years in the range 1982 to 2026

Passenger Vehicles (pounds/mile)		Delivery Trucks (pounds/mile)	
CO	0.00328779	CO	0.00569435
NOx	0.00027141	NOx	0.00589869
ROG	0.00042052	ROG	0.00088403
SOx	0.00001076	SOx	0.00002716
PM10	0.00009687	PM10	0.00027657
PM2.5	0.00006415	PM2.5	0.00020187
CO2	1.11105829	CO2	2.88298299
CH4	0.00003518	CH4	0.00003581
N2O	0.00005472	N2O	0.00003370
CO2 eqv	1.12876023	CO2 eqv	2.89418178

Notes:

SCAQMD 2008

HHD-DSL composite includes tire & brake wear

N_2O & CO_2 eqv per Inventory of U.S. GHG Emissions & Sinks - Annex 3 (EPA 2012)

References

California Climate Action Registry (CCAR). 2009. General Reporting Protocol, Version 3.1. Website (http://www.climateregistry.org/tools/protocols/general-reporting-protocol.html)

South Coast Air Quality Management District (SCAQMD). 2011. SCAQMD Air Quality Significance Thresholds. Website (http://www.aqmd.gov/ceqa/handbook/signthres.pdf).

South Coast Air Quality Management District (SCAQMD). 1993 (updated 2008, 2010). CEQA Air Quality Handbook. No longer available online pending development of new Air Quality Analysis Guidance Handbook. Website (http://www.aqmd.gov/ceqa/hdbk.html).

U.S. Environmental Protection Agency (EPA). 2012. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010, Annexes 2 & 3. Website (http://www.epa.gov/climatechange/emissions/usinventoryreport.html).

U.S. Environmental Protection Agency (EPA). 2011. Compilation of Air Pollution Emission Factors (AP-42), Fifth Edition (1995-2011). Website (http://www.epa.gov/ttn/chief/ap42/).

Appendix B
5024 Letter Report for Concrete Tank at Surfrider Beach. Prepared for HPA, Inc.
Long Beach, CA. August 11, 2006.

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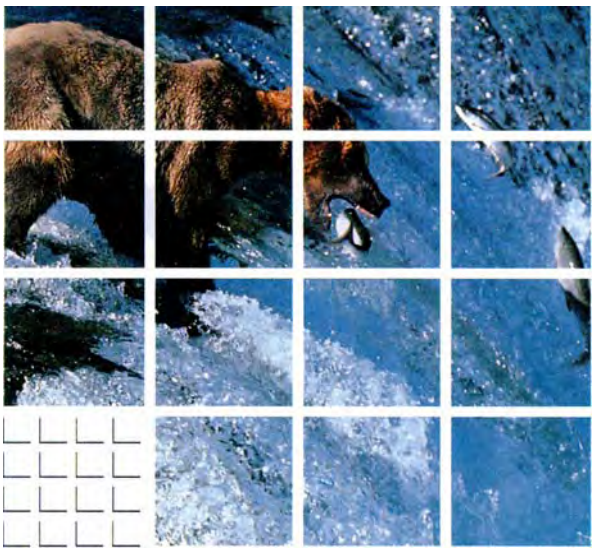
ENTRIX

SECTION 5024 LETTER REPORT FOR CONCRETE TANK
SURFRIDER BEACH
MALIBU, CA

Prepared for:

HPA, INC.
Long Beach, CA



Prepared by:

ENTRIX, Inc.
Seattle, WA

January 9, 2007

ENTRIX

ENTRIX, Inc.
2701 First Avenue, Suite 500
Seattle, WA 98121
(206) 269-0104
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Since 1984 – Environmental Excellence

January 9, 2007

Mr. John Schock, PE
HPA, Inc.
Maritime Business Group
6700 E. Pacific Coast Highway
Suite 180
Long Beach, CA 90803

RE: Section 5024 Letter Report for Concrete Tank at Surfrider Beach, Malibu, CA

Dear Mr. Schock:

ENTRIX conducted a site visit on June 22, 2006 to the concrete tank associated with the Adamson House located in Malibu, California, adjacent to Malibu Lagoon State Beach (Surfrider Beach) (Photos 1 and 2). ENTRIX also completed a records search with the California Historical Resources Information System (CHRIS) and interviewed Adamson House curator Christina Savitski. The proposed project action is to remove an underground concrete tank from Surfrider Beach due to safety issues, as the tank is exposed from beach erosion caused by storms and must be thereafter be covered with sand. This letter report provides a historic context on the Adamson House; a physical description of the estate; a summary of our field visit and research; a finding of effect; and proposed mitigation measures. This report is in accordance with the California Public Resource Code, Section 5024.

Historic Context

The Rindge Family

Frederick and Rhoda May Knight Rindge purchased the 13,000-acre Rancho Malibu from Henry Keller in 1892. The Rancho was the present day site of Malibu, California. When Frederick Rindge died in 1905, Rhoda May Rindge, known as "May K. Rindge" carried out Frederick's plans for the ranch and fought diligently to keep highways from being constructed through her property. The Marblehead Land Company, owned and presided over by Mrs. Rindge, became the owner of Malibu in 1921. Despite her efforts and enormous financial expenditures, the state obtained right-of-way through the Rancho in 1925. The Roosevelt Highway was opened in 1929 (California State Parks 2006; Malibu Historical Society and Malibu Lagoon Museum 1985).

In an effort to earn money and capitalize on the natural clay of the area, May K. Rindge founded the Malibu Potteries in 1926. The Pottery was located one-half mile east of the Malibu Pier on the ocean side of Roosevelt Highway. An abundant water supply, proximity to a labor pool, and transportation routes facilitated operation of the business. In addition, there was a strong demand for decorative ceramic tile, especially for the Mediterranean and Spanish Revival architecture constructed during the 1920s and 1930s. The business employed 125 full and part-time staff, with Rufus Keeler as plant manager and expert ceramic artist. Keeler formulated glazes in combinations of colors that were unique to the Malibu tiles (Malibu Historical Society and Malibu Lagoon Museum 1985). The tiles were hand-decorated with abstract and geometric designs inspired by "Saracan" and "Moorish" influences (Smith 1980). Malibu Potteries was in operation until 1932, when the effects of the Great Depression drastically reduced the demand for decorative tile (Malibu Historical Society and Malibu Lagoon Museum 1985).

In 1929, May K. Rindge began the construction of a mansion overlooking the ocean in Malibu Canyon. This mansion was located east of the present-day Adamson House. She spent over $500,000 constructing the 50-room house, but due to financial problems construction was never completed. Maintaining the Rancho coupled with the Great Depression put great financial burden on the Marblehead Land Company. In 1936 the company filed bankruptcy. The company later reorganized and began the subdivision and sale of the 13,000-acre Rancho. Mrs. Rindge died in 1941, and the 26 acres where her uncompleted mansion sat were sold to the Franciscan order for $50,000 in 1942, to become the Serra Retreat House. In 1970 the mansion was destroyed by a brush fire. The Franciscan order rebuilt most of what was lost and currently operates the Serra Retreat from that location (Malibu Historical Society and Malibu Lagoon Museum 1985).

The Adamson Family

The daughter of May K. Rindge, Rhonda Agatha Rindge, married rancher and lawyer Merritt Adamson. The Adamson's were the last owners of the Rancho Malibu Spanish land grant. The couple founded the Adohr Stock Farm, which supplied milk to Los Angeles. The Adohr Creamery Company expanded and began distributing products throughout Los Angeles County. Merritt Adamson served as the Director of the California State Board of Agriculture and was a member of the National Certified Milk Producers' Association (Malibu Historical Society and Malibu Lagoon Museum 1985).

The Adamson's hired architect Stiles O. Clements to design a two-story Moorish and Spanish-Mediterranean style house on the Rindge family property in Malibu. In 1929, the Adamson's completed construction on a summer house (Adamson House) located adjacent to the beach, which was extensively decorated with Malibu tiles (Photo 3). Merritt Adamson died in 1949, and Rhonda Rindge Adamson became President of Adohr Milk Farms. Mrs. Adamson also took leadership of the Marblehead Land Company in 1951, when the debts had finally been paid following the reorganization of the company in 1936 (Malibu Historical Society and Malibu Lagoon Museum 1985).

Physical Description
The Adamson House, a Moorish and Spanish-Mediterranean style building constructed in 1929, features Malibu tiles, hand-carved ceiling beams and doors, decorative murals, molded ceilings, hand-wrought ironwork, and lead-framed bottle glass windows. The approximately 4,500-square foot house is located on a 13-acre parcel adjacent to Malibu Lagoon State Beach (Surfrider Beach). The murals were painted by Dutch artists and are located throughout the house – on ceilings, above fireplaces, and on walls. The tiles are located in every room of the house, supplemented with custom design pieces such as the tile Persian rug and tile tabletop in the entry hall designed by artist Inez Johnson Von Hake. The tiles were made with vivid glazes with designs of Moorish, Persian, Indian, Egyptian, and California influences (Malibu Historical Society and Malibu Lagoon Museum 1985). The furniture and many of the linens were custom designed for the house by the John. B. Holtzclaw Company. Sweeping views of the Pacific Ocean and the house gardens can be seen from most rooms in the house.

The gardens surrounding the house on the site were filled with olive trees that had been planted in Frederick Rindge's Malibu Canyon Grove. Other plantings included roses, Chinese magnolias, and a variety of ornamental and fruit-bearing shrubs and trees. Outbuildings included a lath house, potting shed, carpenter shop, blacksmith shop, chicken coop, and several dog houses (Malibu Historical Society and Malibu Township Council 1976). An eight-sided fountain of Moorish influence is located to the west of the house and is decorated with Malibu tiles.

A pool house and rectangular pool are located to the south of the house (Photos 4 and 5). The pool house historically had male and female dressing rooms and bathrooms as well as rooms to hold large water tanks and boilers to heat the water (Photo 6). The pool was originally filled with salt water, provided from ocean water (Malibu Lagoon Museum 2006). The pool water was changed weekly and heated in boilers housed under the pool (Margolies 1997). The pool was usually filled on Friday and emptied on Tuesday, and then the pool was cleaned and treated with chemicals (California State Parks n.d.). During World War II, the pool house was temporarily occupied by the Coast Guard. The men were housed in the pool house and in tents located in sand dunes around the pool house. When the property was leased to the Pepperdine University Chancellor in 1971, the pool was converted from salt water to fresh water (Malibu Lagoon Museum 2006).

The Adamson House was listed on the National Register of Historic Places in 1977 and was designated a California Historical Landmark in 1985. The Adamson House was eligible for listing in the National Register because the house is an outstanding example of a 1920s Spanish Colonial Revival style designed by a major California architect. One of the most important character-defining features of the house is the extensive use of Malibu tile, both in the house and in exterior features, such as the eight-sided fountain. The tile was produced at the Malibu Potteries, founded by May K. Rindge. The house is also associated with an important Southern California family. The house is constructed near an archaeological site designated LAN-264, dated 3,000 B.C. The Adamson House was eligible for the California Register because “it contains the most significant remaining examples of the intricately

designed, colorful decorative ceramic tile produced by Malibu Potteries" (Malibu Historical Society and Malibu Lagoon Museum 1985). The house is culturally significant because of its artistic value of the "total composition exemplified by a fine design and outstanding tilework displayed in a uniquely appropriate setting" (Malibu Historical Society and Malibu Lagoon Museum 1985).

Field Visit and Research

ENTRIX Architectural Historian Jeannie Cziesla conducted a site visit on June 22, 2006. During the site visit, she took photographs of the location of the concrete tank at Surfrider Beach (staked by Dan Heneghan, Los Angeles County Department of Beaches and Harbors, see Photo 1), toured the Adamson House, and met with the Adamson House curator Christina Savitski. Ms. Savitski had no historical files (architectural or engineering drawings or photographs) pertaining to the concrete tank. She did have several historic photos of the pool, including the construction of the pool in 1929. Ms. Cziesla also spoke with California State Parks Architectural Historian Jim Newland and Historian Alex Bevil regarding the Park's historic files on the Adamson House. Mr. Bevil provided photocopies to ENTRIX of relevant material from the Vertical Historic Files of the State Park office. Photos of the concrete tank location and the pool are located at the end of this report.

ENTRIX Historian Marcia Montgomery contacted the CHRIS office in Fullterton, CA to request the Historic Property Data File for the Adamson House at Malibu State Beach (Property # 028150). The information provided by CHRIS included several hand-drawn maps of the project area, various articles about the Adamson House, the Application for the Adamson House to be designated a California Historical Landmark, and the National Register of Historic Places Inventory-Nomination Form. There is no mention of the pool in the National Register nomination.

In January 2006, HPA, Inc. conducted an excavation of the top of the concrete tank located at Surfrider Beach in Malibu, California. The concrete tank is approximately 300 feet from the Adamson House is assumed to be associated with the house's salt water pool. The tank measures 13 feet in outside diameter and is at least 16 feet deep. A 12-inch diameter access hole is located near the center of the tank and an 18 by 24 inch access hole is located near the east edge of the tank. A 4 ½-inch abandoned steel pipe, which runs in the direction of the Adamson House, is aligned with the 12-inch hole in the center (Photo 7). The top slab of the tank is 6 inches thick and the concrete walls are about 8 ½-inch thick. Water levels at the time of the excavation were about 5.5 feet below the top of the tank slab elevation. Water levels appeared to change with the tide, as observed by the wetted concrete surface on the inside of the tank. According to the report by HPA, Inc., "all field data collected indicates that the tank was most likely a saltwater well previously used for the Adamson House complex" (HPA, Inc. 2006).

Ms. Cziesla also interviewed Christina Savitski at the time of her field visit. Ms. Savitski had no architectural or engineering plans that showed definitively that the concrete tank on Surfrider Beach provided salt water to the Adamson House pool. Ms. Savitski did however have information that strongly linked the tank to the pool. This includes:

- the pipe located at the top of the concrete tank is leading in the direction of the Adamson House, approximately 300 feet away from the tank;
- the house and all the associated features, including the pool, were constructed at the same time, and the pool was originally a salt water pool;
- a wall was built around the Adamson House estate and extended to the pier to the south of the property, with an opening in the wall at the same location of the tank (Photo 8); and
- when the property was built, no one was living in the vicinity, so the Adamson's likely constructed the tank; and
- the State of California did not acquire the Adamson House property until 1968. (The underground tank is located approximately 170 feet from this property on separate property owned by the County of Los Angeles and is managed by the Department of Beaches and Harbors.)

After the completion of the draft report, Jim Newland of the California State Parks Southern Service Center (San Diego) provided a historical map (1935) showing the location of the tank at the ocean shoreline and references from the *Southwest Builder and Contractor* regarding the original construction of the Adamson House pool. According to a January 31, 1930 *Southwest Building and Contractor* reference, H.O.Cary was the contractor for the Adamson House pool equipment and plumbing (*Southwest Builder and Contractor* 1930:69). The files provided by Newland also included the following reference regarding the Adamson House swimming pool, which was constructed in 1929 and measured 20 x 60 feet.

> This is a salt water pool, apparently constructed of reinforced concrete and faced with ceramic tile. There is a tile deck around the perimeter. The water source is a salt water well, which is effectively an intake from the ocean and from which sea water is pumped into the pool equipment, heated, and pumped into the pool (Newland 2006a).

Project Engineer John Shock also contacted Ronald Rindge author of *WWII Homeland Defense: U.S. Coast Guard Beach Patrol in Malibu, 1942 -1944* regarding the possibility that the Coast Guard might have constructed the tank during World War II. Rindge confirmed that this was inconceivable, due to wartime homeland defense activities (Rindge 2006).

Finding of Effect

This report was produced in compliance with California's Public Resources Code Section 5024, which directs agencies to prepare inventories of all state-owned historical resources and to evaluate them using the National Register and California Historical Landmark criteria. The property is already listed on the National Register of Historic Places and in the California Register of Historical Resources. Therefore, the property meets the criteria for both the National and California Registers.

The assessment for this project was whether the removal of the concrete tank would create an adverse effect to the historic resource (Adamson House). Historical research indicates that the concrete tank on Surfrider Beach is associated with the Adamson House salt water pool.

For the purposes of the finding of effect, the concrete tank is assumed to be a contributing feature of the house.

The pool house and the pool are still fully intact, as are the heaters and tanks that are located in the pool house. The buried concrete tank is an unseen feature of the Adamson House and is significant for its historical use associated with the conveyance of salt water from the ocean into the pool. Because the Adamson House is listed on both the National and California Registers, under PRC Section 5024 removal of a historic element associated with the house (i.e., concrete tank) would constitute an adverse effect.

Mitigation
To mitigate the adverse effect, mitigation measures should be developed in collaboration with Los Angeles County, California State Parks, and the California State Historic Preservation Office (SHPO) prior to the removal of the tank. The mitigation measures, once agreed upon by the above agencies, would need to be implemented before the tank is removed from Surfrider Beach. Below is a list of proposed mitigation measures for removal of the concrete tank.

- When the concrete tank is uncovered prior to removal, a complete HABS/HAER report supported by photo documentation to HABS/HAER standards should be prepared. The level of HABS/HAER report (i.e., Levels I – IV) would be determined in consultation with California State Parks and the California SHPO.
- Display interpretive signage explaining the concrete tank and its function and association with the Adamson House. The signage would be on the Adamson House grounds and would reference the tank's location on the beach.

Please contact me if you have any questions about the report or need further clarification on the proposed mitigation measures.

Sincerely,

Kimberly Demuth
Western Cultural Resources Group Manager/Senior Architectural Historian

References

Bevil, Alex. 2006. California State Parks Historian. Personal communication with Jeannie Cziesla on August 4.

California State Parks. 2006a. Adamson House, California State Parks website. http://parks.ca.gov/default.asp?page_id=672. Accessed June 15, 2006.

California State Parks. 2006b. Southern Service Center Vertical Historic Files. Malibu Lagoon – The Adamson House files.

California State Parks. n.d. "The Adamson House." Southern Service Center Vertical Historical Files, Malibu Lagoon – The Adamson House.

HPA, Inc. 2006. Email correspondence between John Schock (HPA, Inc.) and Kimberly Demuth (ENTRIX, Inc.). May 25.

Malibu Historical Society and Malibu Lagoon Museum. 1985. Application Submitted to the State of California for the Adamson House at Malibu Lagoon State Beach to be Designated a California Historical Landmark. June 28.

Malibu Historical Society and Malibu Township Council. 1976. National Register of Historic Places Inventory-Nomination Form for The Adamson House at Malibu Lagoon State Park.

Malibu Lagoon Museum. 2006. Docent tour of Adamson House. Attended by Jeannie Cziesla. June 22.

Margolies, Dany. 1997. "Tea for Ten" in *The Malibu Times*. May 1. On file with California State Parks.

Newland, Jim. 2006. California State Parks Architectural Historian. Personal communication with Jeannie Cziesla August 1 and August 2.

Newland, Kim, 2006a. Adamson House historical files. On file at the Southern Service Center, San Diego, CA.

Rindge, Ronald, 2006. Letter to John Schock H.P.A. Engineers, on file at HPA Engineers, Longbeach, CA.

Savitski, Christina. 2006. Personal interview with Jeannie Cziesla. June 22.

Smith, Kathryn. 1980. "Malibu Potteries" in *Malibu Tile: June 24 to September 7, 1980. David Greenberg, Guest Curator*. Craft and Folk Art Museum, Los Angeles.

Southwest Building and Contractor, 1930. Notices of Completion. On file at the Southern Service Center, San Diego, CA.

Photos

PHOTO 1: Concrete Tank location (Men with shovels) looking S
Photo credit: ENTRIX, Inc.

PHOTO 2: Concrete tank uncovered during January 2006 excavation by HPA, Inc. looking SE
Photo credit: HPA, Inc.

PHOTO 3: Adamson House at Malibu Lagoon State Beach, looking SE
Photo credit: ENTRIX, Inc.

PHOTO 4: Admanson House pool and concrete tank location at Malibu Lagoon Beach looking S
Photo credit: ENTRIX, Inc.

PHOTO 5: Adamson House pool house and pool looking SE
Photo credit: ENTRIX, Inc.

PHOTO 6: Tanks in Adamson House pool house, looking E
Photo credit: ENTRIX, Inc.

PHOTO 7: Top of concrete tank exposed during HPA, Inc investigation, looking E
Photo credit: HPA, Inc.

PHOTO 8: Partition wall associated with Adamson House looking S
Photo credit: ENTRIX, Inc.

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PRIMARY RECORD**	Primary # HRI # Trinomial NRHP Status Code 1
Other Listings CRHR Review Code Reviewer Date	

Page 1 **of** 1 ***Resource Name or #:** Concrete Tank at Surfrider Beach

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** Northwest Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Malibu Beach **Date:** 6/22/06 **T**01S **R**17W; SE ¼ **of SE¼ of Sec** 32**;** M.D. **B.M.**

c. Address: Surfrider Beach City: Malibu Zip: 90265

d. UTM: Zone: 11; 345118E/ 3767051N (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

The concrete tank is buried beneath the sand at Surfrider Beach in Malibu. It is located approximately 300 feet southwest of the historic Adamson House.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The concrete tank is approximately 300 feet from the Adamson House and is assumed to be associated with the house's salt water pool. The tank is located at Surfrider Beach in Malibu, California. The cylindrical tank measures 13 feet in outside diameter and is at least 16 feet deep. A 12-inch diameter access hole is located near the center of the tank and an 18 by 24 inch-access hole is located near the east edge of the tank. A 4 ½-inch abandoned steel pipe, which runs in the direction of the Adamson House, is aligned with the 12-inch hole in the center. The top slab of the tank is 6 inches thick and the concrete walls are about 8 ½-inch thick. Water levels at the time of the excavation (January 2006) were about 5.5 feet below the top of the tank slab elevation. Water levels appeared to change with the tide, as observed by the wetted concrete surface on the inside of the tank.

***P3b. Resource Attributes:** (List attributes and codes) HP11 – Engineering Structure

***P4. Resources Present:** ☐Building ■Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.) Photo

P5b. Description of Photo: View of top of concrete tank, uncovered, looking northwest (January 19, 2006)

***P6. Date Constructed/Age and Sources:** ■ Historic ☐Prehistoric ☐Both c. 1929

***P7. Owner and Address:**
California Parks and Recreation Department
1416 9th Street
Sacramento, CA 95814

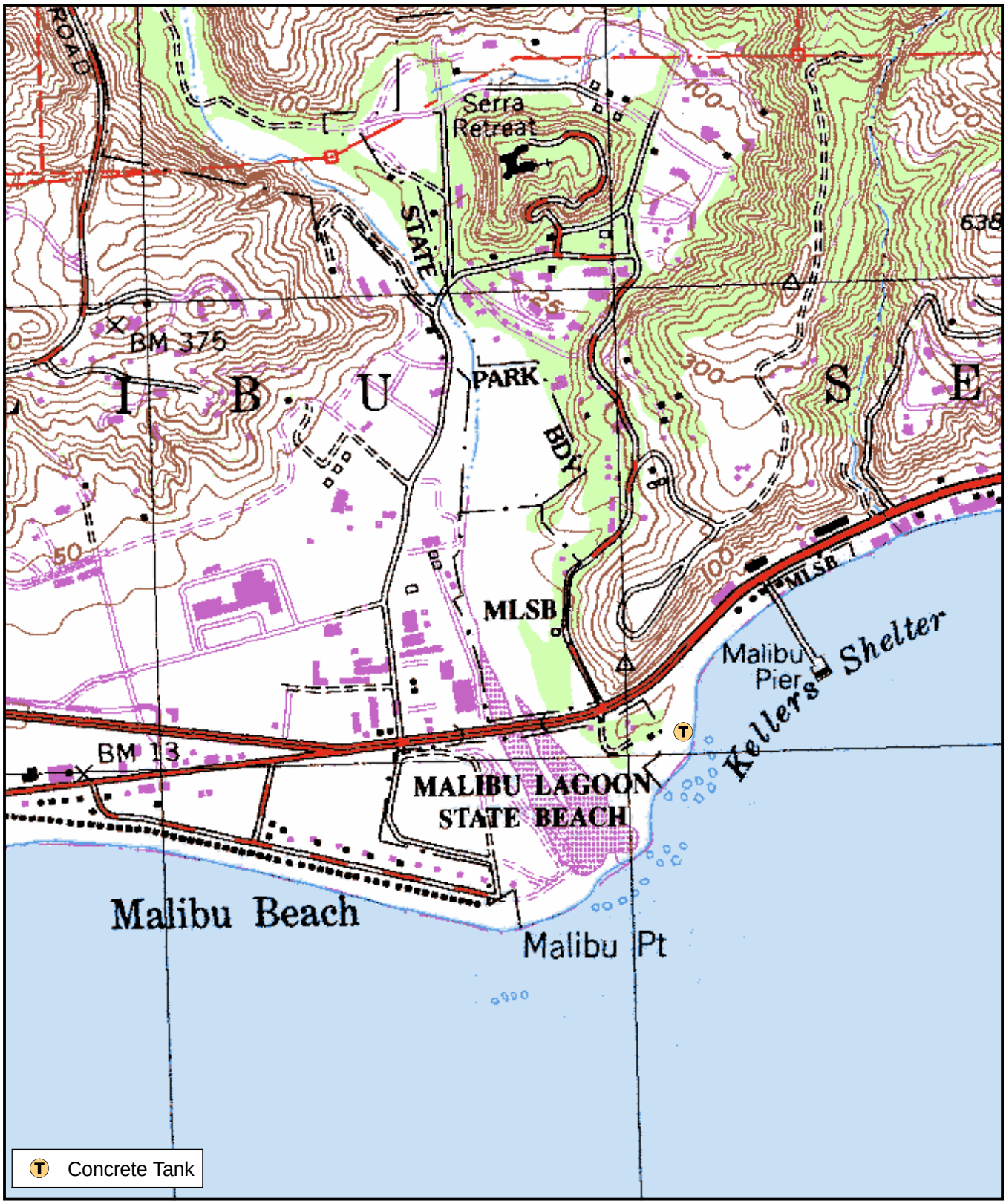
***P8. Recorded by:** (Name, affiliation, and address)
Jeannie Cziesla
ENTRIX, Inc.
2701 First Avenue, Suite 500
Seattle, WA 98121

***P9. Date Recorded:** June 22, 2006

***P10. Survey Type:** (Describe) reconnaissance survey (Viewed location of concrete tank because tank was buried beneath sand)

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Section 5024 Letter Report for Concrete Tank at Surfrider Beach, Malibu, CA by ENTRIX, Inc. Prepared for HPA, Inc. August 15, 2006.

***Attachments:** ☐NONE ■Location Map ☐Sketch Map ☐Continuation Sheet ■ Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):



Feet
500 250 0

Source: USGS 24k Topographic Quadrangle (Malibu)

Location Map
Concrete Tank at Surfrider Beach
Malibu, CA

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 1

*Resource Name or # Concrete Tank at Surfrider Beach

B1. Historic Name: Concrete Tank
B2. Common Name: Concrete Tank
B3. Original Use: Salt Water well
B4. Present Use: Unused
*B5. Architectural Style: N/A
*B6. Construction History: (Construction date, alterations, and date of alterations)
The concrete tank was likely built at the time the adjacent Adamson House was constructed (1929). A portion of pipe leading to the center of the tank has been removed.

*B7. Moved? ■No ☐Yes ☐Unknown Date: Original Location:
*B8. Related Features:
Adamson House, listed on the National Register of Historic Places and California Register of Historic Resources. The concrete tank is assumed to be an associated feature to the Adamson House pool. The tank was used to supply salt water to the pool.

B9a. Architect: N/A
b. Builder: Unknown
*B10. Significance: Theme: Residential Architecture
Area: Surfrider Beach at Malibu, CA
Period of Significance: 1929
Property Type: Concrete tank
Applicable Criteria: C
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The Adamson House was listed on the National Register of Historic Places in 1977 and was designated a California Historical Landmark in 1985. The Adamson House was eligible for listing in the National Register because the house is an outstanding example of a 1920s Spanish Colonial Revival style designed by a major California architect. One of the most important character-defining features of the house is the extensive use of Malibu tile, both in the house and in exterior features, such as the eight-sided fountain. The tile was produced at the Malibu Potteries, founded by May K. Rindge. The house is also associated with an important Southern California family. The house is constructed near an archaeological site designated LAN-264, dated 3,000 B.C. The Adamson House was eligible for the California Register because "it contains the most significant remaining examples of the intricately designed, colorful decorative ceramic tile produced by Malibu Potteries" (Malibu Historical Society and Malibu Lagoon Museum 1985). The house is culturally significant because of its artistic value of the "total composition exemplified by a fine design and outstanding tilework displayed in a uniquely appropriate setting" (Malibu Historical Society and Malibu Lagoon Museum 1985).

The concrete tank, pool house, and the pool are still fully intact, as are the heaters and tanks that are located in the pool house. The buried concrete tank is an unseen feature of the Adamson House and is significant for its historical use associated with the conveyance of salt water from the ocean into the pool.

B11. Additional Resource Attributes: (List attributes and codes) HP11 – Engineering Structure

*B12. References:

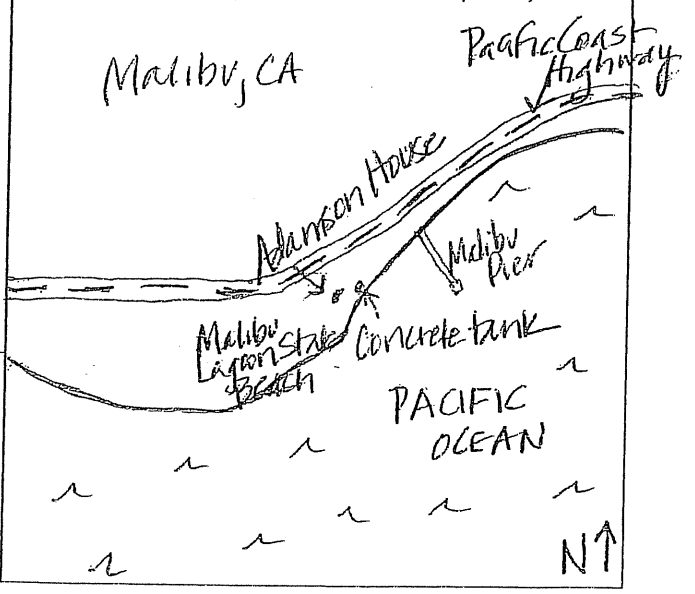
Bevil, Alex. 2006. California State Parks Historian. Personal communication with Jeannie Cziesla on August 4.

California State Parks. 2006a. Adamson House, California State Parks website. http://parks.ca.gov/default.asp?page_id=672. Accessed June 15, 2006.

California State Parks. 2006b. Southern Service Center Vertical Historic Files. Malibu Lagoon – The Adamson House files.

California State Parks. n.d. "The Adamson House." Southern Service

(Sketch Map with north arrow required.)



(This space reserved for official comments.)

*Required information

Center Vertical Historical Files, Malibu Lagoon – The Adamson House.

HPA, Inc. 2006. Email correspondence between John Schock (HPA, Inc.) and Kimberly Demuth (ENTRIX, Inc.). May 25.

Malibu Historical Society and Malibu Lagoon Museum. 1985. Application Submitted to the State of California for the Adamson House at Malibu Lagoon State Beach to be Designated a California Historical Landmark. June 28.

Malibu Historical Society and Malibu Township Council. 1976. National Register of Historic Places Inventory-Nomination Form for The Adamson House at Malibu Lagoon State Park.

Malibu Lagoon Museum. 2006. Docent tour of Adamson House. Attended by Jeannie Cziesla. June 22.

Margolies, Dany. 1997. "Tea for Ten" in *The Malibu Times*. May 1. On file with California State Parks.

Newland, Jim. 2006. California State Parks Architectural Historian. Personal communication with Jeannie Cziesla August 1 and August 2.

Savitski, Christina. 2006. Personal interview with Jeannie Cziesla. June 22.

Smith, Kathryn. 1980. "Malibu Potteries" in *Malibu Tile: June 24 to September 7, 1980. David Greenberg, Guest Curator*. Craft and Folk Art Museum, Los Angeles.

B13. Remarks: Los Angeles County is proposing to remove the concrete tank from Surfrider Beach.

***B14. Evaluator:** Jeannie Cziesla, Architectural Historian, ENTRIX, Inc.

***Date of Evaluation:** June 22, 2006

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Appendix C
Meeting Notes and Email Correspondence with California State Parks

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January 13, 2011

Mr. Robert A. Stassi, Planner
Los Angeles County Department Beaches & Harbors
13837 Fiji Way
Marina Del Ray, CA 90292

Dear Mr. Stassi:

RE: MALIBU TANK REMOVAL INITIAL STUDY

California State Parks appreciates the opportunity to comment on the historic Malibu Tank Removal Project Initial Study. I apologize for the delay in response as we did not receive the initial mailing and I was out of the office for personal reasons for much of December.

As the former property owner of the historic structure in question, and the current owner of the adjacent National Register of Historic Places property to which this structure is a contributing component, we are compelled to reiterate our recommendations for a treatment option that would result in the complete preservation of the Adamson House Saltwater Well "Tank" structure in lieu of partial demolition and mitigation as currently proposed.

For the record we again offer our suggestions for adaptive and interpretive uses that would identify the structure for its historical values and address public safety concerns for Beaches and Harbors staff and the public.

1. Expose and identify the historic structure.

   The structure does not necessarily have to be buried to protect the public or beach staff.

   a. The sand around it could be excavated to reveal the structure's top.
   b. Sand slurry without cement can be poured inside the cylinder.
   c. A Trex® board/plank cover could be installed and bolted down into the rectangular opening.
   d. Reflective circles or placards can be installed on the outer wall surface.

2. Alternative Option 1: Adaptive Reuse

   a. Do all of the above, except do not install the Trex® board/plank cover.
   b. Backfill the upper two feet below the rectangular opening with weed-free topsoil or planter mix.
   c. Plant several flats of appropriate native beach vegetation inside and allow the plant to grow out and over the well top.
      i. Examples can be seen to the east and west growing along the beach crest.

3. Alternate Option 2: Adaptive Reuse
    a. Expose the structure, apply sand slurry, and install Trex® board/plank cover.
    b. Build a Trex® board/plank deck over the structure.
        i. This can be used as an observation platform by staff or the public.
        ii. Place a lifeguard tower on the deck

We also have the following specific comments on the Malibu Tank Removal Project Initial Study document:

Page 2-1, Section 2.3 PROJECT BACKGROUND, Line 7

After initial coordination with the State Historian of the California State Parks, it was determined that the buried tank should be protected and marked by concrete bollards marking the location of the tank.

COMMENT: For the record, we wish to clarify that the proposal for concrete bollards to delineate the Saltwater Well top was not conceived, promoted, or required by California State Parks' State Historian or other State Parks staff. This idea was conceived by Department of Beaches and Harbor staff.

Please correct this statement in your document.

Page 2-1, Section 2.3 PROJECT BACKGROUND, Line 11

After further discussion and negotiation, the California State Parks historian verbally agreed to allow the partial removal and subsequent backfilling of the remaining buried tank, provided proper mitigation is taken to record the existence of this historical feature pursuant to CEQA requirements.

COMMENT: For the record California State Parks and the State Parks Historian concurred that such a proposal could meet the minimum requirements for acceptable mitigation to reduce the significant impact of partial removal to the contributing historical feature, but that the proposal should go through the full public review process required by CEQA, including review from the California State Office of Historic Preservation and State Historic Preservation Officer (CSHPO).

Please clarify this statement in your document and assure that the CSHPO has been afforded the opportunity to review this project proposal.

Page 3-12, Mitigation Measure CULT-1: HABS/HAER Report and Photo Documentation

Please add California State Parks to the distribution list for the final documentation reports.

Page 3-12, Mitigation Measure CULT-1 et al. Section B, Paragraph 2, Line 2-3

There is little potential to discover cultural materials in the Project area.

Be advised that State Parks archaeologists have documented historic 1920s-30s artifacts eroding from the beach front nearby this location during periods of high beach erosion. Please have any archaeological monitors contact California State Parks prior to any work in order to obtain this information.

Thank you again for the opportunity to provide comment and recommendations for addressing the disposition of this National Register of Historic Places contributing feature.

If you have any additional questions or require clarification on these comments, please feel free to contact me.

Jim Newland, Manager
Resource & Interpretive Services
Supervisor, Cultural Resources Program
Southern Service Center
California State Parks
619-220-5314

Meeting Summary

Surfrider/Malibu Tank project

Teleconference

March 6, 2012

Attendees:
Jim Newland, California Department of Parks and Recreation, Resources & Interpretive Services Southern Service Center
Mark A. Beason, State Historian II, Review and Compliance, California Office of Historic Preservation
Bob Stassi, Beaches and Harbors, Los Angeles County
Ed Andrews Department of Public Works, Los Angeles County
Juan Mendoza, Halcrow
Kimberly Demuth, Project Manager/ Senior Architectural Historian, Cardno ENTRIX
Lucy Zuccotti, Archaeologist, Cardno ENTRIX
Jennifer Flathman, Architectural Historian, Cardno ENTRIX

1) Introductions- Kimberly Demuth
2)
3) Project History- Juan Mendoza
    - Project has started and stopped multiple times since storms in 2005 uncovered the tank.
    - Safety issues were raised about leaving the tank in place.
    - Documentation was prepared in 2006 to research the history of the tank.
    - Several proposals have been developed for how to proceed including:
        Installing bollards
        Full demolition of the tank
        Partial demolition
4) Current Proposal- Juan Mendoza
    - Current proposal is to leave the tank in place and fill with sand or slurry cement and remove the pipe that connected the tank to the property.
    - Agreement document is being prepared between LA County and Parks and Recreation to confirm that funding will be provided to Parks and Recreation for the development and installation of an interpretive panel.
5) Discussion regarding whether archaeological monitoring required during the construction/excavation.
    - Cardno ENTRIX recommends archaeological monitoring
    - Jim Newland from California Department of Parks and Recreation said that absolutely monitoring will be required.
    - Jim Newland indicated that there is documentation relating to materials from the Adamson house that were previously discovered. Cardno ENTRIX will check to see if we have information on this. If Cardno ENTIRX does not, Jim will provide copies

6) Discussion regarding approach to HABS/HAER documentation
    - Clarification that this project is CEQA only and Section 106 does not apply.
    - Clarification that Los Angeles County is the owner of the property and will be the lead agency.
    - Mark Beason indicated that the SHPO will not formally comment on the project as it is CEQA only. However, he will review the project history, previous CEQA documentation, and recommended mitigation and provide informal comments.

7) Discussion regarding whether it would be ok to "fast track" the review of photographs and other documentation in order to minimize the time that the tank is uncovered.
    - State Parks agreed that they understood the safety concerns and would work to accommodate the proposed approach.
    - Juan Mendoza also indicated that the proposal to fast track the review of the documentation was partially based on the plan to demolish the tank. If the tank will be left in place it would be possibly to recover the tank should there be a need to take additional photographs.

8) Discussion regarding how much of the tank would need to be uncovered.
    - The pipe is currently not connected.
    - The tank is about 6-12 inches below the pipe.
    - General agreement that not all of the tank would need to be uncovered and that interior photographs would not be necessary.
    - Cardno ENTRIX will review the current plans and send the group the recommended plan for how much of the tank will be uncovered and what will be included in the photographs.

Action items:

- Send Materials to Mark Beason – Halcrow/Cardno ENTRIX
- Distribute Meeting Notes – Halcrow/Cardno ENTRIX
- Check for materials relating to previous historic archaeology finds from the Adamson house- Cardno ENTRIX
- Review final construction approach and distribute a recommendation regarding proposed methodology for photographs and monitoring – Cardno ENTRIX

To: Mark A. Beason, State Historian II, Review and Compliance, California Office of Historic Preservation

Cc: Juan Mendoza Halcrow

Jim Newland, California Department of Parks and Recreation, Resources & Interpretive Services Southern Service Center

Bob Stassi, Beaches and Harbors, Los Angeles County

Ed Andrews Department of Public Works, Los Angeles County

From: Kimberly Demuth, Cardno ENTRIX

Date: March 12, 2012

Re: Proposed Mitigation Approach for Surfrider/Malibu Beach Tank

During a winter storm in 2005, a buried concrete tank at Malibu Lagoon County Beach was uncovered at the water's edge due to shoreline erosion. Historical research revealed that the tank is a saltwater intake structure constructed in 1929 in connection with construction of a saltwater swimming pool on the Adamson House property, which is listed on the California and National Register of Historic Places. Accordingly, it was determined that the buried tank is considered significant for its historic use associated with the Adamson House. Although the top of the tank is below the top of the ground surface, it presents a potential safety hazard due to it being an unmonitored confined space on a public beach.

After initial coordination with the State Historian of the California State Parks, it was determined that the buried tank should be protected and marked by concrete bollards marking the location of the tank. However, in the process of presenting the CDP to the Malibu Planning Commission in August 2009, strong objections were received from the Surfrider Foundation to construct the concrete bollards on the Malibu Lagoon County Beach. After further discussion and negotiation, the California State Parks historian verbally agreed to allow the partial removal and subsequent backfilling of the remaining buried tank, provided that proper mitigation is taken to record the existence of this historical feature pursuant to CEQA requirements. In response to comments on the October of 2010 Initial Study and Mitigated Negative Declaration (MND), the County revised the plan to instead leave the tank in place and fill it with slurry cement. A revised MND is being prepared with the following recommended mitigation:

a. Excavation of the top 2 feet of the tank to prepare photographic, architectural, and written documentation that meets Historic American Building Survey (HABS) and Historic American Engineering Record (HAER) standards. An architectural historian will photograph and measure the visible portion of the

tank. The photographs and any results of additional research obtained during the visit will be incorporated a report that will be provided to SHPO and the Department of Parks and Recreation. The report will also include photograph obtained when the tank was previously uncovered.

b. During the background research conducted for the preparation of the CEQA documentation, several archaeological sites were identified in or near the Project area. As a result, an archaeological monitor will be present during all ground disturbing activities. We anticipate this will be for a total of 5 days (but will be limited to the period of ground disturbing activities).If additional monitoring is required due to construction delays or project changes a scope amendment will be required. Following the completion of the monitoring a draft report will be submitted to Halcrow and Los Angeles County for review. The revised monitoring report will then be submitted to SHPO for final approval.

Please contact me at 206-269-0104 if you have any question or concerns about the recommended mitigation measures.

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