CITY OF RICHMOND

Pt. Molate Community Advisory Committee

Monday, May 8, 2017 6:30 - 9:00 pm

Multi-Purpose Room, 440 Civic Center Plaza

Members:

Bruce Beyaert

Bruce Brubaker
Vice Chair

Paul Carman

Charles Duncan

Joan Garrett

Dorothy Gilbert

Don Gosney

Jim Hanson
Chair

Mark Howe

Bob McNeil

Connie Portero

Katrinka Ruk

AGENDA

6:30 **1. Call to Order - Roll Call**

2. Approval of Agenda

3. Approval of PMCAC Meeting Minutes – 4-10-17

4. Chair Announcements

5. Open Forum (3 minutes per person limit - *please file an open forum request with staff prior to start of meeting, or file a request to speak on a particular item prior to discussion of the item*)

6:45 **6. Council Liaison Report** (5 min.)

6:50 **7. Presentations, Discussion & Action Items** (1 hr. 30 minutes)

a. *Remediation:* ACE, Q1 UST Monitoring, Dry Season Annual Monitoring; IR Site 3 Completion Report, Human Health Risk Assessment status – Tomer Schetrit, Terraphase; (20 min.) Q&A (20 min.)
b. *Presentation:* - Pt. Molate San Francisco Bay Trail Update, Suzanne Wilson, Senior Planner, East Bay Regional Park District (15 min) Q&A (10 minutes)
c. *Presentation:* Point Molate Proposal, Bobby Winston, Nematode Holdings - (15 minutes), Q&A (10 minutes)

8:20 **8. Staff report** (Notable items from written reports in agenda materials) (10 min.)

9. Brief PMCAC Ad Hoc Committee and Subcommittee Reports (25 min.) Park (Garrett), Beach Park erosion long term planning (Hanson), Very High Fuel Hazard Mgt. update (Hanson, Beyaert), Community Meetings research (Hanson, Portero),

10. Action Items Review (2 min.)

11. Future Agenda Items (3 min.)

9:00 **12. Adjournment & Next Meeting**

Scheduled Meetings

Committee Meeting - This meeting is held in a building that is accessible to people with disabilities. Persons with disabilities, who require auxiliary aids of services using city facilities, services or programs or would like information of the city's compliance with the American Disabilities Act (ADA) of 1990, contact: Rochelle Monk, City of Richmond (510) 620-6511 (voice).

Pt. Molate Community Advisory Committee Staff Liaison Contact: Craig K. Murray (510) 307-8140, craig_murray@ci.richmond.ca.us. Additional correspondence can be directed to:PtMolateCAC@gmail.com

Agenda and minute information on the PMCAC can be found on the City Clerk's web location: http://ca-richmond2.civicplus.com/index.aspx?NID=2442
PMCAC Repository Information is available at: https://docs.google.com/open?id=0B9WXrZcb-_72MzVkZWQ1ZDQtNWIwNC00ZjE4LTgxYjctOTQyMDk4Y2FjNDYw
Terraphase Environmental Repository: https://terraphaseengineering.sharefile.com/i/i592048379f448948

Craig Murray

From: Craig Murray
Sent: Friday, May 05, 2017 4:05 PM
To: jimhmail@sonic.net; Bruce Brubaker [redacted]
Subject: FW: agenda

Below will be the Terraphase items. I will put this with links in the Agenda packet.

From: Tomer Schetrit [mailto:tomer.schetrit@terraphase.com]
Sent: Wednesday, May 03, 2017 1:11 PM
To: Craig Murray
Cc: William Carson
Subject: RE: agenda

Hi Craig,
The items should be :

1. Q1 2017 UST Monitoring Report (will finalize and send out by the end of the week)
2. ACE : https://terraphaseengineering.sharefile.com/d-s67879450c504f548
3. RWQCB comments on the Dry Season 2016 Monitoring Report : https://terraphaseengineering.sharefile.com/d-s6aec29294854a1ab
4. IR 4 Human Health Risk Assessment status
5. IR 3 Completion Report comments (we need to review these and prepare a response to comments, so I'm not sure we will be ready to discuss this yet.) : https://terraphaseengineering.sharefile.com/d-s6d16bf92ce14ca09

I believe we discussed the Q4 2016 UST Monitoring Report in the last PMCAC I attended.

Let me know if you need anything else.

Tomer Schetrit, P.E.
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terraphase engineering

May 4, 2017

Ms. Margarete Beth
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Subject: First Quarter 2017 Underground Storage Tank (UST) Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California

Dear Ms. Beth,

On behalf of the City of Richmond, Terraphase Engineering Inc. (Terraphase) has prepared the attached First Quarter 2017 Underground Storage Tank (UST) Monitoring Report. This report describes the activities and status for the ongoing monitoring and maintenance program for USTs 1 through 20 at the former Naval Fuel Depot Point Molate located in Richmond, California. The inspections were conducted in accordance with the Final Post-Closure UST Maintenance and Monitoring Plan (PMMP) (ITSI 2005).

If you have any question or comments regarding this report, please contact Tomer Schetrit at (510) 645-1850.

Sincerely,
For Terraphase Engineering Inc.

Tomer Schetrit, P.E. (C81411)
Senior Project Engineer

Jennifer Repa
Senior Staff Engineer

cc: Carlos Privat, City of Richmond
Craig Murray, City of Richmond
Jim Whitcomb, BRAC Program Management Office
Jim Hanson, PMCAC
Joan Garrett, PMCAC
Mark Howe, PMCAC
Lori Braunesreither, Contra Costa County Environmental Health Services

Attachments: 1st Quarter 2017 Underground Storage Tank (UST) Monitoring Report

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612
www.terraphase.com

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1st QUARTER 2017 MONITORING REPORT
UNDERGROUND STORAGE TANKS
FORMER NAVAL FUEL DEPOT POINT MOLATE, RICHMOND, CALIFORNIA

Prepared on Behalf of

City of Richmond
450 Civic Center Plaza
Richmond, California

Prepared by

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California

May 4, 2017

Project Number 0078.001.040

terraphase engineering

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Figures

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Acronyms and Abbreviations

bbl	barrel
BAI	Barajas and Associates, Inc.
BRAC	Base Realignment and Closure
CCHSD	Contra Costa Health Services Department
FOSET	Finding of Suitability for Early Transfer
ITSI	Innovative Technical Solutions, Inc.
JP-5	jet propellant grade 5 fuel
MSL	mean sea level
NFD	Naval Fuel Depot
ORS	oil recovery system
PMMP	Post-Closure UST Maintenance and Monitoring Plan
RWQCB	California Regional Water Quality Control Board, San Francisco Bay Region
Terraphase	Terraphase Engineering Inc.
TtEMI	Tetra Tech EM Inc.
UST	underground storage tank
VP	valve pit

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1.0 INTRODUCTION

On behalf of the City of Richmond, Terraphase Engineering Inc. (Terraphase) has prepared this Underground Storage Tank (UST) Quarterly Monitoring Report to summarize the monitoring conducted on a monthly and quarterly basis as part of the ongoing monitoring and maintenance of USTs 1 through 20 at the former Naval Fuel Depot (NFD) Point Molate in Richmond, California. The inspections were conducted in accordance with the final Post-Closure UST Maintenance and Monitoring Plan (PMMP) (ITSI 2005).

2.0 HISTORY OF UST OPERATIONS AT NFD POINT MOLATE

The former NFD Point Molate was a fuel storage facility that had the capacity to store more than 40 million gallons of fuel. Prior to closure, the facility mainly held jet propellant grade 5 fuel (JP-5) and marine diesel fuel. Historically, other fuels were stored at the depot, including bunker fuel and aviation gasoline. Fuel was transferred to and from the facility by offloading and onloading ships and barges at the depot fuel pier, as well as through the Santa Fe Pacific Pipeline transfer station.

The former NFD Point Molate is on the San Pablo peninsula (Figure 1), approximately 1.5 miles north of the Richmond-San Rafael Bridge in the City of Richmond, Contra Costa County, California. Former NFD Point Molate covers approximately 412 acres in the Potrero Hills along the northeastern shore of San Francisco Bay of which 140 acres are submerged within San Francisco Bay. The San Pablo peninsula is the land mass between San Pablo Bay and San Francisco Bay. Former NFD Point Molate contains approximately 1.6 miles of shoreline, and its property extends into the adjacent hillsides to the top of the San Pablo ridge. Topography at the facility ranges from flat, filled areas (reclaimed tidal areas) near the Bay to steep, dissected slopes of nearly 500 feet above mean sea level (MSL) in elevation. The facility is bordered to the north, south, and east by the Chevron Corp. Richmond refinery (Chevron Richmond refinery) and to the west by San Francisco Bay.

Fuel storage and transfer operations at the facility ceased in May 1995. Former NFD Point Molate became a closing base under the Base Realignment and Closure (BRAC) IV program in September 1995, and operational closure of the facility occurred in September 1998. In September 2003, approximately 372 acres of the depot were transferred to the City of Richmond under a Finding of Suitability to Transfer (Navy 2003). The remaining 40 acres of the 412-acre federal facility were transferred to the City on March 29, 2010 on the basis of a Finding of Suitability for Early Transfer (FOSET; Navy 2008).

The Navy closed in place (without filling with concrete or other material) USTs 1 through 20, due to the large size and the good condition of the USTs. Tanks B and C were removed due to their relatively smaller size, central location, and history of bunker fuel releases near Tank B. The *Underground Storage Tank and Hillside Pipeline Closure Conceptual Design* (TtEMI, 1999), was reviewed by the Hazardous Materials Programs office at the Contra Costa Health Services Department (CCHSD), the City of Richmond, and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). CCHSD, the agency overseeing structural closure of the USTs, officially approved the conceptual plan in a letter dated 23 July 1999.

CCHSD approved final closure in place of USTs 1 through 20 in a letter dated 24 February 2005; CCHSD also recognized that associated fuel product pipelines and valves were cleaned and rendered inoperable, and that Tanks B and C were completely removed. To date, USTs 1, 4, 7, 9, 10, 11, 12, 14, 16, 17 and 20 have received environmental closure (NFA) letters from the RWQCB. The remaining USTs (USTs 2, 3, 5, 6, 8, 13, 15, 18, and 19) have not received

environmental closure from the RWQCB. Regardless of the closure status of the USTs with the RWQCB, they require on-going maintenance and monitoring to reduce the chances that they will become a physical hazard. This report describes the monitoring and maintenance for USTs 1 through 20.

USTs 1 through 20 each have a capacity of approximately 50,000 barrels (bbls), which is equivalent to 2.1 million gallons. Figure 2 is a site plan showing the locations of the USTs and appurtenances at the former NFD Point Molate.

Between 1943 and 1975, bunker fuel, marine diesel fuel, and JP-5 were stored at the former NFD Point Molate. Between 1975 and 1995, the northern portion of the facility (USTs 1, 2 and 5 through 13) was used to store and transfer diesel fuel. The southern portion of the facility (USTs 3, 4 and 14 through 19) was used to store and transfer JP-5. UST 20 stored bunker fuel from 1943 to 1975, and stored naval ballast, sediment and wastewater from 1975 to 1995.

USTs 1 through 20 were constructed between 1942 and 1943 by blasting bedrock in the hillside to create "benches" for the USTs. Concrete was poured into wooden forms built on the benches, apparently in direct contact with bedrock. The UST floors, walls, and roof support columns were constructed; the concrete roofs were then installed. Completed USTs were covered with varying amounts of fill (four to eight feet); fill materials were presumably blasted rock and locally-derived excavated fill. Appendix A includes a more detailed description of UST construction, as excerpted from the *Final Report, Structural Integrity Evaluation of Underground Storage Tanks at Naval Fuel Depot, Point Molate, Richmond, California* (AGS, 2000).

Approximate dimensions of USTs 1-20 are as follows:

- Each tank has an interior clear diameter of 135'-4".
- Each tank has an interior clear height of 20'-0".
- Each tank has roof and floor slabs 1'-4" and 1'-6" thick, respectively.
- Tank walls are 1'-6" thick up to 10'-0" in height and 1'-3" thick above that.

Each UST was constructed with a perimeter drain surrounding the tank bottom. Original design drawings indicate that each drain consisted of open joint tiles placed in a gravel bed. Each drain was laid on a slope to fall approximately 12 inches from the upper (uphill side) UST perimeter to the lower (downhill side) perimeter. Water collected by these drains was to the oil recovery system (ORS; TtEMI, 2002). The purpose of the perimeter drains was to prevent infiltrating surface water from accumulating in the backfill outside of the UST walls. Figure 3 is a typical cross section of a UST at former NFD Point Molate.

3.0 SITE INSPECTIONS

The PMMP requires:

- Monthly inspections of the gates, locks, and fences.
- Quarterly inspections of the vegetation for erosion control; surface grade for erosion control; UST systems (ground surface, French drain outfalls, and tank vents); and groundwater monitoring wells.
- Biannual (Two-year) inspections of the UST interiors for standing water.
- Five-year structural inspections, structural inspections after significant loading events, and structural inspections after major seismic events. The next 5 year inspection is scheduled for the 1st quarter of 2017.

The purpose of the site inspections is to conduct the inspection tasks established in the Final PMMP (ITSI 2005), including: security, erosion control, condition of the UST systems, and condition of the groundwater monitoring wells to identify conditions that may warrant maintenance or repair. Appendix A provides an overview of systems observations of the USTs made during the inspections. Recommendations for repairs that could not be completed during the site inspection are provided at the end of page 2 in Appendix A. Individual UST sites are referred to by tank number (e.g., UST 6). Appendix B provides an overview of erosion control/ground surface observations of the USTs made during the inspections. Recommendations for repairs that could not be completed during the site inspection are provided on page 2 in Appendix B.

The location of tanks, monitoring wells, and French drains are shown on Figure 2. Summary table of the inspection field notes are provided in Appendix A.

Observations made during the quarterly inspection can be found in Appendices A, B and C.

3.1 Monthly Inspection of Gates, Locks, and Fences

The gates, locks, and fences along Stenmark Drive that provide security for the UST sites are inspected monthly to make sure they are in good condition, locked, and secure.

If locks are rusted or are missing, or if gates or fences are in disrepair, the City of Richmond must be notified that repairs should be made.

Observations recommendations for the monthly inspections of the gates, locks, and fences performed on January 10, February 10, and March 9, 2017:

- The gates, locks, and fences for gates 7 and 15 through 19 are in good condition, locked, and secure.
- Gate 23 is under constant surveillance as it is located next to the guard house (Building 123).

3.2 Quarterly Inspection of Erosion Control

3.2.1 Vegetation

Vegetation protects the soil surface from wind and water erosion, improves slope stability, and improves visual aesthetics. A site-specific hydroseed mix that includes drought-tolerant native plant seeds has been used for providing a vegetative cover at the UST sites.

Vegetation on UST sites are inspected quarterly for bare spots, signs of stress, color changes, etc. and areas of both healthy and sickly growth are noted on a quarterly basis.

If significant bare spots are found, the bare spots must be reseeded or planted in accordance with the specification for hydroseeding. Irrigation during the establishment period must be provided, as necessary.

Recommended actions:

None.

3.2.2 Surface Grade

Uniformity of the slight grade on top of the USTs mitigates erosion and reduces surface water infiltration.

The soil cover is inspected quarterly for erosion, visible depressions, ponded water, cracks, slope failure, and grade on top of the USTs to see if there was a uniformity of the slight (0.5 percent to 1 percent) grade on a quarterly basis.

Erosion must be mitigated. Visible depressions and cracks must be backfilled. Slope failures must be mitigated by backfilling and placing rip-rap or other erosion-limiting engineered control.

Recommended actions:

The manhole casing on UST 5 is loose. The casing should be inspected and resealed if required.

3.3 Quarterly Inspection of UST Systems

3.3.1 Ground Surface

The structural integrity of the USTs can be compromised by surface loads. Loading by structures, vehicles, and debris is prohibited. Overloading is a serious condition that could lead to catastrophic failure and must be addressed by a licensed structural engineer.

Ground surfaces of the USTs are inspected quarterly for surface loads including structures, signs of vehicle traffic, and dumping of debris on a quarterly basis.

Any objects, debris, or material that represents a load to the USTs must be removed. If a UST has been significantly overloaded, a structural inspection must be conducted.

Recommended actions:

None.

3.3.2 Tank Vents

The aboveground vent at each UST provides equilibrium of the UST atmosphere with the outside atmosphere and allows for humidity to escape the UST interior.

The vents are inspected quarterly for signs of vandalism and to assure that the vent opening was intact on a quarterly basis.

Vents must be repaired as required. Any object in the vent opening must be removed.

Recommended Actions:

The vents on USTs 1, 18 and 19 show minor indications of vandalism and are in need of repair. The remainder of the UST vent openings were intact and unobstructed.

3.3.3 French Drain Outfalls

French drains at each UST are intended to direct surface water infiltration away from the structural joint between the tank ceiling and upper sidewalls. Rip-rap is located at each outfall to reduce erosion. French drain outfalls are inspected quarterly for vandalism or displacement on a quarterly basis.

Blockages of the drain pipe must be removed. Riprap must be replaced in kind. Small vegetation growing into the rip-rap is beneficial and should not be removed.

Recommended Actions:

The northwest Drain at UST 6 and the South drain at UST 15 could not be located. It is suspected that they were previously destroyed or were never constructed by the Navy. The west drain at UST 16 was not located due to overgrowth. Detailed observations of the tanks can be found in Appendix A.

Loose vegetation has accumulated near the French drain outlets at a number of USTs including: 3, 6, 10, 12, 13, 15. Vegetation and sediment should be cleared to allow for proper drainage.

3.4 Quarterly Inspection of Groundwater Monitoring Wells

There are groundwater monitoring wells adjacent to many of the USTs. The well casings are typically completed aboveground and protected with a standpipe. The wells are locked with keyed padlocks.

The surface completions of the monitoring wells are inspected quarterly for general condition on a quarterly basis. The standpipe covers are opened, well casings and well caps are inspected, and grout surrounding each casing is inspected.

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If standing water is present in the well standpipes, it must be removed from the standpipe and the condition allowing water to accumulate should be mitigated. If casing caps are missing, they should be replaced. If grout is cracked, it should be removed and replaced.

Recommended Actions:

None

3.5 Biannual Interior Inspections for Standing Water

Every two years the manhole covers are removed on each UST and the interiors are inspected for standing water and sheen.

The biannual observations for standing water in USTs 1 through 20 were not conducted as part of this monitoring period. The last biannual interior investigation was conducted in the third quarter of 2015 and next is planned for the third quarter of 2017.

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4.0 REFERENCES

AGS, 2000. Structural Integrity Evaluation of Underground Storage Tanks at Naval Fuel Depot, Point Molate, Richmond, California, Final Report. September.

Barajas and Associates, Inc. (BAI). 2007. Basewide Groundwater Monitoring, Site 1 Post Closure Monitoring and Maintenance, and Closed Underground Storage Tank Monitoring and Maintenance, Site Health and Safety Plan, Naval Fuel Depot Point Molate, Richmond, California. June.

CDM. 2009. Final Annual 2007 – 2008 Post-Closure UST Monitoring Report Former Naval Fuel Depot Point Molate Richmond, California. September 30.

Innovative Technical Solutions, Inc. (ITSI). 2005. Final Post-Closure UST Maintenance and Monitoring Plan, Former Naval Fuel Depot Point Molate, Richmond, California. December.

_____. 2005b. Final Post-Construction Summary Report for Closure of the UST, Pipeline, and Valve Box Systems at Naval Fuel Depot Point Molate, Richmond, California. November 17.

(United States) Department of the Navy and City of Richmond. 2003. Finding of Suitability for Transfer, Naval Fuel Depot Point Molate, Richmond, California. May 27.

_____. 2008. Finding of Suitability for Early Transfer, Disposal Areas 3, 5, 10, and 13, Naval Fuel Depot Point Molate, Richmond, California. September 12.

Terraphase. 2011. Underground Storage Tank Monitoring and Maintenance Plan, Former Naval Fuel Depot Point Molate, Richmond, California. March 11 (revised April 4).

Terraphase. 2012. Well Abandonment Work Plan, Former Naval Fuel Depot Point Molate, Richmond, California. August 8.

Tetra Tech EM Inc. (TtEMI), 1999. Underground Storage Tank and Hillside Pipeline Closure Conceptual Design, Naval Fuel Depot Point Molate, Richmond, California. 30 April.

_____. 2002. Final Definitive Design for the UST and Hillside Pipeline Closure, Naval Fuel Depot Point Molate, Richmond, California. 24 January.

APPENDIX A

Summary of UST Area Inspection Notes

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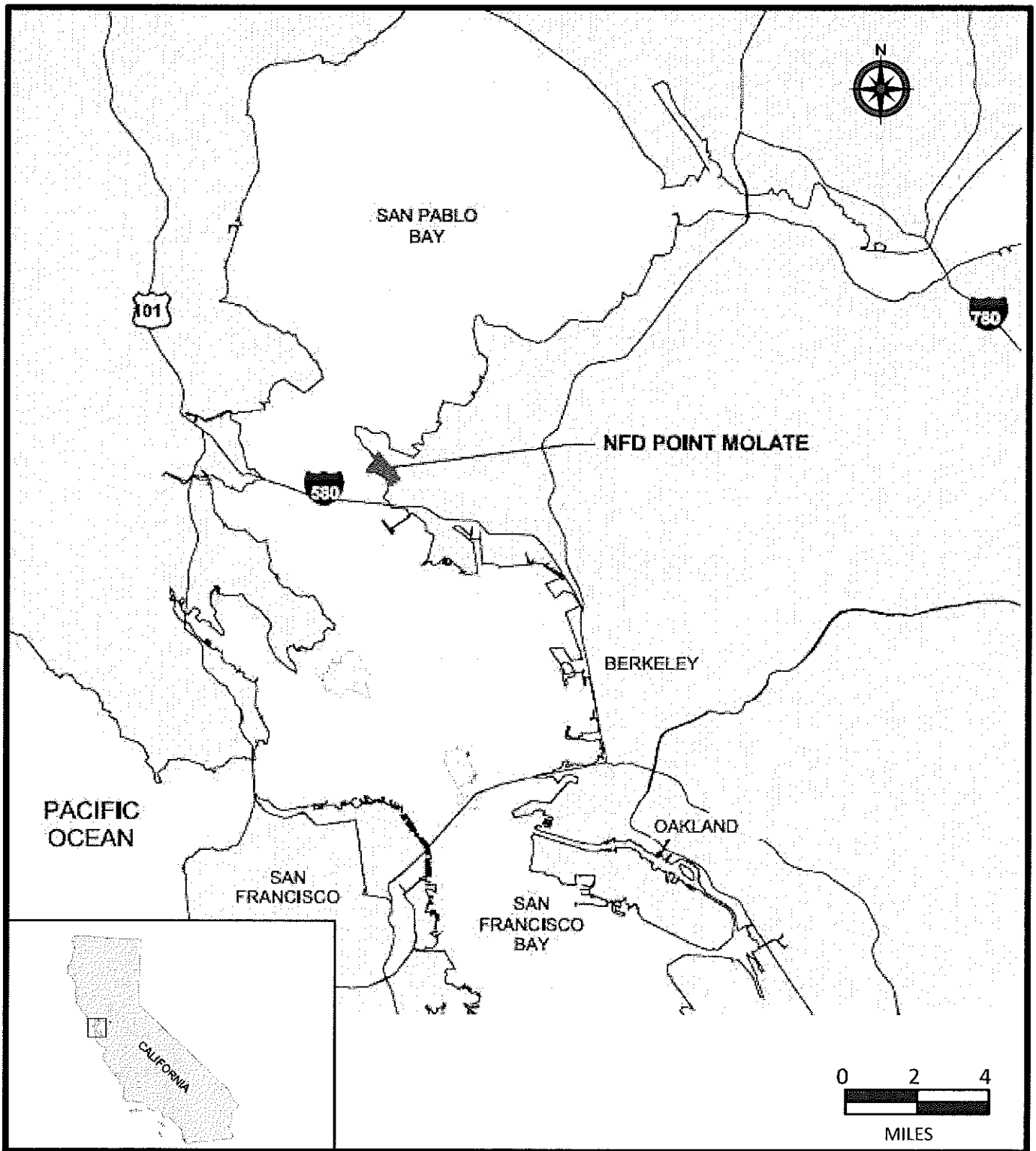

SAFETY FIRST	CLIENT: City of Richmond	**Site Location Map**
terraphase engineering	PROJECT: UST Monitoring Report	
	PROJECT NUMBER: **0078.001.024**	**FIGURE 1**

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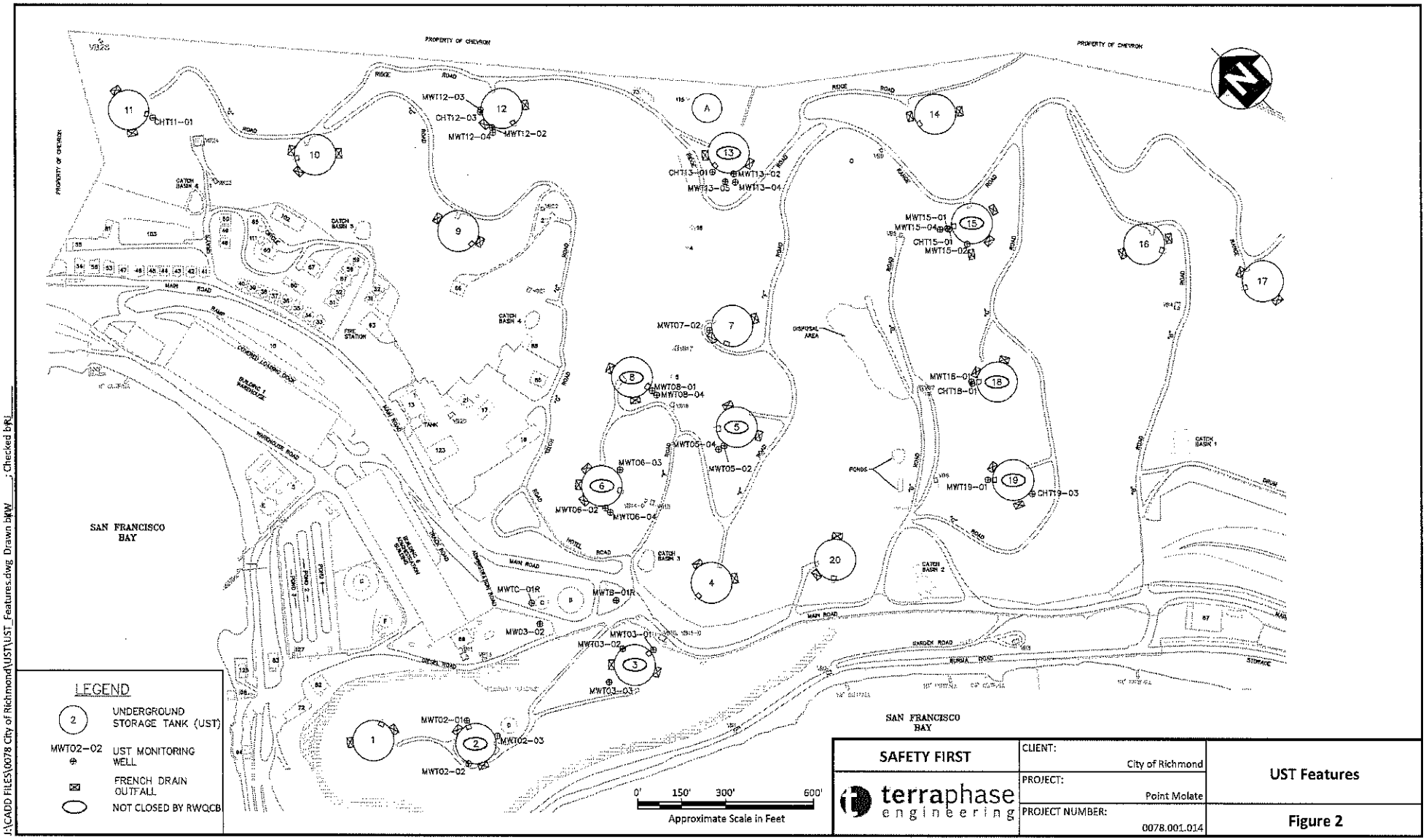

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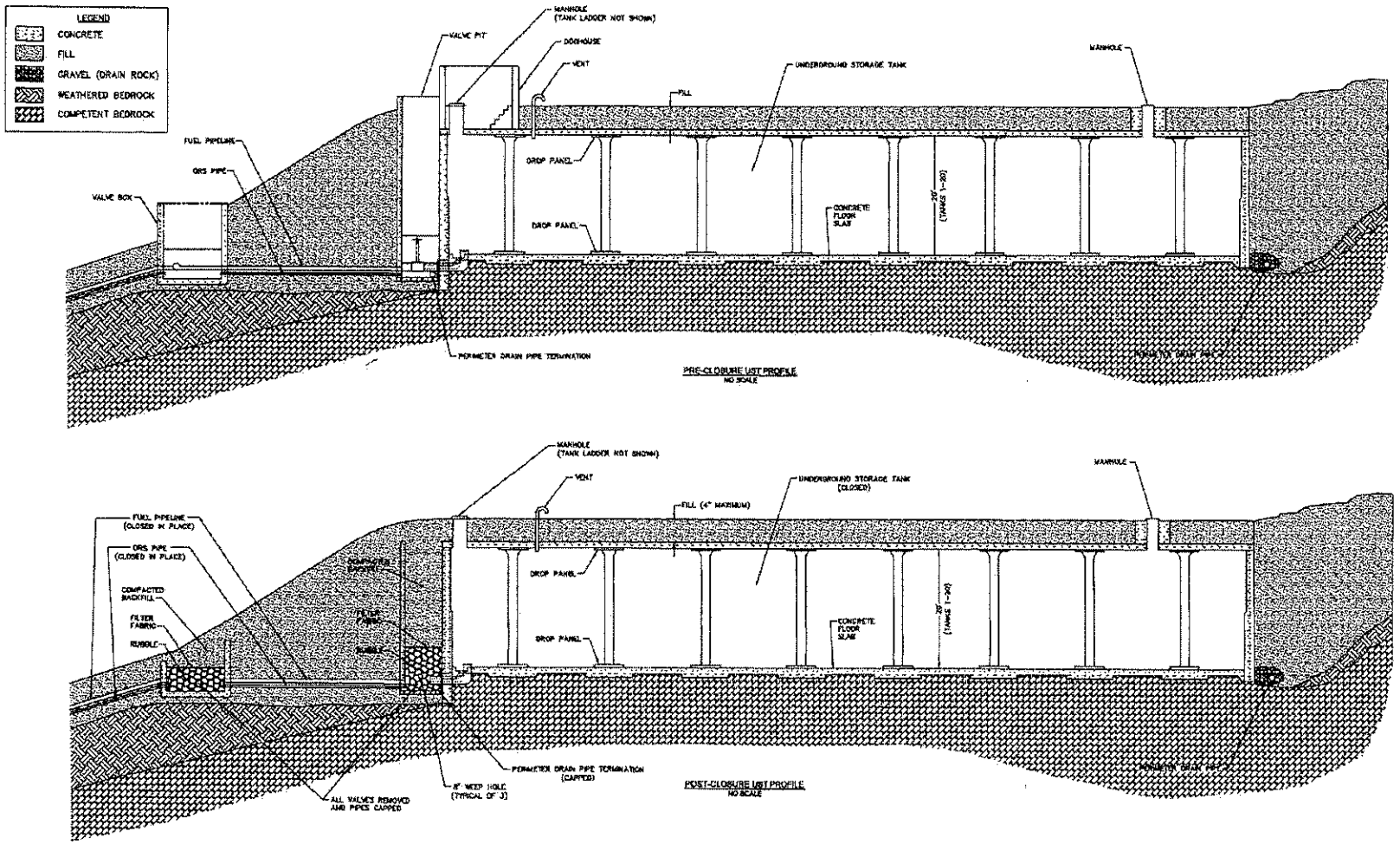

Source: ITSI 2005

SAFETY FIRST	CLIENT: City of Richmond	**UST Cross Section**
terraphase engineering	PROJECT: UST Monitoring Report	
	PROJECT NUMBER: 0078.001.014	**FIGURE 3**

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terraphase engineering

April 17, 2017

Mr. Venkat Puranapanda
ACE USA
10 Exchange Place, 9th Floor
Jersey City, New Jersey 07302

Sent via e-mail

Subject: Transmittal of the Remediation Project Update for the Former Naval Fuel Depot Point Molate Richmond, California (Policy RCC G2488965B 001)

Mr. Puranapanda:

As requested, this transmittal includes the Remediation Project Update report and cost summary worksheet for the remediation work at the former Naval Fuel Depot Point Molate located in Richmond, California. These documents were prepared on behalf of the City of Richmond, the name insured.

If you have any question or comments regarding this transmittal, please contact Tomer Schetrit at (510) 645-1850.

Sincerely,
For Terraphase Engineering Inc.

Tomer Schetrit, PE (C81411)
Senior Project Engineer

cc: Carlos Privat, City of Richmond
Craig Murray, City of Richmond
William Carson, Terraphase Engineering
David Clark, BRAC Program Management Office
James Whitcomb, BRAC Program Management Office

Attachments: Remediation Project Update (through February 26, 2017)
Cost Summary (through February 26, 2017)
February 2017 Monthly Remediation Status Report
Invoices for September 2016 through February 2017

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612
www.terraphase.com

REMEDIATION PROJECT UPDATE

Named Insured	City of Richmond	Insured contact(s)	Kim Greer, Carlos Privat, Craig Murray (City of Richmond)
Insured Location	450 Civic Center Plaza, 2nd Floor , Richmond	Other Insured Contact (Technical)	William Carson
Additional Site Location(s)	None	Other Insured Contact (Legal)	
Policy Number	RCC G2488965B 001	Insured's Lead Consultant/Contractor	Terraphase Engineering, Inc.
Policy Term	March 31, 2010 to March 31, 2020	Regulatory Contact	Margarete Beth (California RWQCB)
Policy Limit	$20,000,000	Broker Contact	Seth Cole (Alliant Insurance Services)
Projected Remediation Cost	$21,484,481	ACE Underwriter	Venkat Puranapanda
Self Insured Retention	$29,500,000	ACE Cost Cap Monitoring Manager	Venkat Puranapanda
Date Submitted	April 17, 2017	Reporting Period	August 29, 2016 through February 26, 2017

Scope of Work Conducted in Reporting Period

List activities conducted in the reporting period in accordance with the scope of work in the Remediation Plan Schedule Endorsement No. ___ to the policy.

Scope of work

1. *Brief description of project activities completed in the reporting period*

   See attached monthly status reports.

2. *List tasks completed since last update*

   See attached monthly status reports.

3. *List tasks which are at 100 % completion*

   IR Site 4 – Drum Lot 1 and 2 – Site Management Plan (Task 1.0)
   Long-Term Groundwater Monitoring – Plans (Task 1.0)
   Long-Term Groundwater Monitoring – Sampling and Analysis (Years 1-4) (Task 3.0)
   IR Site 4 – Drum Lot 1 and 2 - Additional Investigation for TCE Plume at IR Site 4 Drum Lot 2 (Task 3.0)
   IR Site 3 – Feasibility Study and Remedial Action Plan (Task 1.0)
   IR Site 3 – Waste Characterization Plan (Task 2.0)
   IR Site 3 – Remedial Design Implementation Plan (Task 3.0)

Changes in Project Conditions

Please identify the following:

1. *Changes in project assumptions (field conditions, regulatory changes; changes in site use, permit approvals/delays etc.)*

   The treatment area at IR Site 4 was expanded both horizontally and vertically based on groundwater samples collected during the investigation. Even with increase of treatment area, the remediation efforts are currently estimated to remain under budget.

   The revised IR Site 3 FS/RAP addresses comments by the RWQCB regarding development of IR Site 3 as a Waste Management Unit under Title 27 as reported on March 11, 2013 and discussed in the June 2013 meeting with ACE in Emeryville, CA. Costs under IR 3 Task 4 have been adjusted in accordance with projected costs as the work at IR Site 3 progresses. The costs estimated for the recommended alternative for remediation of IR Site 3 remains below the estimated budget in the FS/RAP. The Remediation and Abatement contract for IR Site 3 was awarded on August 8, 2014 and implementation of the remedial plan has been implemented. The remediation action was substantially completed on November 6, 2015.On February 7th 2014 the RWQCB informed the City that silica gel cleanup analysis – a long standing and regulatory required and accepted practice – could no longer be implemented prior to analysis of total petroleum hydrocarbons (TPH). This change in regulatory position was implemented and some of the resulting reported laboratory concentrations exceed site specific ceiling values. This resulted in a RWQCB Notice of Violation (August 26, 2014) for discharge of TPH and TPH decomposition products into waters of the state and could potentially affect monitoring and remediation costs. The City submitted a "Polar Compounds Assessment Work Plan" on January 16, 2015 and met with the RWQCB on February 11, 2015 to present and discuss the draft work plan. The RWQCB provided formal comments to the work plan on May 21, 2015. A revised "Polar Compounds Assessment Work Plan" was submitted to the RWQCB on February 9, 2016. Per the revised Work Plan, the polar compounds assessment will consist of (1) a detailed literature study of polar compounds and their properties and (2) a site-specific field study to evaluate the potential presence and impact of polar compounds at the site including aquatic toxicity testing.

   Comments by the RWQCB on the IR Site 4 Human Health Risk Assessment Workplan received on May 31, 2016 noted that for this cleanup project, and for all future cleanup projects at the Former Naval Fuel Depot Point Molate (Point Molate), the FPALs shall be replaced by the most current San Francisco Bay Regional Water Board Environmental Screening Levels (ESLs) for risk screening purposes. Comments were followed by a letter on September 8, 2016 indicating that ESLs must be used in assessing potential risks to human and ecological receptors exposed to petroleum-contaminated and other contaminants of potential concern in soil, groundwater, and surface water at Point Molate. The letter also indicated that petroleum-derived polar compounds exhibit toxicity comparable to the parent hydrocarbons, and should be included in the extractable TPH analysis and not removed using silica gel. The letter also stated that ESLs, or site-specific screening criteria and/or cleanup goals approved by RWQCB staff for Point Molate, shall apply to the following scenarios:

   - Sites that are re-opened due to the discovery of previously unknown contamination that poses a threat to human health, safety, or the environment.
   - Sites closed prior to this letter will not be re-opened for re-evaluation solely because of newly updated ESLs.
   - Sites closed with restrictions prior to this letter, but where additional work is required to remove or modify existing restrictions.
   - Sites for which a closure request package, including Human Health and Ecological Risk Assessment documents, has been submitted prior to the date of this letter, but not yet approved by Regional Water Board staff. Since soil remediation activities at IR Site 3 used the FPALs for cleanup criteria, the closure request package for IR Site 3 may use the FPALs. The closure request package for IR Site 4 must use the most recent ESLs as

the latest interim measure remediation activity and the recent draft Human Health Risk Assessment Work Plan used the ESLs and not the FPALs.

- Studies and reports (e.g. Feasibility Studies) developed with screening criteria and/or cleanup criteria for pending or future remedial activities.
- Wet Season and Dry Season Annual Groundwater Monitoring Reports shall also include a discussion and comparison (e.g. text, tables, and figures) of the groundwater monitoring analysis results with the most recent ESLs.

2. *Any increase/decrease in contamination.*

   No increase or decrease in contamination were identified during this reporting period.

3. *Off-site migration of contaminant plume; impacts to sensitive receptors?*

   None at this time. Although this conclusion could be altered as the polar compounds issue matures through newer information and changes in regulatory policy as noted above.

Project Schedule

1. *Describe events/activities that may impact the project schedule including revised completion dates that may exceed the original estimates schedule, if any.*

   The remediation is based on the RWQCB Order R2-2011-0087 (see attached monthly status report for a breakdown of tasks and required completion dates). IR Site 3 remedial activities commenced in August 2014 and were substantially completed on November 6, 2015.

Out of Scope Activities (if any)

*Please identify any out of scope activities including those **conducted** due to the following:*

1. *Changes in Regulatory conditions*
   a. Revisions of IR Site 3 remediation approach based on changes in the RWQCB regulatory approach to IR Site 3 to treat IR Site 3 as a Title 27 Waste Management Unit.
   b. RWQCB letter informing that silica gel cleanup will no longer be allowed to be used prior to analysis for total petroleum hydrocarbons.
   c. Notice of Violation (August 26, 2014) from RWQCB regarding discharge of TPH decomposition byproducts into waters of the state. The City submitted the "Polar Compounds Assessment Work Plan" to the RWQCB on January 16, 2015, proposing alternative quantification methodology, additional characterization and/or risk evaluation for areas outside of IR Site 3 where USEPA Method 8015 without Silica Gel Cleanup quantifies TPH and TPH decomposition products as exceeding the Fuel Product Action Levels within 150 feet of the San Pablo Bay. The City met with the RWQCB on February 11, 2015 to present and discuss the draft work plan. The RWQCB provided formal comments to the work plan on May 21, 2015. A revised "Polar Compounds Assessment Work Plan" was submitted to the RWQCB on February 9, 2016. Per the revised Work Plan, the polar compounds assessment will consist of (1) a detailed literature study of polar compounds and their properties and (2) a site-specific field study to evaluate the potential presence and impact of polar compounds at the site including aquatic toxicity testing. Phases 1 and 2 of the site-specific field study were completed in November 2016. Phase 3 will be completed in May 2017 and possibly repeated in November 2017.

2. *Discovery of additional contamination*

FA-26

The quantity of Non-RCRA hazardous waste located in IR Site 3 was 41% greater than initial planning estimates. Class II excavation, transport and disposal amounts were approximately 31% greater than planning estimates. Import fill required exceeded initial estimates by approximately 38%. The total cost for implementation of the IR Site 3 Remediation Plan is approximately $13, 144,825.

3. *Discovery of new contaminants*

   None

4. *Changes in site conditions*

   Please refer to response in the "Changes in Project Conditions" section regarding changes in regulatory conditions.

5. *Changes in Project schedule*

   The remediation is based on the RWQCB Order R2-2011-0087 (see attached monthly status (August 2016) report for a breakdown of tasks and required completion dates).

6. *Other unanticipated changes*

   None

Project Cost/Controls for Out of Scope Activities

1. *Describe plans to address out of scope activities, actions undertaken to control project costs and to meet the project schedule.*

   As required by the RQWCB, any out of scope activities will be completed as quickly as possible to allow for the remediation of IR Site 3. As described above, the City prepared a work plan that proposes alternative quantification methodology, additional characterization and/or risk evaluation for areas outside of IR Site 3 where USEPA Method 8015 without Silica Gel Cleanup quantifies TPH and TPH decomposition products as exceeding the Fuel Product Action Levels within 150 feet of the San Pablo Bay. A revised "Polar Compounds Assessment Work Plan" was submitted to the RWQCB on February 9, 2016. Comments were received from the RWQCB on May 13, 2016. It is anticipated that the initial field investigation associated with the Work Plan will begin during the 2016 Dry Season Groundwater Monitoring event. Per the Work Plan, the polar compounds assessment will consist of (1) a detailed literature study of polar compounds and their properties and (2) a site-specific field study to evaluate the potential presence and impact of polar compounds at the site including aquatic toxicity testing. Phases 1 and 2 of the site-specific field study were completed in November 2016. Phase 3 will be completed in May 2017 and possibly repeated in November 2017.

Project Deliverables - Milestone Completion

Please identify project deliverables and scheduled date of completion.

Please see the attached monthly remediation status report (February 2017).

Project Budget Report

USE ATTACHED EXCEL SPREADSHEET TEMPLATE (COST REPORT)

Please discuss the following:

1. *Changes if any to the anticipated costs incurred in comparison to the projected budgets*

7A.27

The projected cost to complete remediation has been revised to$21,484,481, which is higher than the previous project update ($21,306,527) due to the inclusion of the projected costs of completion of the Human Health Risk Assessment (HHRA) for IR Site 4 based on comments received from the RWQCB in May and September 2016, requiring presentation of additional information for the site and comparison of historical data to current environmental screening levels. Additionally, the projected costs completion of the final phases of the Polar Compounds Assessment Workplan have been adjusted based on the November 2017 field effort. Contingency associated with Task 4.0 for IR Site 3 has been eliminated as the task has been substantially completed.

2. *Backup provided for costs incurred.*

   Invoices September 2016 through February 2017

3. *Costs/tasks associated with items not included in the insured scope of work (Out of Scope items).*

   None

Potential for Excess Remediation Costs

1. *Please provide a brief description of any issues that have arisen since the last update that may lead to any "Remediation Costs" or "Excess Remediation Costs" as defined in the policy.*

   Execution of the Polar Compounds Assessment Work Plan could add approximately $250,000 (up by $60,000 from the last update) in additional costs associated with Task 1 under Long Term Groundwater Monitoring. The increase is due to an additional round of serial dilution ecological testing that will be required to account for seasonality based upon results of phase 1 and phase 2.

   Additional data gap investigation costs are anticipated to be required as part of the HHRA for IR Site 4, based upon dialogue with the RWQCB. The cost impacts on IR Site 4 are still being evaluated. However, it estimated that a data gap investigation and completion of the HHRA will add approximately $150,000 (up by $50,000 from the last update) in additional costs based upon review of the historical data and initial comments provided by the RWQCB on the draft HHRA Work Plan.

2. *Please provide a brief description/summary of issues that have arisen to date that may lead to any "Remediation Costs" or "Excess Remediation Costs" as defined in the policy.*

   Sand filters installed at the IR Site 1 Landfill treatment system (approximately $30,000). Included in Task 1.0 of IR Site 1 – Closed Landfill.

   Additional remediation on IR Site 4 Drum Lot 2. Included in Task 4.0 of IR Site 4 – Drum Lot 1 and 2.

   Permitting and construction of compensatory mitigation wetlands on site (approximately $500,000). Included in Task 4.0 of IR Site 3- Former Oily Sump Area.

   Evaluation of soil vapor and Title 27 requirements at IR Site 3 (approximately $100,000). Included in Task 2.0 of IR Site 3-Former Oily Sump Area.

   Extended operation of the PGWTP for two additional years (approximately $550,000). Included in Task 5.0 of IR Site 3- Former Oily Sump Area.

   Additional investigation costs could be associated with the revised Polar Compounds Assessment Work Plan submitted to the RWQCB on February 9, 2016. Per the revised Work Plan, the polar compounds assessment will consist of (1) a detailed literature study of polar compounds and their

properties and (2) a site-specific field study to evaluate the potential presence and impact of polar compounds at the site including aquatic toxicity testing.

Additional analytical costs associated with confirmation sampling included in Task 5.0 (approximately $34,000)

Winterization of IR Site 3 until April 2015 included in Task 5.0 (approximately $50,000)

Continued operation of the PGWTP through July 2015 included in Task 5.0 (approximate increase of $217,000)

The quantity of Non-RCRA hazardous waste located in IR Site 3 was 41% greater than initial planning estimates. Class II excavation, transport and disposal amounts were approximately 31% greater than planning estimates. Import fill required exceeded initial estimates by approximately 38%. This represents an approximate additional cost of $1,188,166 to Task 4.0 IR Site 3 – Former Oil Sump Area compared to initial estimates. All excavation and fill activities have been substantially completed within IR Site 3.

Backup Documentation

The Insurer requires backup documentation that can substantiate all "Remediation Costs" and "Excess Remediation Costs" for which coverage may be afforded under the policy, including, but not limited to, the following:

1. *Copies of all invoices associated with implementation of remediation activities at the site. The invoices should include a listing of personnel, equipment and expenses along with unit rates, quantities and description of activities performed at the site.*

   Invoices and backups provided for the invoice period August 29, 2016 through February 26, 2017.

2. *Copies of all subcontractor expenses associated with implementation of remediation activities at the site.*

   Subcontractor expenses and invoices are included on the invoices and backups.

3. *Copies of daily field notes describing the activities conducted at the site.*

   Field notes are incorporated into the reports (provided to ACE Group when they are submitted to the RWQCB), invoices (services), and monthly status reports (see attached).

4. *Copies of subcontractor time sheets and equipment records.*

   Subcontractor expenses and invoices are included on the invoices and backups.

5. *Copies of disposal manifests and bills of lading associated with the offsite disposal of remediation generated wastes at the site.*

   None

Signature of Named Insured

CRAIG K. MURRAY

Print Name

7A.29

DEVELOPMENT PROJECT MANAGER II

Title

4/10/17

Date

BY SIGNING THIS REMEDIATION PROJECT UPDATE ("UPDATE") THE NAMED INSURED WARRANTS TO THE INSURER THAT ALL STATEMENTS MADE IN THIS UPDATE INCLUDING ATTACHMENT(S), ARE TRUE AND COMPLETE AND THAT NO MATERIAL FACTS HAVE BEEN MISSTATED OR CONCEALED IN THIS UPDATE.

ANY PERSON WHO KNOWINGLY AND WITH INTENT TO DEFRAUD ANY INSURANCE COMPANY OR ANOTHER PERSON FILES AN APPLICATION FOR INSURANCE OR STATEMENT OF CLAIM CONTAINING ANY MATERIALLY FALSE INFORMATION OR CONCEALS INFORMATION FOR THE PURPOSE OF MISLEADING OR MISREPRESENTATION COMMITS A FRAUDELENT INSURANCE ACT AND IS POTENTIALLY SUBJECT TO CRIMINAL AND CIVIL PENALTIES

FOR USE BY ACE PERSONNEL ONLY			
Claim Number		ACE Claims Manager	Christopher Stella christopher.stella@acegroup.com
Date Received		ACE Cost Cap Monitoring Manager	Venkat Puranapanda venkat.puranapanda@acegroup.com
Date Reviewed			
Reviewed By		Distribution	

7A.30

Named Insured	City of Richmond	Insured Contact	Carlos Privat, Craig Murray, Kim Greer (City of Richmond)
Insured Location	450 Civic Center Plaza, 2nd Floor , Richmond	Consultant	Terraphase Engineering Inc.
Policy Number	RCC G24889658 001	Contractor	Terraphase Engineering Inc.
Policy Term	March 31, 2010 to March 31, 2020	Submitted By:	Tomer Schetrit
Policy Limit	$20,000,000	Date Submitted	4/10/2017
Self Insured Retention	$29,500,000	Reporting Period	August 29, 2016 to Februaryt 26, 2017

				Total This Period		Total to Date		Under/Over Budget	Projected Cost to Complete	Total	
Task Number	Description	Performance Measure (units)	Proposed Budget ($)	Costs incurred ($)	Work completed (%)	Costs incurred ($)	Work completed (%)	Costs ($)	Costs ($)	(Costs to date) + (cost to completion)	Comment
	IR Site 1 - Closed Landfill	N/A	$ 684,051	$ 42,364	6.8%	$ 448,015	58%	$ 236,036	$ 173,670	$ 621,685	
1.0	Annual Operations and Monitoring	N/A	$ 471,863	$ 38,688	0.8%	$ 438,768	58%	$ 33,095	$ 164,199	$ 602,967	until 2020
2.0	Annual Maintenance	N/A	$ 144,625	N/A	N/A	N/A	N/A	N/A	N/A	N/A	included in individual work orders
3.0	Close Out	N/A	$ -	$ -	0%	$ -	0%	$ -	$ -	$ -	
4.0	Annual Project Management	N/A	$ 67,563	$ 3,676.12	19.6%	$ 9,247	49%	$ 58,316	$ 9,470.81	$ 18,718	
5.0	Regulatory Oversight	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
	IR Site 3 - Former Oil Sump Area	N/A	$ 20,449,113	$ 247,617	1.5%	$ 16,427,854	97%	$ 4,021,259	$ 508,604	$ 16,936,458	
1.0	Feasibility Study and Remedial Action Plan	N/A	$ 282,275	$ -	0%	$ 133,392	100%	$ 148,883	$ -	$ 133,392	
2.0	Waste Characterization Study	N/A	$ 195,990	$ -		$ 325,584	100%	$ (129,594)	$ -	$ 325,584	
3.0	Remedial Design Implementation Plan	N/A	$ 287,215	$ -		$ 445,069	100%	$ (157,854)	$ -	$ 445,069	
4.0	Implementation of Remedial Plan	N/A	$ 18,245,411	$ 232,913	1.7%	$ 13,221,180	99%	$ 5,024,231	$ 125,168	$ 13,346,348	Markup of subcontractors not covered
5.0	Annual OM&M on PGWTP	N/A	$ 951,350	$ -		$ 2,026,189	100%	$ (1,074,839)	$ -	$ 2,026,189	PGWTP mothballed July 2015
6.0	Long-Term Monitoring	N/A	$ 345,553	$ -	0%	$ -	0%	$ 345,553	$ 345,553	$ 345,553	20 years
7.0	Project Management	N/A	$ 141,321	$ 14,704	4.7%	$ 276,440	88%	$ (135,119)	$ 37,883	$ 314,323	
8.0	Regulatory Oversight	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
	IR Site 4 - Drum Lot 1 and 2	N/A	$ 2,123,901	$ 14,955	0.7%	$ 923,889	43%	$ 1,200,012	$ 1,226,795	$ 2,150,684	
1.0	Site Management Plan	N/A	$ 159,485	$ -	0%	$ 64,944	100%	$ 94,541	$ -	$ 64,944	
2.0	Contingency Excavation - Drum Lot 1	N/A	$ 1,061,591	$ -	0%	$ -	0%	$ 1,061,591	$ 1,061,591	$ 1,061,591	
3.0	Additional Investigation for TCE Plume Drum Lot 2	N/A	$ 105,309	$ -	0%	$ 262,436	100%	$ (157,127)	$ -	$ 262,436	
4.0	Localized Remediation for TCE Plume Drum Lot 2	N/A	$ 542,420	$ 11,279	2.0%	$ 552,149	100%	$ (9,729)	$ 2,293	$ 554,443	
5.0	Monitoring of Remediation at TCE Drum Lot 2	N/A	$ 124,202	$ -	0%	$ -	0%	$ 124,202	$ 3,440	$ 3,440	
6.0	Updated Risk Assessment and Reporting for Drum Lot 2	N/A	$ 93,169	$ -		$ 15,648	17%	$ 77,521	$ 150,000	$ 165,648	
7.0	Project Management	N/A	$ 37,724	$ 3,676	N/A	$ 28,712	N/A	$ 9,012	$ 9,471	$ 38,183	
8.0	Regulatory Oversight	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
	Underground Storage Tanks	N/A	$ 237,481	$ 5,600	0%	$ 3,210	2%	$ 234,271	$ 188,860	$ 192,070	
1.0	Annual Operations and Monitoring - Large USTs	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
2.0	5 Year Monitoring - Large USTs	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
3.0	Annual Maintenance - Large USTs	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
4.0	Large UST Environmental Closure Documentation	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
5.0	Remediation of Groundwater around Large USTs	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
6.0	Smaller USTs Removal and Remediation	N/A	$ 169,918	$ -	0%	$ -	0%	$ 169,918	$ 169,918	$ 169,918	
7.0	Annual Project Management	N/A	$ 67,563	$ 5,600	0%	$ 3,210	0%	$ 64,353	$ 18,942	$ 22,152	
8.0	Regulatory Oversight	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
	Long-Term Groundwater Monitoring	N/A	$ 1,430,715	$ 157,332	9.9%	$ 1,094,038	69%	$ 336,677	$ 489,545	$ 1,583,583	
1.0	Plans	N/A	$ 34,596	$ 80,871	42.2%	$ 191,464	55%	$ (156,868)	$ 154,929	$ 346,393	includes polar work plan
2.0	New Wells	N/A	$ 82,367	$ 3,718	95.0%	$ 24,798	95%	$ 57,569	$ -	$ 24,798	
3.0	Annual Sampling and Analysis (Year 1-4)	N/A	$ 532,445	N/A	NA	$ 326,719	100%	$ 205,726	$ -	$ 326,719	complete
4.0	Annual Sampling and Analysis (Year 5-8)	N/A	$ 523,456	$ 65,390	15.9%	$ 303,386	74%	$ 220,070	$ 108,334	$ 411,720	1 years left
5.0	Annual Sampling and Analysis (Year 9-10)	N/A	$ 211,658	N/A	N/A	$ -	0%	$ 211,658	$ 207,340	$ 154,000	2 years
6.0	Monitoring Well Destruction	N/A	$ -	$ -	N/A	$ 228,331	100%	$ (228,331)	$ -	$ 228,331	
7.0	Annual Project Management	N/A	$ 46,194	$ 7,352	0%	$ 19,341	51%	$ 26,853	$ 18,942	$ 38,283	
8.0	Regulatory Oversight	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
	Program Management	N/A	$ -	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Covered
	TOTAL		$ 24,925,260	$ 467,868	2.2%	$ 18,897,007	88%	$ 6,028,254	$ 2,587,473	$ 21,484,481	
	Amended Land Use Controls	N/A	$ -	$ -	N/A	$ -	N/A	N/A	$ 25,000	$ 25,000	
	Remediation Status Reports	N/A	$ -	$ -	N/A	$ -	N/A	N/A	N/A	N/A	included in above tasks
	Discoveries During Facility Redevelopment	N/A	$ -	$ -	N/A	$ -	N/A	N/A	N/A	N/A	unknown
	Construction Stormwater General Permit	N/A	$ -	$ -	N/A	$ -	N/A	N/A	N/A	N/A	included in IR Site 3 Task 4.0

Please discuss the following:
1. Changes if any to the anticipated costs incurred in comparison to the projected budgets
2. Backup provided for costs incurred.
3. Costs/tasks associated with items not included in the insured scope of work.

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Claim Number		Reviewed By:	
Date Reviewed		Distribution	

74.31

terraphase engineering

March 9, 2017

Ms. Margarete Beth
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

sent via: email

Subject: Monthly Remediation Status Report for Work in February 2017, Former Naval Fuel Depot Point Molate, Richmond, California

Dear Ms. Beth:

This monthly remediation status report summarizes the remediation activities conducted by Terraphase Engineering Inc. (Terraphase) on behalf of the City of Richmond at the former Naval Fuel Depot Point Molate (the Site). This remediation status report is intended to meet the requirements of Task 9 in the Regional Water Quality Control Board (RWQCB) Order R2-2011-0087 (RWQCB 2011d). The requirements of Task 9 are as follows:

> *The Discharger shall submit a report to the Regional Water Board, 30 days prior to the start of any onsite remediation activities, and then on a monthly basis beginning 30 days after the start of the remediation activities, outlining the onsite remediation activities accomplished during the past month and those planned for the following month. The first monthly report at the beginning of each quarter shall include monitoring and test results and any conclusions or proposed changes to the remediation process based on those results. If any changes to the remediation are proposed during any monthly report, applicable supporting monitoring or test data will be submitted at that time. The status report shall also verify that the Prohibitions in Section A, stipulated above, have been adhered to. Should any of those prohibitions be trespassed, the report shall propose a recommendation acceptable to the Executive Officer to correct the trespass.*

This remediation status report provides a monthly update on the progress of environmental investigations, remediation, maintenance, and monitoring at the Site. This report is organized around each task listed in the RWQCB Order R2-2011-0087 (RWQCB 2011d). Additional tasks related to the Installation Restoration (IR) Site 3 Packaged Groundwater Treatment Plant (PGWTP) and site-wide groundwater monitoring are included below. For major work tasks completed in 2015, please see the monthly status report for December 2015 (Terraphase 2015aa). A reference list of reports and submittals is included as an attachment to this letter.

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612
www.terraphase.com

Task 1: Soil Cleanup Goals (Compliance Date: February 13, 2012)

Work completed in February 2017:

1. None.

Major Work Items Previously Completed in 2016:

1. None.

Upcoming work in March 2017:

1. None.

Task 2: Soil and Groundwater Management Plan (Compliance Date: March 15, 2012)

Complete - *Final Soil and Groundwater Management Plan submitted to the RWQCB September 21, 2012 (Terraphase 2012jj).*

Task 3a: IR Site 3 Feasibility Study and Remedial Action Plan (Compliance Date: May 4, 2012 Revised: February 28, 2014)

Complete - *Final Feasibility Study and Remedial Action Plan submitted to the RWQCB June 4, 2014 (Terraphase 2014o).*

Task 3b: IR Site 3 Remedial Action Completion Report (Compliance Date: February 3, 2014 Revised: June 30, 2015)

Remedial Action commenced August 2014 and was substantially completed in November 2015.

Work completed in February 2017:

1. Submittal of Remedial Action Completion Report (Terraphase 2017d).

Major Work Items Previously Completed in 2017:

1. None.

Upcoming work in March 2017:

1. None.

Task 4a: IR Site 4 Interim Remedial Action Work Plan (Compliance Date: April 3, 2012)

Complete - *IR Site 4 Interim Remedial Action Work Plan submitted to the RWQCB (Terraphase 2011r, 2012gg, 2012ii, and 2012mm).*

Task 4b: IR Site 4 Interim Remedial Action Completion Report (Compliance Date: November 2, 2012)

Complete - *Interim Remedial Measures Performance Evaluation, IR Site 4, Drum Lot2/Building 87 Area, Formal Naval Fuel Depot, Point Molate, Richmond, California. October 22 (Terraphase 2015u)*

Task 4c: IR Site 4 Human Health Risk Assessment (Compliance Date: November 4, 2013)

Work completed in February 2017:

1. Preparation of response to RWQCB comments on HHRA work plan.

Major Work Items Previously Completed in 2017:

1. None.

Upcoming work in March 2017:

1. Preparation of response to RWQCB comments on HHRA work plan.

Task 4d: IR Site 4 Feasibility Study and Remedial Action Plan (Compliance Date: February 3, 2014)

Not Applicable. This task may not be necessary dependent upon the outcome of Task 4c. A revised completion date will be requested from the RWQCB.

Task 4e: IR Site 4 Remedial Action Completion Report (Compliance Date: February 3, 2015)

Not Applicable. This task may not be necessary dependent upon the outcome of Task 4c. A revised completion date will be requested from the RWQCB.

Task 5: UST Management Plan (Compliance Date: March 4, 2013)

Work completed in February 2017:

1. Review of RWQCB comments on tank closure request for UST 2.

Major Work Items Previously Completed in 2017:

1. None.

Upcoming work in March 2017:

1. Review of RWQCB comments on tank closure request for UST 2.

Task 6: UST Removal Plan (Compliance Date: 90 days prior to UST demolition)

Not Applicable – Triggered when demolition of a UST is contemplated. No UST demolition is scheduled at this time.

Task 7: UST Status Report (Compliance Date: June 3, 2012)

Work completed in February 2017:

1. Conducted the routine monthly UST closure monitoring inspections.
2. Submittal of Q4/Annual UST Report (Terraphase 2017e).

Major Work Items Previously Completed in 2017:

1. None.

Upcoming work in March 2017:

1. Conduct the Q1 UST closure monitoring inspections.

Task 8: Amended Land Use Controls (Compliance Date: When environmental closure is requested)

Not Applicable. No closures have been requested.

Task 9: Remediation Status Reports (Compliance Date: Monthly)

7A.35

Work completed in February 2017:

1. Submitted the monthly remediation status report for January 2016 (Terraphase 2017d) to the RWQCB.

Major Work Items Previously Completed in 2017:

1. Submitted the monthly remediation status report for December 2016 (Terraphase 2017b) to the RWQCB.

Upcoming work in March 2017:

1. Submit the monthly remediation status report for February 2017 to the RWQCB.

Task 10: Discoveries During Facility Redevelopment (Compliance Date: 60 days from initial discovery)

None

Task 11: IR Site 1 ROD (Compliance Date: None)

Work completed in February 2017:

1. Routine monthly landfill inspection of signs, gates, locks, etc.
2. Submittal of 2016 IR Site 1 annual report (Terraphase 2017f).
3. Conduct routine sampling IR 1 treatment system.

Major Work Items Previously Completed in 2017:

1. Submittal of IR Site 1 5 year review report (Terraphase 2017a).

Upcoming work in March 2017:

1. Routine monthly landfill inspection of signs, gates, locks, etc.
3. Conduct routine sampling IR 1 treatment system.
4. Quarterly inspection of IR Site 1 with CCEHD
5. Response to RWQCB comments on 5 year review report.

Task 12: Construction Stormwater General Permit (Compliance Date: Prior to field work)

A Notice of Intent was filed with the Water Board (Application # 449157) September 3, 2014. A WDID was issued for the project (2 07C370778). A notice of termination (NOT) was filed with waterboard on February 6, 2017 and approved February 9, 2017.

IR Site 3: PGWTP

Terraphase, under the direction of the City of Richmond, operated, maintained, and monitored the PGWTP under the existing General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit) (RWQCB 2012a). The PGWTP ceased all operations on July 31, 2015. Notice of Termination for the VOC and Fuel General Permit to the RWQCB and receipt of Notice of Rescission from the RWQCB was received October 9, 2015.

Site-wide Groundwater Monitoring

The purpose of the site-wide groundwater monitoring is to provide groundwater quality data that can be evaluated against established screening criteria for the Site. This program will help protect human health and the environment and prevent releases to the San Francisco Bay. Integrating data collected under this program with previous data is intended to support compliance and closure in accordance with regulatory requirements. Groundwater monitoring is being conducted on a semi-annual basis (wet-season and dry-season) per the Site-Wide Groundwater Monitoring Plan (Terraphase 2011n) that was approved by the RWQCB on August 30, 2011 (RWQCB 2011b). Data collected is summarized and submitted as semi-annual monitoring reports to the RWQCB.

Work completed in February 2017:

1. Monthly monitoring and skimming of free product in wells MTWB-01R, MWT05-02, MWT08-01, MWT06-02, MW10-23, MWT15-02, MW02-06R. Bi-weekly skimming of MW10-24.

Major work items completed previously in 2017:

1. Submittal of the Dry Season 2016 semi-annual monitoring report (Terraphase 2017c).

Upcoming work in March 2017:

1. Monthly monitoring and skimming of free product in wells MTWB-01R, MWT05-02, MWT08-01, MWT06-02, MW10-23, MWT15-02, MW02-06R. Bi-weekly skimming of MW10-24.
2. Meeting with the RWQCB to discuss results of Phases 1&2 of the workplan for alternative quantification methodology, additional characterization and/or risk evaluation for areas outside of IR Site 3 where USEPA Method 8015 without Silica Gel Cleanup quantifies TPH and TPH decomposition products as exceeding the Fuel Product Action Levels within 150 feet of the San Pablo Bay (Terraphase 2015a).

Prohibitions Verification

As required in Task 9 of the RWQCB Order, the following prohibitions (Section A of the RWQCB Order) were adhered to during the remedial activities in February 2017, to the knowledge of Terraphase.

1. The discharge of wastes and/or non-hazardous or hazardous substances in a manner which will degrade, or threaten to degrade, water quality or adversely affect, or threaten to adversely affect, the beneficial uses of the waters of the State is prohibited.
2. Further migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup that will cause adverse migration of wastes or hazardous substances are prohibited.
4. The tidal marsh habitat and wetland habitats onsite shall be completely avoided unless encroachment on these areas is required to implement Facility remediation work and resultant impacts to the affected habitat are mitigated through a plan approved by the Executive Officer. A setback of 50 feet shall be established around the tidal marsh and any wetland area as a means of preventing any unintended impacts to it from the remediation.
5. The Site's offshore eel-grass habitat shall be completely avoided during any remedial work to the maximum extent practicable.

7A.37

Summary

The above detailed summaries by task provide a look at the ongoing remediation activities at the former Naval Fuel Depot Point Molate. The RWQCB accepted the Final FS/RAP for IR Site 3 on June 4, 2014. Construction at IR Site 3 was substantially completed in November 2015.

If you have questions regarding this report, please call Tomer Schetrit at (510) 645-1850.

Sincerely,
For Terraphase Engineering Inc.

Tomer Schetrit, PE (C81411)
Senior Project Engineer

cc: Craig Murray, City of Richmond
Carlos Privat, City of Richmond
Bruce Goodmiller, City of Richmond
LaShonda White, City of Richmond
James Whitcomb, BRAC Program Management Office
Venkat Puranapanda, ACE Group
Jim Hanson, PMCAC
Mark Howe, PMCAC
Joan Garrett, PMCAC

Attachments: Point Molate Bibliography

April 18, 2017
Geotracker ID# T0609592138

Sent via electronic mail

Terraphase Engineering
Attn. Mr. Peter Zawislanski
1404 Franklin Street, Suite 600
Oakland, CA 94612
Peter.Zawislanski@terraphase.com

Subject: Comments, Dry-Season Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, Contra Costa County

Dear Mr. Zawislanski:

Regional Water Board staff has reviewed the Dry-Season Annual Groundwater Monitoring Report (Report), dated January 30, 2017.

Regional Water Board staff offers the following comments, which should be addressed in a revised Report (in redline strikeout).

1. Environmental Screening Levels: The groundwater analysis in the Report must also be compared to the Environmental Screening Levels (ESLs). On September 8, 2016, Regional Water Board staff issued a letter (attached) to the City of Richmond requiring the City to use ESLs instead of Fuel Product Action Levels (FPALs) in assessing potential risks to human and ecological receptors exposed to petroleum-contaminated and other contaminants of potential concern in soil, groundwater, and surface water at the Former Naval Fuel Deport Point Molate (Point Molate). The City must use the ESLs for comparison with analytical data both for "Total Petroleum Hydrocarbons" (with silica gel cleanup) and for "Total Petroleum Hydocarbons Plus Polar Compounds (without silica gel cleanup) in the following scenarios:

    a. Sites that are re-opened due to the discovery of previously unknown contamination that poses a threat to human health, safety, or the environment. Sites closed prior to this letter will not be re-opened for re-evaluation solely because of newly updated ESLs.

    b. Sites closed with restrictions prior to this letter, but where additional work is required to remove or modify existing restrictions.

    c. Sites for which a closure request package, including Human Health and Ecological Risk Assessment documents, has been submitted prior to the date of this letter, but not yet approved by Regional Water Board staff. Since soil remediation activities at IR Site 3 used the FPALs for cleanup criteria, the closure request package for IR Site 3 may use the FPALs. The closure request package for IR Site 4 must use the most recent ESLs as the latest interim measure

remediation activity and the recent draft Human Health Risk Assessment Work Plan used the ESLs and not the FPALs.

d. Studies and reports (e.g. Feasibility Studies) developed with screening criteria and/or cleanup criteria for pending or future remedial activities.

e. Wet Season and Dry Season Annual Groundwater Monitoring Reports shall also include a discussion and comparison (e.g. text, tables, and figures) of the groundwater monitoring analysis results with the most recent ESLs.

Regarding VOCs analytical data, please refer to our May 31, 2016 comment letter (attached) regarding the HHRA work plan for IR Site 4, which identifies which ESL tables to use for each media.

2. Section 7.2 (Conclusion): Please correct the Report to indicate "Dry-Season" versus "Wet-Season" where appropriate.

3. Section 7.3.1 (Proposed Groundwater Monitoring Program Reductions). The City is requesting to remove 14 monitoring wells from the groundwater monitoring program. Regional Water Board staff has indicated concurrence or comments for each well as follows:

   a. Well MW04-04: Based on the analytical data collected between April 2008 and October 2016, which shows that the TPH concentrations are now below the ESL of 640 ug/kg, and that USTs 9 and 12 located up-gradient of well MW04-04 have been closed, this well may be removed from the groundwater monitoring program.

   b. Wells MW10-04 and MW10-05: These wells serve as sentry wells for groundwater monitoring up-gradient including USTs 13, 8, 6, and 3 that have not been closed yet. Although the groundwater monitoring data shows a trend of reducing TPH concentrations for most wells and possibly an increase in concentration for well MWT08-01, the concentrations are still well above the ESL of 640 ug/kg especially for the wells associated with the USTs that are still open. Unless further technical justification is submitted demonstrating that wells MW10-04 and MW10-05 are not necessary sentry wells, these wells should remain in the groundwater monitoring program.

   c. Wells MW10-08 and MW10-09: These wells serve as sentry wells for groundwater monitoring up-gradient including USTs 15, 18, and 19 that have not been closed yet. Although the groundwater monitoring data for most of the wells shows a trend of reducing TPH concentrations, the concentrations are still well above the ESL of 640 ug/kg especially for the wells associated with the USTs that are still open. Unless further technical justification is submitted demonstrating that wells MW10-08 and MW10-09 and they are not necessary sentry wells, these wells should remain in the groundwater monitoring program.

   d. Well MW10-11 and MW10-12: These wells are sentry wells located down-gradient of IR Site 4. The City of Richmond is revising the Human Health Risk assessment Work Plan, Installation Restoration Site 4 based on comments we provided on May 31, 2016. We asked that the Conceptual Site Model in the HHRA include a detailed description of the vertical and lateral extent of contamination in soil, soil gas, and groundwater as well as the contaminant

sources and nature of release. The revised HHRA has not been submitted to us for review. Therefore, we are unable to determine if these wells are necessary to conduct further site investigation. Unless further technical justification is submitted demonstrating that wells MW10-11 and MW10-12 are not necessary sentry wells, these wells should remain in the groundwater monitoring program.

e. Well MW10-21: This well serves as a sentry well for monitoring 4 USTs (USTs 4, 5, 7, and 13) of which two (USTs 5 and 13) have not been closed yet. Although the groundwater monitoring data shows a trend of reducing TPH concentrations for well MWT13-02 (well MWT05-02 has not been sampled since July 2011), the concentrations are still well above the ESL of 640 ug/kg. Unless further technical justification is submitted demonstrating that well MW10-21 is not a necessary sentry well, this well should remain in the groundwater monitoring program.

f. Well MW11-02: change "MW10-04" to "MW11-02" in text. Based on the analytical data collected between July 2011 and October 2016, which shows that the TPH concentrations are now below the ESL of 640 ug/kg, and that USTs 9, 10, 11, and 12 located up-gradient of well MW11-02 have been closed, this well may be removed from the groundwater monitoring program.

g. Well MW11-04: Based on the analytical data collected between July 2011 and October 2016, which shows that the TPH concentrations are now below the ESL of 640 ug/kg, and that USTs 9, 10, 11, and 12 located up-gradient of well MW11-04 have been closed, this well may be removed from the groundwater monitoring program.

h. Well MW11-05: Based on the analytical data collected between April 2008 and October 2016, which shows that the TPH concentrations are now below the ESL of 640 ug/kg, and that USTs 9, 10, 11 and 12 located up-gradient of well MW11-05 have been closed, this well may be removed from the groundwater monitoring program.

i. Wells MW29-02 and Well MW29-03: These wells are located within IR Site 4. The City of Richmond is revising the Human Health Risk assessment Work Plan, Installation Restoration Site 4 based on comments we provided on May 31, 2016. We asked that the Conceptual Site Model in the HHRA include a detailed description of the vertical and lateral extent of contamination in soil, soil gas, and groundwater as well as the contaminant sources and nature of release. The revised HHRA has not been submitted to us for review. Therefore, we are unable to determine if these wells are necessary to conduct further site investigation. Unless further technical justification is submitted demonstrating that wells MW29-02 and MW29-03 are not necessary to conduct further investigation, these wells should remain in the groundwater monitoring program until closure of the site.

j. Well PZ11-74: Based on the analytical data collected between April 2008 and October 2016, which shows that the TPH concentrations are now below the ESL of 640 ug/kg, and that UST 1 located up-gradient of well PZ11-74 has been closed, this well may be removed from the groundwater monitoring program.

4. Tables:

a. Table 1 (Comparison of Reporting Limits and Fuel Product Action Levels). This table should also include a comparison with the ESLs.

b. Well MWT05-02 (UST #5) and well MWT03-02 (UST #3) are not being sampled. I understand Regional Water Board staff previously requested additional data for this well in response to the submitted closure request. Please explain why these wells are not being sampled as part of the groundwater monitoring program.

If you have any questions, please contact me at (510) 622-2338 or by email at margarete.beth@waterboards.ca.gov.

Sincerely,

Margarete Beth

Digitally signed by Margarete Beth
Date: 2017.04.18 10:36:56 -07'00'

Margarete "Maggie" Beth
Environmental Scientist
Groundwater Protection Division

Attach.: Point Molate ESLs Requirements 8Sept2016
Point Molate HHRA IR Site-RWQCB comments 31May2016

Cc: Mr. Carlos Privat, City of Richmond, carlos_privat@ci.richmond.ca.us
Mr. Craig Murray, City of Richmond, Craig_Murray@ci.richmond.ca.us
Mr. William Carson, Terraphase Engineering, william.carson@terraphase.com
Mr. Tomer Schetrit, Terraphase Engineering, tomer.schetrit@terraphase.com

April 24, 2017
Geotracker ID# T0609592138
(DOD100372200)

Sent via electronic mail

Terraphase Engineering
Attn. Mr. Tomer Schetrit, Senior Project Engineer
1404 Franklin Street, Suite 600
Oakland, CA 94612
Tomer.Schetrit@terraphase.com

Subject: Comments, Investigation Restoration Site 3, Remedial Action Completion Report, Former Naval Fuel Depot Point Molate, Richmond, Contra Costa County

Dear Mr. Schetrit:

Regional Water Board staff has reviewed the Investigation Restoration Site 3, Remedial Action Completion Report (Completion Report), dated February 6, 2017.

Regional Water Board staff offers the following comments, which should be addressed in a revised Completion Report (in redline strikeout).

1. Section 2.1 (Agency Permitting) and Section 6.0 (Remedial Action Plan Implementation Summary): These sections should also briefly explain that a Clean Water Act section 401 Water Quality Certification was issued for the Project.
2. Section 3.6.3 (Samples Left In Place That Exceed Remedial Goals): Soil contaminated with TPH that exceeds the clean-up goals has been left in place at three locations (adjacent to Building No. 6, adjacent to Tank 1 hill, and adjacent to the shoreline). Regional Water Board staff is concerned with potential exposure to human health and the environment at these locations. The Completion Report must clearly explain why there is no potential risk associated with the remaining TPH, and/or explain how it will be managed in the future, and specifically for the soil adjacent to the shoreline, present the original rationale for leaving the soil in place having to do with construction feasibility and practicability. In addition, the following issues should be corrected in the revised Completion Report.
    a. Documentation issued by Regional Water Board staff approving backfill in the areas where soil contaminant concentrations exceed the cleanup goals but the soil was left in place. Section 8.5 (Backfill) of the FSRAP, which states "Excavation areas will not be backfilled until confirmation sampling results meet remedial goals or written communication from the RWQCB indicate that backfilling is approved in an area that has not met the remedial goals."
    b. The Completion Report should clearly describe the analysis conducted to determine the presence of mobile free product (TPH concentration exceeding 40,000 mg/kg in soil) at the three locations as well as any other locations at IR Site 3.

3. Section 4.1.2 (Target Contaminant Air Monitoring): Include a brief summary of the air monitoring results.
4. Section 7.1 (Stormwater Monitoring). This section is written in the future tense indicating actions that will occur and not actions that actually occurred. Please correct to describe actual stormwater monitoring activities.
5. Section 8.0 (Conclusion and Recommendations)
    a. Define RACR.
    b. As mentioned above, since contaminated soil exceeding the cleanup goal has been left in place, the Completion Report should clearly explain/describe how these areas comply or do not comply with Remedial Action Objectives (RAOs) #1 - #4 and how the risk will be managed in perpetuity. Specifically, the Completion Report should describe and/or propose a plan to maintain, monitor, and implement corrective action in the event that petroleum has impacted or has the potential to impact human health and the environment for the areas where soil was left in place that exceeded the cleanup goals.
    c. The Completion Report should not reference Title 27 requirements since Waste Discharge Requirements were not issued to close and maintain the site as a waste management unit. Updated Site Cleanup Requirements (Order No. R2-2011-0087) were issued by the Regional Water Board requiring investigation, cleanup, and maintenance and monitoring of IR Site 3. The Order does not identify IR Site 3 as a waste management unit for which Title 27 requirements would apply.
    d. This section includes recommendations (listed below in *italics*) for IR Site 3. Regional Water Board staff has indicated approval or comments for each recommendation as follows:
        i. *Groundwater well installation as noted in section 8.12 of the RWQCB approved FSRAP and included in this report as Figure 9*: Describe the rationale for the proposed groundwater monitoring well locations. Groundwater monitoring should be located in areas that will gather data that is most representative of the site including the shoreline.
        ii. *Soil sampling near B05-13 and B05-14 to evaluate the extent of contamination in the top 5 feet of site soil that exceed clean-up goals as shown on Figure 2. Based on this data, Terraphase will recommend the necessity for soil removal in this location or management in place of residual contamination?* Regional Water Board staff concurs with this recommendation. However, the Completion Report should explain why this recommendation does not apply to the other locations where contaminated soil exceeds the cleanup goals and the soil was left in place?
        iii. *Continuation of SWPPP monitoring until site stabilization is achieved:* Regional Water Board staff concurs with this recommendation.
        iv. *Develop a land use criteria that meets the above criteria and removal of existing land use control.* Regional Water Board staff agrees that a new

LUC should be developed for IR Site 3 to restrict the areas with contaminated soil that exceed the FPALs and restrict groundwater use.

v. *Incorporate IR Site 3 into Addendum to the existing RWQCB-approved SGMP (TEI 2012, RWQCB 2012).* Regional Water Board staff concurs with this recommendation.

6. Appendices: The appendices do not include all the documents specified in Section 8.11 (Documentation of Removal Activities) of the FSRAP. The following documents should be included in the Completion Report.
   a. Field variance memoranda
   b. Field screening results
   c. Landfill scale house receiving tickets.
   d. Compaction control testing results

If you have any questions, please contact me at (510) 622-2338 or by email at margarete.beth@waterboards.ca.gov.

Sincerely,

Margarete Beth

Digitally signed by Margarete Beth
Date: 2017.04.24 09:46:34 -07'00'

Margarete "Maggie" Beth
Environmental Scientist
Groundwater Protection Division

Cc: Mr. Carlos Privat, City of Richmond, carlos_privat@ci.richmond.ca.us
Mr. Craig Murray, City of Richmond, Craig_Murray@ci.richmond.ca.us
Mr. William Carson, Terraphase Engineering, william.carson@terraphase.com

7A.45

MEMO

FR: Bobby Winston/Bay Crossings

TO: Craig Murray/City Liaison
Point Molate Community Advisory Committee

FR: Two proposed short-term tenants/possibility of electrical improvements

2 May 2017

Just this week (after I had already submitted my monthly report) short-term leasing opportunities presented themselves. I want to brief the Committee on these opportunities and seek the OK to proceed. I have advised City staff and they are prepared to make this addition administratively within the terms of our current agreement.

The first concerns our longtime/excellent tenant L3 Productions. These are the folks that create the furniture in Apple stores and exhibits for the Exploratorium. They have temporary (8-10 months) need for additional space; we're full-up in Bay 3 so I propose to allocate the needed space in Bay 2 (immediately adjacent to Bay 3).

The second involves the possible return of a winery to Winehaven! Not to store wine, to be sure, as that requires special licensure by the Alcoholic and Beverages Control Board. But Bock Wine & Spirits, of Ukiah and Pier 26 in San Francisco, is interested in Winehaven as a possible place to keep dry goods/overflow storage, much the way L3 does.

The third opportunity is also short-term but presents an exciting opportunity for badly needed electrical repairs. Intren, a major electrical services provider under long-term contract to PG&E, seeks approximately 2-3 acres of temporary (9-10 months) laydown storage space in connection with a project they are doing for PG&E in the Richmond area.

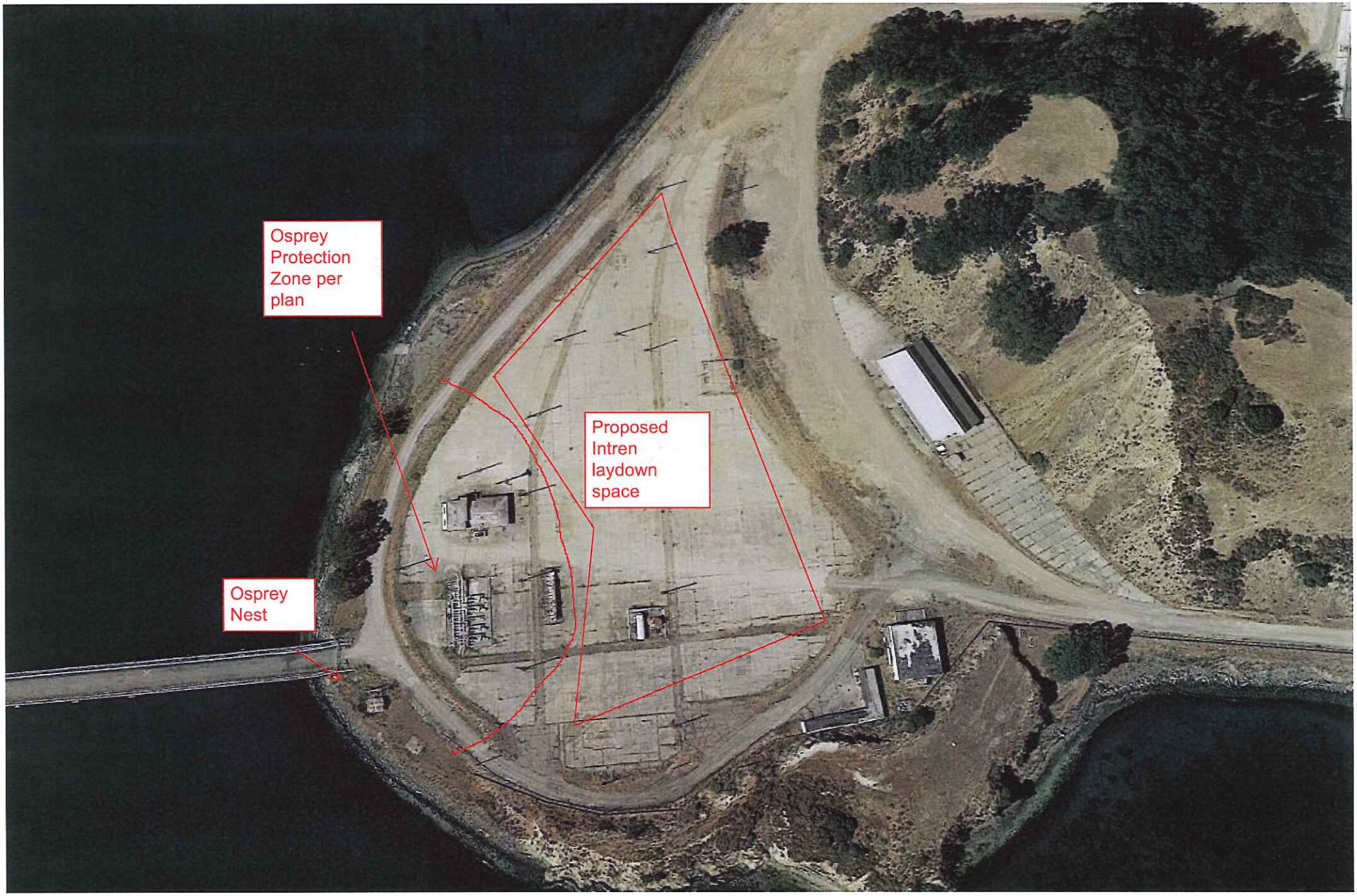
The proposed use involves storing trucks, trailers, clean equipment and supplies only; no hazardous materials of any kind. An appropriate area for such use (one, in fact, that was used for just such purposes by the contractor performing the remedial work recently completed) is Drumlot 1 (the area between Bldgs 132 and 89).

A very important concern that must and will be respected is the need to stay away from the Osprey nests; Intren will comply/follow the guidelines set as set out in the "Osprey Avoidance Plan" (Jan 15, 2015; see attached).

Intren's budget is capped at $10k/month; the market rate for the space they seek is closer to $17-20k/month. However, the company's expertise happens to be exactly what is called for to deal with the power situation at Pt Molate, and they are willing to perform services in trade to make up the difference.

Darren Perina of Intren makes clear he is not promising to restore power outright, although from a quick survey he did while with me, he says that may well be possible. At minimum, he is certain that all issues/requirements required to do so could be comprehensively calarified. Indeed, Darren points out that were we to contract with PG&E for such work...PG&E would have Intren do the work.

A final qualification; Intren's expertise is in the area of lines, transformers and the like; in the event power is restored it would be to the pole only; any work required to activate power within discrete buildings would require a separate electrical service to perform such work.


Osprey Protection Zone per plan
Proposed Intren laydown space
Osprey Nest

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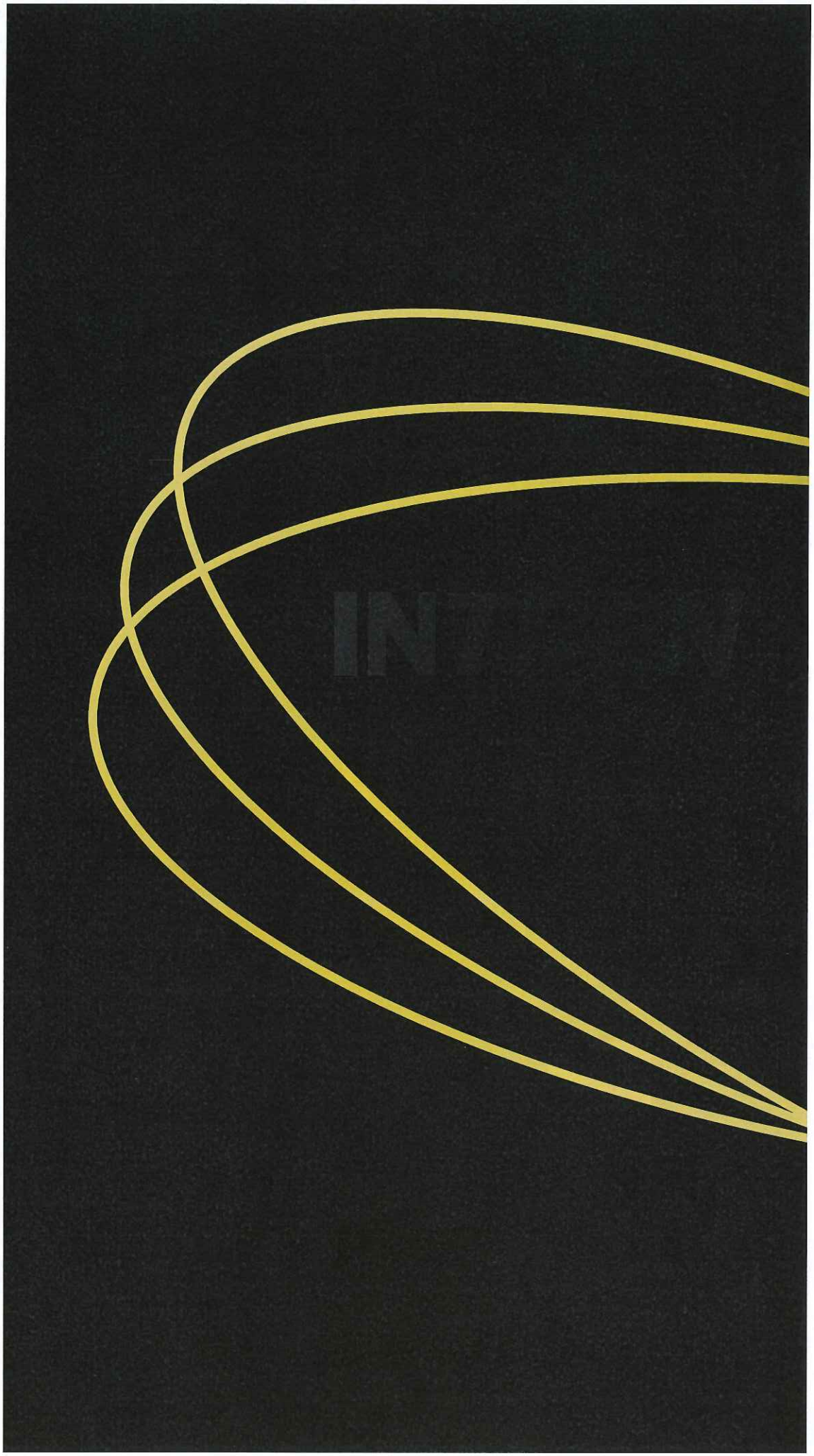

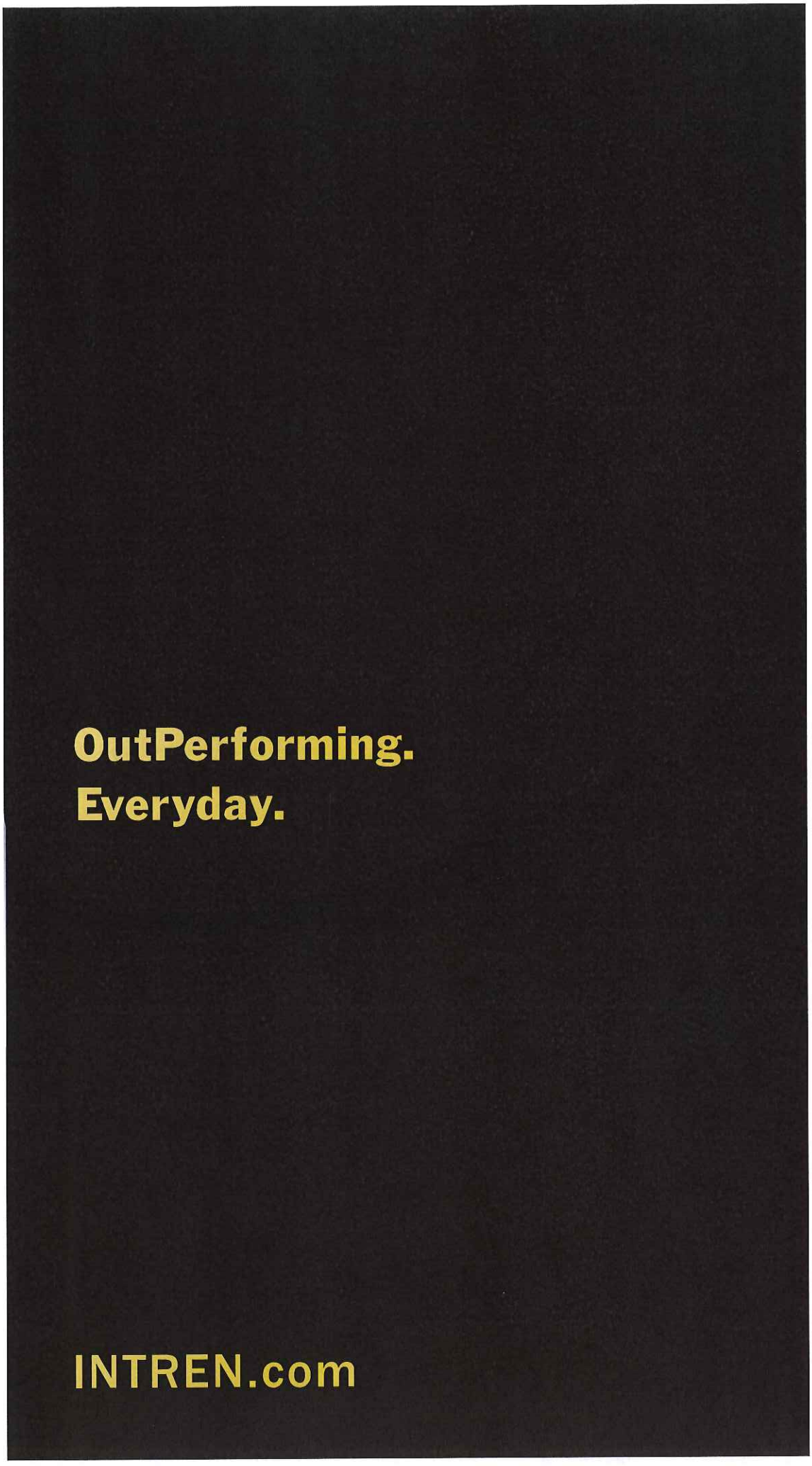

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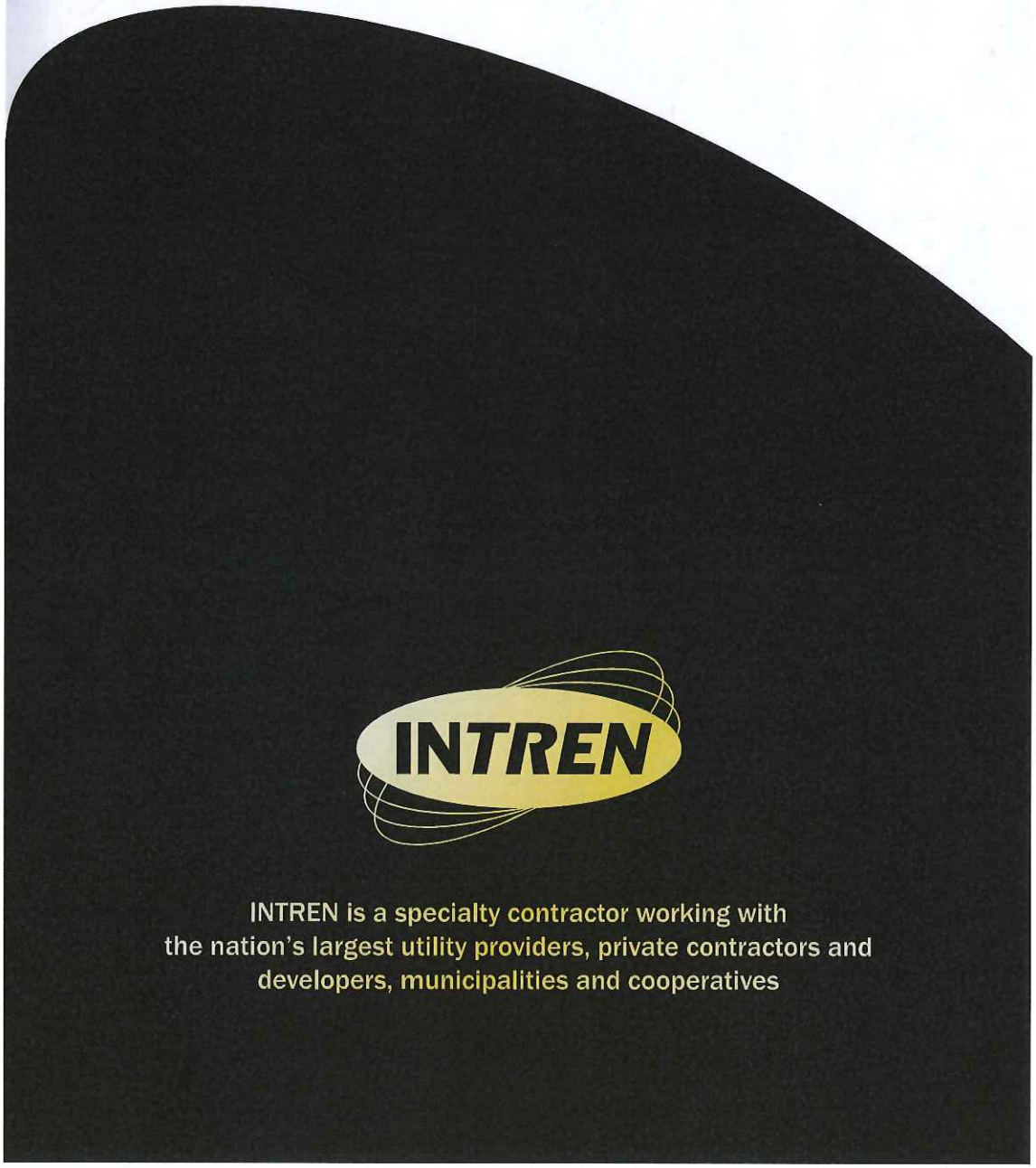
INTREN
INTREN is a specialty contractor working with
the nation's largest utility providers, private contractors and
developers, municipalities and cooperatives

Fc.6

ELECTRIC UTILITY CONTRACTOR

Reaching Higher.

As a nationally recognized utility contractor, we **reach higher** and go farther to earn the trust of the nation's largest utilities, municipalities and cooperatives. We have built a solid reputation not only because of our service, but also by partnering with our clients to achieve mutual success. Our diverse team is considered to be among the safest, most dedicated professionals in the industry and truly understands the importance a reliable electric distribution system plays in our communities.

As a Women's Business Enterprise (WBE) specialty contractor, INTREN works on projects of all sizes. From large scale design and build ventures, to small maintenance projects, INTREN provides turnkey solutions to suit your project needs. Our state-of-the-art approach to electrical distribution service using mobile technology and analytical data allow us to deploy crews more effectively. Doing so permits us to **reach higher** in order to meet and exceed your needs.

INTREN.com

INTREN Electrical Services Include:

- Overhead distribution and transmission
- Underground residential distribution
- Conventional/heavy underground
  - Civil/duct systems
  - Manhole repair & replacement
- Electric underground
  - Network systems
  - Cable pulling/splicing
- Substation
- Fault repair
- Storm and emergency response
- AMI/Smart Grid
- Contract management
- Specialty services

Safety Is Our Top Priority

Maintaining a safe work environment is vital for our employees' well-being and continued productivity. At INTREN, safety is a component of our daily business that is kept top-of-mind throughout the day.

At the start and middle of each and every day, as well as when conditions change, job briefs and hazard analyses are performed. We continually work to improve our commitment to industry safety standards by:

- Maintaining a mindset that all of our work can and will be completed in a safe manner
- Requiring that employees, as industry professionals, identify hazards and place adequate barriers to ensure safe completion of each task
- Establishing strategic initiatives that continually drive our performance

815.923.2300 |

Fc.7

ELECTRIC UTILITY CONTRACTOR

INTREN belongs to the Electrical Transmission & Distribution (ET&D) Partnership, in conjunction with Occupational Safety and Health Administration (OSHA), who enforce the strictest safety standards and best practices in the electrical utility industry.

Our in-house courses, paired with union and other valuable industry training programs, ensure our employees' skill sets remain on the cutting edge. Our core practices include:

- Self-assessment
- Key performance indicators
- Proactive prevention
- Leadership training
- Signatory in numerous construction labor unions
- Electrical awareness
- Confined space
- Pole top rescue
- Manhole rescue
- Safety training
- OSHA training
- LOTO training

Proud Partners With

- Electrical Transmission & Distribution Partnership (ET&D)
- Association of General Contractors (AGC)
- International Brotherhood of Electrical Workers (IBEW)
- Western Energy Institute (WEI)
- Underground Contractors Association (UCA)
- Midwest Energy Association (MEA)
- Electric Utility Consultants, Inc. (EUCI)
- National Electrical Contractors Association (NECA)

INTREN

OutPerforming. Everyday.

To discuss how INTREN can reach higher to service your electrical distribution needs, contact us at 815.923.2300 or visit INTREN.com.

7c.8

GAS UTILITY CONTRACTOR

Digging Deeper.

INTREN's natural gas services dig deeper to provide the correct solution for your natural gas needs. As a steward of the construction industry and local communities, INTREN understands the vital role natural gas distribution plays in business and personal lives. INTREN is a nationwide provider of complex underground projects for major natural gas utilities, municipalities and cooperatives, including infrastructure installations, repairs and maintenance for an increasingly competitive natural gas marketplace.

We specialize in pioneering new natural gas solutions for urban and rural construction projects. Continuing to dig deeper through projects of all sizes, our experienced personnel are trained to find the most effective natural gas solutions for you. We do so by providing our clients and projects with detailed scheduling through GPS routing. The use of 21st century technology has allowed INTREN to supersede project expectations and provide on-time, cost-effective solutions for our clients.

INTREN.com

INTREN Natural Gas Services Include:

- Main extension and replacement
- Service installation and replacement
- Conversion projects
- Station work
- Storage fields
- Disconnects/reconnects/relights
- Metering installation and replacement
- Automated meter reading and installation
- Vault installation and replacement
- Inspection services
- Pipeline integrity – excavation and repair
- Core boring and hydro excavating
- GPS facility data collection capabilities
- Cathodic protection
  - Anodes
  - Rectifiers
- Directional drilling
  - Pre- and post-sewer main televising
  - Gas service bore televising

Safety Is Our Top Priority

INTREN believes that training, education and safety are of the utmost priority. We enforce the most stringent industry standards for safety and quality. This culture is led by our CEO, deployed via our management team, and continuously monitored by workforce teams. This strict, proactive policy of safety awareness has been driven by the very nature of our business.

Main objectives of our safety policy are:

- Maintaining a mindset that all of our work can and will be completed in a safe manner
- Requiring that employees, as industry professionals, identify hazards and place adequate barriers to ensure safe completion of each task
- Establishing strategic initiatives that continually drive our performance

815.923.2300 |

GAS UTILITY CONTRACTOR

INTREN's Operator Qualification certified and conscientious employees ensure our clients, community and work sites are safe and productive as possible. In-house courses paired with union and other valuable industry training programs ensure our employees' skill sets remain on the cutting edge. Our core practices include:

- Operator Qualification
- Safety training
- Self-assessment
- Key performance indicators
- Proactive prevention
- Leadership training
- Confined space
- Manhole rescue
- OSHA training

Proud Partners With

- Midwest Energy Association (MEA)
- Distribution Contractors Association (DCA)
- American Gas Association (AGA)
- Underground Contractors Association (UCA)
- Common Ground Alliance (CGA)
- Northeast Gas Association (NGA)

INTREN

OutPerforming. Everyday.

No matter the size of your project, INTREN will be there to meet your utility needs. We continuously dig deeper to enhance our ability to serve our clients. To discuss your gas needs, contact us at **815.923.2300** or visit **INTREN.com.**

COMMERCIAL & INDUSTRIAL

Building Bigger.

INTREN specializes in serving general and electrical contractors, developers, property owners and managers nationwide. We truly understand the realities of demanding schedules, tight budget constraints, zoning challenges and haunting safety concerns.

Through our turnkey solutions for new project construction, and upgrading and maintaining existing projects, INTREN has the ability to successfully transition from project to project and need to need, as client projects require. This flexible capability model delivers on time projects, enhanced quality and improved project costs, and is strengthened by a strict culture of safety and strong project management capabilities.

INTREN.com

INTREN Commercial & Industrial Services include:

- Dry utility conduits
- Duct bank
- Site electrical
- Manhole construction
- Electrical trenching and evacuation
- Wire installation and splicing
- Private metered electrical distribution
- Directional boring
- Cable installations and terminations
- Private metered electrical distribution
- Vacuum excavation
- Site lighting
- Sports lighting

Safety Is Our Top Priority

INTREN is known for our strong culture of safety. It is a mandatory component to maintaining a project's smooth operation. We expect every person in our company to participate in regular training and accept this concern and its responsibilities. This enables our teams to efficiently work within contractor's and developer's safety standards and build bigger projects, together following essential levels of compliance.

Prior to starting each day, as well as when conditions change, job briefs and hazard analyses are performed.

We continually work to improve our commitment to industry safety standards by:

- Maintaining a mindset that all of our work can and will be completed in a safe manner
- Requiring that employees, as industry professionals, identify hazards and place adequate barriers to ensure safe completion of each task
- Establishing strategic initiatives that continually drive our performance

815.923.2300 |

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COMMERCIAL & INDUSTRIAL

Our conscientious employees ensure our clients, community and work sites are as safe and productive as possible. In-house courses paired with union and other valuable industry training programs ensure our employees' skill sets remain on the cutting edge. Our core practices include:

- Safety training
- Self-assessment
- Key performance indicators
- Proactive prevention
- Leadership training
- OSHA training
- Confined space
- LOTO training
- Competent person training
- National Electrical Contractors Association (NECA) training

INTREN is a Proud Partner with the Association of Subcontractors & Affiliates (ASA) Chicago, and the Assocication of General Contractors (AGC).

INTREN

OutPerforming. Everyday.

INTREN has the experience and know-how to meet the needs of large and small-scale construction services for utilities, municipalities and cooperatives. To discuss your construction project, contact us at **815.923.2300** or visit **INTREN.com**.

7c.12

STORM RESPONSE

Deploying Immediately.

Natural disasters cripple parts of our country each year. Since 1988, INTREN has been deploying immediately to some of our nation's largest and most complex storm recovery efforts. We stand prepared to support utilities and municipalities as they respond to natural disasters.

Our trained crews are qualified and experienced with the unique skills necessary to think critically while responding calmly and safely in times of need. We are well-known for instantaneous deployments, rapid performance and the highest quality repairs.

INTREN.com

Emergency Deployment Program

INTREN's Emergency Deployment Program is on-call 24/7, ready to rapidly mobilize in assisting with restoration and rebuilding efforts throughout the country. Our crews know their critical roles and responsibilities required to support our clients' restoration efforts.

Our fleet of line trucks are equipped with *extra tooling and supplies.* They carry the latest technology which allow them to quickly transport our *highly trained teams* safely to their assigned locations. This capability gives INTREN the ability to send teams of up to 200 workers to any place a natural disaster has occurred.

Safety Is Our Top Priority

Safety is key when working in devastated areas. At all INTREN job sites, every member of the crew and all visitors are briefed and signed into the job site. At the beginning and middle of each work day, job site briefs and hazards analyses are discussed to avoid incidents. Every day we work to improve our commitment to industry safety standards.

We do this by:

- Maintaining a mindset that all of our work can and will be completed in a safe manner
- Requiring that employees, as industry professionals, identify hazards and place adequate barriers to ensure safe completion of each task
- Establishing strategic initiatives that continually drive our performance

815.923.2300 |

7C.13

STORM RESPONSE

Some of the most dangerous job sites we encounter are in devastated areas. Our employees ensure our clients, communities and work sites are as safe and productive as possible. In-house courses paired with union and other valuable industry training programs ensure our employees' skill sets remain on the cutting edge. Our core practices include:

- Safety training
- Key performance indicators
- Proactive prevention
- Leadership training
- LOTO training

INTREN

OutPerforming. Everyday.

For help, call **815.923.2300** and let our operators know that you have a storm emergency. If you are calling before 7:00 AM CST or after 5:00 PM CST, enter extension 4 to be transferred to our 24-hour call center which will have an INTREN representative contact you directly.

INTREN

OUTPERFORMING. EVERYDAY.

Fulfilling Client Needs with Unparalleled Results.

INTREN is a nationwide specialty contractor providing utilities, municipalities, cooperatives and private contractors with turnkey products for electrical and natural gas needs. With over a quarter-century of experience, INTREN is the premier specialty contractor for the development and implementation of the energy industry's design, construction and management solutions. From system maintenance to large scale design/build ventures, INTREN's cross-disciplinary experience produces unrivaled results.

Resting on the pillars of the company's culture, INTREN OutPerforms. Everyday. and successfully delivers services focused on industry leading Safety, Quality and Performance.

INTREN.com

SAFETY
We believe continuous safety training creates habits and habits become reflexes. It is this kind of reflex that is at the very foundation of INTREN's exceptional safety record. It is our professional responsibility to ensure we are trained and ready for excellent performance every day.

QUALITY
Dedication to quality and dependability are the keystones of every INTREN project. Our comprehensive employee accountability program along with our safety and performance protocols help us deliver successful project results that meet crucial deadlines within a safe environment.

PERFORMANCE
Continuous employee training, a comprehensive reporting system and hands-on leadership training keep our skill sets on the leading edge. This makes INTREN more efficient and better equipped for the challenges of a constantly evolving project environment.

815.923.2300 |

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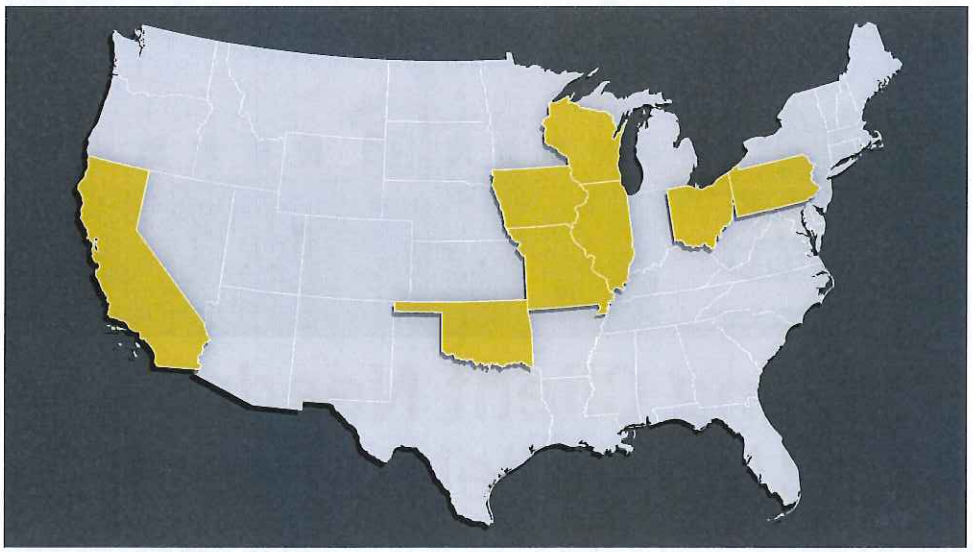
OUTPERFORMING. EVERYDAY. NATIONWIDE.



As of April, 2016

Blending Technology and Skill

No matter the project, INTREN delivers successful solutions engineered to meet the specific needs and project requirements of our clients. We produce turnkey, custom work accompanied by the latest mobile fleet technologies and project analytics for the most efficient and safe work sites available. INTREN is able to combine capabilities and design solutions that are engineered for our clients' unique needs and specific project requirements.

Commitment to Sustainability

Since 2011, INTREN has participated in the Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA) to reduce greenhouse gas emissions. As a key partner with major utilities, we support the efforts of major businesses to set targets to positively impact climate change.

We Provide:

Electrical Utility Services

Natural Gas Utility Services

Commercial & Industrial Services

Storm Response

L2CMS CONSTRUCTION MANAGEMENT SOLUTIONS

Specialty Services

A Diverse Team of Experienced Leadership

INTREN is a company comprised of diverse, dedicated and skilled team members who are the best in their fields, and who continue to maintain the highest standards in the industry. We are proud to be certified as a Women's Business Enterprise (WBE) through Women's Business Enterprise National Council (WBENC) and a long-term member of the Women's Business Development Center (WBDC).

INTREN believes that by creating a work environment where diversity is embraced, and empowerment is foremost, the utility solutions we provide will have a positive impact in a continuously changing world, and will continue to improve our industry.

INTREN

OutPerforming. Everyday.

INTREN has the experience and know how to meet the needs of large and small-scale services for utilities, municipalities and cooperatives. We continuously dig deeper to enhance our ability to serve our clients. To discuss your needs, contact us at **815.923.2300** or visit **INTREN.com.**

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L²CMS
CONSTRUCTION MANAGEMENT SOLUTIONS

SPECIALTY SERVICES

Identifying Opportunities.

INTREN excels in **identifying opportunities,** realizing potential and creating unique solutions for our clients. Listening to client goals and objectives led us to create a solution that specializes in fulfilling the need for custom services based on the today's industry and the emerging possibilities it holds.

That solution – L²CMS – a DBA specialty service company concentrating on comprehensive pre-construction consultations, special program/project support and staff augmentation to improve overall project performance and exceed the goals of our clients. L²CMS' multi-talented teams of top performers create custom solutions in project management, construction management and project controls, with on-time project deliverables.

Our specialty is our diverse experience – **identifying opportunities** and ensuring the right solution every time.

L2CMS.com

Specialty Services Include:

Consulting Services
Specializing in bringing best practices to optimize business performance.

- Contract and project management
- Project controls
- Systems analysis
- Storm response

Staffing Support
With 20 years of combined industry expertise; our professionals are highly qualified to provide expert support.

- Project Managers
- Construction Managers
- Project Controls
  - Cost Engineers
  - Schedulers
- Multidisciplinary Engineers
- Contract Analysts
- Database Analysts
- Administrative/Clerical Professionals

Engineering and Design
Offering a diverse range of multifaceted solutions to meet the unique needs of construction and energy clients. We provide integrated support for a variety of engineering, design, procurement and construction projects. We take this one step further by partnering with engineering companies for skill sets that go beyond our capabilities.

- Underground and overhead electric distribution projects
- Underground and overhead electric transmission projects
- Civil/Structural engineering and design services for substation, distribution and transmission projects
- Electric substations, switchyards and system protection

408.512.5760

Ex. 17

L²CMS
CONSTRUCTION MANAGEMENT SOLUTIONS

SPECIALTY SERVICES

From general distribution design, to major project design, to third-party services our team of engineering and design experts are here to partner with our clients and present cost-effective solutions that increase the reliability of our clients' systems.

Safety is Our Top Priority

INTREN was built on a foundation of safety. It defines who we are and sets us apart from our competition. It is in our DNA and proven by our outstanding track record and awards of recognition. Continuous safety training throughout the year is enhanced by multiple daily job site briefings that outline safety issues and details of required steps to ensure the safety of all who are working on the project.

We continually work to improve our commitment to industry safety standards by:

- Maintaining a mindset that all of our work can and will be completed in a safe manner
- Requiring employees, as industry professionals, identify hazards and place adequate barriers to ensure safe completion of each task
- Establishing strategic initiatives that continually drive our performance

The result is a more dependable workforce that continuously identifies areas of potential improvement in an effort to increase efficiency and reduce costs within a remarkable framework of safety.

L²CMS specializes in **identifying opportunities** and creating solutions to meet all your specialty service needs. For more information about L²CMS' specialty services, call **408.512.5760** or visit **L2CMS.com**.

L²CMS
CONSTRUCTION MANAGEMENT SOLUTIONS

INTREN

OutPerforming. Everyday.

INTREN has the experience and knowledge to meet the needs of your project, large or small. For more information about INTREN's services, call **815.923.2300** or visit **INTREN.com**.

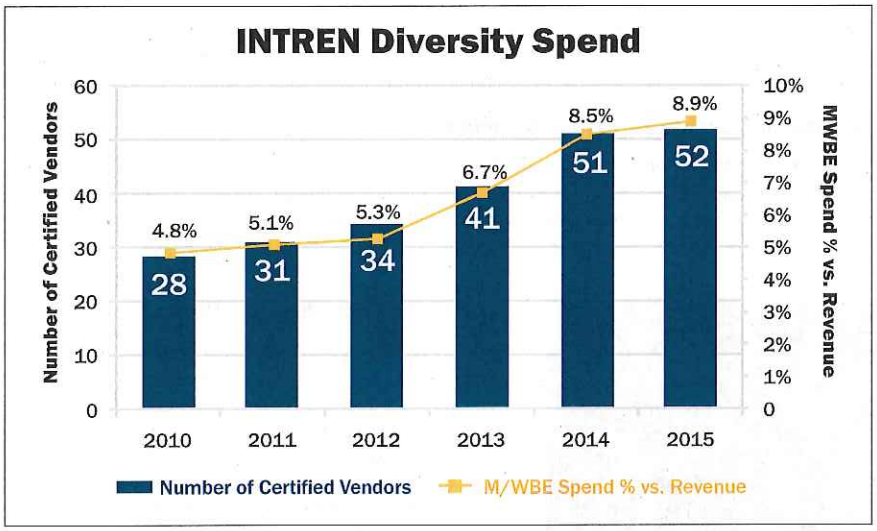
Certified WBENC Women's Business Enterprise

STEWARDSHIP & DIVERSITY

Going Farther.

As a WBE, INTREN takes great joy in celebrating diversity, not only in our workplace, but in our communities. In fact, our core strength lies in our ability to embrace diversity and create opportunities for our customers, communities, and employees. We support and engage with a variety of organizations, throughout the country, that provide opportunities for networking, professional/personal development and recruiting.

INTREN.com



WBEs in the Construction Industry

As a nationally-certified Women's Business Enterprise (WBE), INTREN takes an active role in numerous groups, acting as a liaison between small and disadvantaged businesses interested in working within the industry. We believe it is our mission to help increase the number of successful women and minority-owned businesses by providing outreach and mentorship. This provides a competitive advantage for our company and encourages productivity and innovation as we continue to "OutPerform. Everyday."

INTREN's Diversity Mentorship Program

Designed by INTREN, the successful mentorship program has helped to change lives and support fellow Minority/Women Business Enterprises (M/WBE). INTREN has internally vetted over 80 certified industry-related vendors or subcontractors; of those, 52 have been engaged as subcontractors or vendors on INTREN work in 2015 with two having progressed to achieve prime contractor status. Recognized as a benchmark in the industry, this program fits today's competitive environment by empowering minority companies.

Certified WBENC Women's Business Enterprise

STEWARDSHIP & DIVERSITY

Through its partnership with Haiti Outreach's Adopt-A-Well Program, INTREN successfully raised money to build a freshwater well in Kalili, Haiti. In January 2016 INTREN President, Lance Rosenmayer, and Business Development Manager, Lloyd Gillespie, travelled with a group from Haiti Outreach to attend the inauguration ceremony of the well in Haiti.

Stewardship, one of the cornerstones on which INTREN was built, has thrived and continues to grow. With a strong sense of gratitude and passion to give back, Founder and CEO Loretta Rosenmayer, along with the INTREN team, has established a clear set of values based on an explicit sense of purpose: To understand, care for, and create an environment of stewardship honoring our customers, communities, and employees.

Empowering Employees and Communities

Each and every INTREN office is encouraged to become an active part of the communities they serve. Backed by corporate sponsorship, employees are encouraged to utilize their time and talents. Teams and individual employees continue to volunteer at community centers, shelters, educational facilities and numerous nonprofit organizations, offering a helping hand or comfort to those in need.

CONSTRUCT: Building Excellence Through Diversity

INTREN participates with 29 other construction industry companies in the CONSTRUCT Program, powered by economic power engines - ComEd, Nicor Gas, and Peoples Gas - and 6 social service agencies to help increase job opportunities for minorities in local neighborhoods throughout Illinois. In its 4th year, the 2016 class has 64 participants who will go through an 11-week job training program that provides information and guidance needed to compete for entry-level jobs in construction-related fields. Since its inception, 150 students have participated in the CONSTRUCT program and nearly 80 percent of them have been offered employment.

One success story from CONSTRUCT is Brandon Bradley, a Chicago native and a 2013 graduate from Bethel New Life's CONSTRUCT program. Brandon began working for INTREN in December 2013 as an apprentice laborer through Local Union 2. Under the direction of INTREN, Brandon worked as an apprentice laborer and attended apprentice school through the union for two years, and recently graduated in February 2016 to become a full-fledged laborer. "It used to be that I got up and just went to work. Now, I get up and go to work, knowing that I'm helping to service a community," said Brandon. "I feel like I'm an asset to someone."

INTREN

OutPerforming. Everyday.

INTREN is committed to embracing and mentoring other M/WBE companies and helping them reach their goals. To learn more about how to become a contractor or vendor with INTREN, contact us at **815.923.2300** or visit **INTREN.com**.

Pacific States
ENVIRONMENTAL CONTRACTORS, INC.

January 15, 2015

Mr. William Carson
Terraphase Engineering, Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612

Via email: william.carson@terraphase.com

Subject: Point Molate Osprey Avoidance Plan, IR Site 3 Remediation Project

Dear Mr. Carson,

The purpose of this letter is to propose to the City of Richmond (City) and Terraphase Engineering, Inc. (Terraphase) Pacific States Environmental Contractors Inc.'s (Pacific) plan to avoid the Osprey nesting site near the clean soil stockpile area on the southern end of the project site, see attached Google earth figure.

Pacific's understanding is that the potential Osprey nesting season begins February 1, 2015 and ends on or about xxxxxx or when a biologist determines that are no active nests or fledglings at risk. It is also understood that the requirement is to keep site activity at least 300 feet distant from any Osprey nesting site. Pacific's temporary fence in the stockpile area closest to the Osprey's nest is right at the 300 foot demarcation line. Pacific does not anticipate, at this time, any site activity prior to April 6, 2015 and will restrict all work to take place in the stockpile area to stay outside the 300 foot buffer. Should Pacific import more material before April 6th or any time during the nesting season we will divert truck traffic to the northeast side of the stockpile and/or remove a portion of the stockpile such that trucks can drive through the site northeast of the pink building and outside the 300 foot buffer.

Should you have any questions, please contact me at 925.361-1429.

Very truly yours,
Pacific States Environmental Contractors, Inc.

Dennis M. Robinson
Project Manager

CC: Craig Murray, City of Richmond Project Manager
Tomer Schetrit
Mike Leacox
Keith Wayne
Shawn Stephenson
Jon Hoppe
Adam Carvalho
Project files

Pacific States Environmental Contractors, Inc.
11555 Dublin Boulevard, Dublin CA 94568
Phone (925) 803-4333, Fax (925) 803-4334
California License 672241, A, Haz, C-21


Approx 300' from Nest
Approx Stockpile Edge
Approx Location of Nest
Potential Section of Stockpile to be Relocated
237 ft
© 2015 Google
Google earth

Fc. 22

Pt Molate Report
PMCAC #72 May 8, 2017

Project Manager's Staff Report (10 min.) – including

1. Expenditures and balance from the Navy Escrow Fund
2. Expenditures and balance from the General Fund
3. Insurance Reporting filings
4. Lease/Occupation Status for all Pt Molate users
5. Monthly summary of security incidents
6. Monthly summary of authorized entries
7. Caretaker Summary
8. Beach Park/Landscapers Report
9. IR Site 3 Remediation and Abatement Project
10. Other –

Expenditures and balance from Navy Escrow Fund: No Report provided.

- One Expenditures (in April.2017) totaling $3,438.35
- Balance: $3,871,651.63

Expenditures and balance from City General Fund:

- Expenditures to date for FY 16-17 total $182,062
- Balance: $65,366.

Insurance Report filings

- Report provided in the May 2017PMCAC Agenda Packet.

Lease/Occupation status for all Pt. Molate Users

- Nematode Holdings report dated April 9, 2017 provided this meeting.
- Murphy Mack of SuperPro Bike Events and I corresponded since last PMCAC. Murphy indicated that he will be prepare a proposal soon on hosting bicycle events at Pt Molate.

Monthly Summary of security incidents:

- March, 2017 report enclosed. No Incidents were reported . Four Patrol Officers and three Supervisors assigned. First Security conducted 512 security checks (full patrols).

Monthly Summary of authorized entries:

- There was six public entry authorizations for month of April 2017 (Armsby, Gathney, Helvarg, Stello, Naumovich, Whitestone) for a Native Plant Tour.

Caretaker Summary

- DIMO/Public Works did not provide a report covering the month of April. DIMO/Parks Mark Maltagliati removed the smaller downed tree from Diesel Road (photo enclosed).

Beach Park

- DIMO/Parks & Landscaping contractor report enclosed.
- Summary of the March activity report from the Friends of Point Molate group is included.

IR Site 3 Remediation and Abatement Project

- Terraphase to report tonight.

Other

- Debra Holter and I toured Pt Molate
- Special Thanks to LaShonda Wilson, Markisha Guillory, Wynonna Perez and Chinwe Okoli in reconciling the Pt Molate Escrow Account this past month
- Pt Molate Single Audit Report was completed and forwarded to State on March 31 with no findings in the use of Federal Funds at Pt Molate. In early May, Finance Dept. forwarded cost breakouts and the Pt Molate Fund will incur 0.24 percent of the Maze and Associates audit cost for a charge to Pt Molate escrow account of $10,856.16.

Pt. Molate Remediation Budget Report
As of May 3, 2017

Project / Program Name: Pt. Molate Remediation Oversight				
Project Description: Pt. Molate				
		Point Molate		
		Site Remediation		
		Capital Budget		
Sources of Funds:		**Navy Funds**	**Interest**	**Total**
Navy Funds		**$ 28,500,000.00**		
		Expenditures	**Revenues**	**Balance**
Transactions	**Date**	**As of 5/3/2017**	**As of 5/3/2017**	**As of 5/3/2017**
City of Richmond	4/16/2010	$ 630,000.00		$ 27,870,000.00
Alliant Insurance Services, Inc - Insurance Payment	4/20/2010	$ 4,130,000.00		$ 23,740,000.00
First American Fund Control (FAFC) Setup Fee	4/20/2010	$ 1,000.00		$ 23,739,000.00
Upstream Point Molate - Remediation Work	4/30/2010	$ 170,000.00		$ 23,569,000.00
Savings Interest - April 2010	5/10/2010		$ 1,989.85	$ 23,570,989.85
Savings Interest - April 2010	5/12/2010		$ 3,218.95	$ 23,574,208.80
Savings Interest - May 2010	6/11/2010		$ 2,712.51	$ 23,576,921.31
Savings Interest - May 2010	6/11/2010		$ 4,521.30	$ 23,581,442.61
Arcadis US Inc.	7/15/2010	$ 165,343.93		$ 23,416,098.68
Contra Costa County	7/15/2010	$ 1,264.00		$ 23,414,834.68
Savings Interest - June 2010	7/26/2010		$ 493.14	$ 23,415,327.82
Savings Interest - June 2010	7/26/2010		$ 493.14	$ 23,415,820.96
FAFC Bank Charge	7/26/2010	$ 20.00		$ 23,415,800.96
FAFC Bank Charge	7/26/2010	$ 20.00		$ 23,415,780.96
Savings Interest - June 2010	7/26/2010		$ 2,852.41	$ 23,418,633.37
Savings Interest - June 2010	7/26/2010		$ 5,330.73	$ 23,423,964.10
Savings Interest - July 2010	8/11/2010		$ 732.37	$ 23,424,696.47
Savings Interest - July 2010	8/11/2010		$ 732.37	$ 23,425,428.84
Savings Interest - July 2010	8/11/2010		$ 2,409.34	$ 23,427,838.18
Savings Interest - July 2010	8/11/2010		$ 4,830.04	$ 23,432,668.22
FAFC Fee Slip - May - July 2010	8/16/2010	$ 900.00		$ 23,431,768.22
City of Richmond - MoFo Reimbursement	8/20/2010	$ 4,016.25		$ 23,427,751.97
Transfer August Maintenance Fee	9/13/2010		$ -	$ 23,427,751.97
FAFC Fee Slip - August 2010	9/13/2010	$ 300.00		$ 23,427,451.97
Savings Interest - August 2010	9/15/2010		$ 773.33	$ 23,428,225.30
Savings Interest - August 2010	9/15/2010		$ 773.33	$ 23,428,998.63
Savings Interest - August 2010	9/15/2010		$ 2,564.97	$ 23,431,563.60
Savings Interest - August 2010	9/15/2010		$ 5,136.59	$ 23,436,700.19
FAFC Fee Slip - September 2010	10/7/2010	$ 300.00		$ 23,436,400.19
City of Richmond - MoFo Reimbursement	10/18/2010	$ 15,503.75		$ 23,420,896.44
Arcadis US Inc.	10/18/2010	$ 121,923.17		$ 23,298,973.27
Contra Costa County	10/18/2010	$ 632.00		$ 23,298,341.27
Savings Interest - September 2010	10/20/2010		$ 725.31	$ 23,299,066.58
Savings Interest - September 2010	10/20/2010		$ 725.31	$ 23,299,791.89
Savings Interest - September 2010	10/20/2010		$ 2,405.12	$ 23,302,197.01
Savings Interest - September 2010	10/20/2010		$ 4,817.12	$ 23,307,014.13
First American Fund Control	11/1/2010	$ 2,704.15		$ 23,304,309.98
FAFC Fee Slip - October 2010	11/8/2010	$ 300.00		$ 23,304,009.98
State Water Resources Control Board	11/10/2010	$ 796.00		$ 23,303,213.98
City of Richmond - MoFo Reimbursement	11/10/2010	$ 9,766.50		$ 23,293,447.48
Savings Interest - October 2010	11/17/2010		$ 696.94	$ 23,294,144.42
Savings Interest - October 2010	11/17/2010		$ 2,322.38	$ 23,296,466.80
Savings Interest - October 2010	11/17/2010		$ 4,647.05	$ 23,301,113.85
Contra Costa County - Refund	11/19/2010	$ -	$ 158.00	$ 23,301,271.85
State Water Resources Control Board	12/3/2010	$ 3,553.88		$ 23,297,717.97
Savings Interest - November 2010	12/15/2010		$ 5,110.49	$ 23,302,828.46
Savings Interest - November 2010	12/15/2010		$ 760.49	$ 23,303,588.95
Arcadis US Inc.	1/5/2011	$ 105,245.30		$ 23,198,343.65
RORE, Inc.	1/5/2011	$ 31,581.00		$ 23,166,762.65
Terraphase Engineering, Inc.	1/5/2011	$ 37,142.09		$ 23,129,620.56
Winehaven Partners, LLC	1/5/2011	$ 5,418.11		$ 23,124,202.45
Contra Costa Environmental Health	1/5/2011	$ 474.00		$ 23,123,728.45
City of Richmond - MoFo Reimbursement	1/5/2011	$ 446.25		$ 23,123,282.20
FAFC Fee Slip - November 2010	1/5/2011	$ 300.00		$ 23,122,982.20

Pt. Molate Remediation Budget Report
As of May 3, 2017

Transactions	Date	Expenditures As of 5/3/2017	Revenues As of 5/3/2017	Balance As of 5/3/2017
Savings Interest - December 2010	1/26/2011		$ 654.76	$ 23,123,636.96
Savings Interest - December 2010	1/26/2011		$ 4,621.71	$ 23,128,258.67
Savings Interest - December 2010	1/26/2011		$ 4,951.46	$ 23,133,210.13
FAFC Fee Slip - December 2010	2/8/2011	$ 300.00		$ 23,132,910.13
FAFC Fee Slip - January 2011	2/8/2011	$ 300.00		$ 23,132,610.13
Terraphase Engineering, Inc.	2/16/2011	$ 63,617.92		$ 23,068,992.21
Winehaven Partners, LLC	2/16/2011	$ 2,753.49		$ 23,066,238.72
Contra Costa Environmental Health	2/16/2011	$ 474.00		$ 23,065,764.72
Savings Interest - January 2011	2/28/2011		$ 567.29	$ 23,066,332.01
Savings Interest - January 2011	2/28/2011		$ 2,056.91	$ 23,068,388.92
Savings Interest - January 2011	2/28/2011		$ 4,918.91	$ 23,073,307.83
Savings Interest - February 2011	3/1/2011		$ 1,795.24	$ 23,075,103.07
Bank Charges - February 2011	3/2/2011	$ 35.00		$ 23,075,068.07
Savings Interest Adjustment - February 2011	3/3/2011		$ 411.38	$ 23,075,479.45
Savings Interest - February 2011	3/3/2011		$ 504.17	$ 23,075,983.62
Savings Interest - June 2010	3/7/2011		$ (493.14)	$ 23,075,490.48
Bank Charge	3/7/2011		$ 20.00	$ 23,075,510.48
Savings Interest - July 2010	3/7/2011		$ (732.37)	$ 23,074,778.11
Savings Interest - August 2010	3/7/2011		$ (773.33)	$ 23,074,004.78
Savings Interest - September 2010	3/7/2011		$ (725.31)	$ 23,073,279.47
Savings Interest	3/7/2011		$ 2,704.15	$ 23,075,983.62
Savings Interest - February 2011	3/28/2011		$ -	$ 23,075,983.62
Savings Interest - February 2011	3/28/2011		$ 4,435.35	$ 23,080,418.97
Bank Charges - February 2010	3/28/2011	$ 35.00		$ 23,080,383.97
Savings Interest - March 2011	4/11/2011		$ 1,150.69	$ 23,081,534.66
Savings Interest - March 2011	4/11/2011		$ 1,150.69	$ 23,082,685.35
Terraphase Engineering, Inc. c/o Bookkeeping	4/18/2011	$ 168,063.37		$ 22,914,621.98
Winehaven Partners, LLC	4/18/2011	$ 2,680.76		$ 22,911,941.22
State Water Resources Control Board	4/18/2011	$ 7,765.81		$ 22,904,175.41
FAFC Fee Slip - Feb. to April 2011	4/18/2011	$ 900.00		$ 22,903,275.41
Bank Charges - March 2011	4/25/2011	$ (35.00)		$ 22,903,310.41
Savings Interest - March 2011	4/25/2011		$ 4,904.82	$ 22,908,215.23
Savings Interest - March 2011	4/25/2011		$ 430.34	$ 22,908,645.57
Savings Interest - March 2011	4/25/2011		$ 82.19	$ 22,908,727.76
FAFC Fee Slip - May 2011	5/6/2011	$ 300.00		$ 22,908,427.76
Savings Interest - April 2011	5/18/2011		$ 4,575.58	$ 22,913,003.34
Savings Interest - April 2011	5/18/2011		$ 1,024.62	$ 22,914,027.96
Savings Interest - April 2011	5/18/2011		$ 1,025.75	$ 22,915,053.71
Savings Interest - April 2011	5/18/2011		$ 415.61	$ 22,915,469.32
Savings Interest - March 2011	5/25/2011		$ 2,058.59	$ 22,917,527.91
Savings Interest - April 2011	5/25/2011		$ 2,180.76	$ 22,919,708.67
Terraphase Engineering, Inc	6/6/2011	$ 78,656.54		$ 22,841,052.13
Winehaven Partners, LLC	6/6/2011	$ 362.75		$ 22,840,689.38
FAFC Fee Slip - June 2011	6/6/2011	$ 300.00		$ 22,840,389.38
Savings Interest - May 2011	6/22/2011		$ 1,710.88	$ 22,842,100.26
Savings Interest - May 2011	6/22/2011		$ 5,027.83	$ 22,847,128.09
Savings Interest - May 2011	6/22/2011		$ 427.76	$ 22,847,555.85
Savings Interest - May 2011	6/22/2011		$ 523.78	$ 22,848,079.63
Savings Interest - May 2011	6/22/2011		$ 1,049.53	$ 22,849,129.16
Savings Interest - May 2011	6/22/2011		$ 1,049.53	$ 22,850,178.69
Difference between staff calculations and FAFC balance	6/30/2011		$ 8.63	$ 22,850,187.32
Terraphase Engineering, Inc. c/o Bookkeeping	7/7/2011	$ 66,639.77		$ 22,783,547.55
Winehaven Partners, LLC	7/7/2011	$ 4,352.37		$ 22,779,195.18
Savings Interest - June 2011	7/18/2011		$ 7,000.65	$ 22,786,195.83
Savings Interest - June 2011	7/18/2011		$ 419.20	$ 22,786,615.03
Savings Interest - June 2011	7/20/2011		$ 2,034.00	$ 22,788,649.03
Terraphase Engineering, Inc. c/o Bookkeeping	7/29/2011	$ 37,573.67		$ 22,751,075.36
Winehaven Partners, LLC	7/29/2011	$ 574.96		$ 22,750,500.40
State Water Resources Control Board	7/29/2011	$ 8,397.38		$ 22,742,103.02
FAFC Fee Slip - July 2011	7/29/2011	$ 300.00		$ 22,741,803.02
Terraphase Engineering, Inc. c/o Bookkeeping	8/23/2011	$ 99,184.28		$ 22,642,618.74
Winehaven Partners, LLC	8/23/2011	$ 221.78		$ 22,642,396.96
Contra Costa Environmental Health	8/23/2011	$ 474.00		$ 22,641,922.96
FAFC Fee Slip - August 2011	8/23/2011	$ 300.00		$ 22,641,622.96
Savings Interest - July 2011	8/24/2011		$ 7,096.07	$ 22,648,719.03
Savings Interest - July 2011	8/24/2011		$ 2,097.56	$ 22,650,816.59

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Transactions	Date	Expenditures As of 5/3/2017	Revenues As of 5/3/2017	Balance As of 5/3/2017
Savings Interest	9/1/2011		$ 8,047.46	$ 22,658,864.05
City of Richmond - MoFo Reimbursement	9/8/2011	$ 3,098.75		$ 22,655,765.30
City of Richmond - Nichols Reimbursement	9/8/2011	$ 9,655.72		$ 22,646,109.58
FAFC Fee Slip - September 2011	9/8/2011	$ 300.00		$ 22,645,809.58
Terraphase Engineering, Inc. c/o Bookkeeping	9/14/2011	$ 109,635.96		$ 22,536,173.62
Winehaven Partners, LLC	9/14/2011	$ 89.96		$ 22,536,083.66
Savings Interest - August 2011	9/19/2011		$ 2,090.17	$ 22,538,173.83
Savings Interest - September 2011	10/12/2011		$ 6,224.06	$ 22,544,397.89
Terraphase Engineering, Inc. c/o Bookkeeping	10/21/2011	$ 51,791.39		$ 22,492,606.50
Winehaven Partners, LLC	10/21/2011	$ 136.55		$ 22,492,469.95
City of Richmond - MoFo Reimbursement	10/21/2011	$ 7,505.00		$ 22,484,964.95
Morrison & Foerster LLP	10/21/2011	$ 3,520.00		$ 22,481,444.95
Nichols Consulting Engineers, CHTD	10/21/2011	$ 6,234.50		$ 22,475,210.45
State Water Resources Control Board	10/21/2011	$ 30,340.20		$ 22,444,870.25
PG&E	10/21/2011	$ 6,626.33		$ 22,438,243.92
Savings Interest - September 2011	10/26/2011		$ 1,997.61	$ 22,440,241.53
Bank Saving Charge	11/1/2011	$ 20.00		$ 22,440,221.53
Savings Interest - October 2011	11/1/2011		$ 1,265.06	$ 22,441,486.59
Terraphase Engineering, Inc. c/o Bookkeeping	11/14/2011	$ 71,065.26		$ 22,370,421.33
Winehaven Partners, LLC	11/14/2011	$ 127.23		$ 22,370,294.10
Contra Costa Environmental Health	11/14/2011	$ 474.00		$ 22,369,820.10
Morrison & Foerster LLP	11/14/2011	$ 1,933.75		$ 22,367,886.35
Savings Interest - October 2011	11/21/2011		$ 2,030.42	$ 22,369,916.77
Terraphase Engineering, Inc. c/o Bookkeeping	12/8/2011	$ 158,309.56		$ 22,211,607.21
Winehaven Partners, LLC	12/8/2011	$ 127.36		$ 22,211,479.85
Morrison & Foerster LLP	12/8/2011	$ 5,305.00		$ 22,206,174.85
Nichols Consulting Engineers, CHTD	12/8/2011	$ 4,845.00		$ 22,201,329.85
State Water Resources Control Board	12/8/2011	$ 36,003.36		$ 22,165,326.49
PG&E	12/8/2011	$ 3,016.85		$ 22,162,309.64
FAFC Fee Slip - November & December 2011	12/8/2011	$ 600.00		$ 22,161,709.64
Savings Interest - November 2011	12/12/2011		$ 1,955.50	$ 22,163,665.14
Terraphase Engineering, Inc.	1/25/2012	$ 110,282.57		$ 22,053,382.57
Winehaven Partners, LLC	1/25/2012	$ 127.42		$ 22,053,255.15
Morrison & Foerster LLP	1/25/2012	$ 297.50		$ 22,052,957.65
State Water Resources Control Board	1/25/2012	$ 11,195.00		$ 22,041,762.65
Contra Costa Health Services	1/25/2012	$ 395.00		$ 22,041,367.65
Savings Interest - Decemberr 2011	1/30/2012		$ 2,005.79	$ 22,043,373.44
Savings Interest - January 2012	2/22/2012		$ 1,997.55	$ 22,045,370.99
FAFC Fee Slip - January & February 2012	2/29/2012	$ 600.00		$ 22,044,770.99
FAFC Fee Slip - March 2012	3/8/2012	$ 300.00		$ 22,044,470.99
FAFC Fee Slip - October 2011	3/8/2012	$ 300.00		$ 22,044,170.99
Savings Interest - February 2012	3/14/2012		$ 1,860.86	$ 22,046,031.85
Terraphase Engineering, Inc.	3/15/2012	$ 61,726.26		$ 21,984,305.59
Terraphase Engineering, Inc.	3/15/2012	$ 145,489.51		$ 21,838,816.08
Morrison & Foerster LLP	3/15/2012	$ 5,801.25		$ 21,833,014.83
State Water Resources Control Board	3/15/2012	$ 48,269.05		$ 21,784,745.78
PG&E	3/15/2012	$ 3,026.91		$ 21,781,718.87
FAFC Fee Slip - April 2012	4/16/2012	$ 300.00		$ 21,781,418.87
Terraphase Engineering, Inc.	4/23/2012	$ 121,263.22		$ 21,660,155.65
Winehaven Partners, LLC	4/23/2012	$ 137.42		$ 21,660,018.23
Winehaven Partners, LLC	4/23/2012		$ 127.42	$ 21,660,145.65
Morrison & Foerster LLP	4/23/2012	$ 1,611.25		$ 21,658,534.40
Savings Interest - March 2012	4/30/2012		$ 1,979.63	$ 21,660,514.03
FAFC Fee Slip - May 2012	5/18/2012	$ 300.00		$ 21,660,214.03
Terraphase Engineering, Inc.	5/18/2012	$ 154,907.80		$ 21,505,306.23
Morrison & Foerster LLP	5/18/2012	$ 297.50		$ 21,505,008.73
Savings Interest - April 2012	5/21/2012		$ 1,900.11	$ 21,506,908.84

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FAFC Fee Slip - May 2012	6/7/2012	$ 290.00		$ 21,506,618.84
Savings Interest - May 2012	6/18/2012		$ 1,950.31	$ 21,508,569.15
Terraphase Engineering, Inc.	7/9/2012	$ 129,899.78		$ 21,378,669.37
Morrison & Foerster LLP	7/9/2012	$ 1,041.25		$ 21,377,628.12
City of Richmond - MoFo Reimbursement	7/9/2012	$ 10,614.35		$ 21,367,013.77
AT&T	7/9/2012	$ 34.16		$ 21,366,979.61
State Water Resources Control Board	7/9/2012	$ 40,507.27		$ 21,326,472.34
City of Richmond - Single audit Reimbursement	7/9/2012	$ 10,234.00		$ 21,316,238.34
Nichols Consulting Engineers, CHTD	7/9/2012	$ 22,670.75		$ 21,293,567.59
Savings Interest - June 2012	7/16/2012		$ 1,879.15	$ 21,295,446.74
Terraphase Engineering, Inc.	7/20/2012	$ 133,279.02		$ 21,162,167.72
Savings Interest - July 2012	8/22/2012		$ 1,929.33	$ 21,164,097.05
Terraphase Engineering, Inc.	8/29/2012	$ 70,585.19		$ 21,093,511.86
Contra Costa Health Services	8/29/2012	$ 632.00		$ 21,092,879.86
Savings Interest - August 2012	9/12/2012		$ 1,923.15	$ 21,094,803.01
Terraphase Engineering, Inc.	9/19/2012	$ 68,665.72		$ 21,026,137.29
FAFC Fee Slip - May 2012	10/1/2012	$ 900.00		$ 21,025,237.29
FAFC Fee Slip - May 2012	10/9/2012	$ 300.00		$ 21,024,937.29
Savings Interest - September 2012	10/15/2012		$ 1,853.35	$ 21,026,790.64
Terraphase Engineering, Inc.	10/30/2012	$ 103,672.81		$ 20,923,117.83
Contra Costa Health Services	10/30/2012	$ 316.00		$ 20,922,801.83
State Water Resources Control Board	10/30/2012	$ 31,116.76		$ 20,891,685.07
Savings Interest - October 2012	11/16/2012		$ 1,911.44	$ 20,893,596.51
State Water Resources Control Board	12/6/2012	$ 11,195.00		$ 20,882,401.51
Nichols Consulting Engineers, CHTD	12/6/2012	$ 12,945.00		$ 20,869,456.51
Terraphase Engineering, Inc.	12/6/2012	$ 174,878.31		$ 20,694,578.20
FAFC Fee Slip - November 2012	12/11/2012	$ 300.00		$ 20,694,278.20
FAFC Fee Slip - December 2012	12/11/2012	$ 300.00		$ 20,693,978.20
Savings Interest - Novemeber 2012	12/19/2012		$ 1,838.75	$ 20,695,816.95
Nichols Consulting Engineers, CHTD	12/21/2012	$ 2,016.64		$ 20,693,800.31
Terraphase Engineering, Inc.	12/21/2012	$ 269,077.05		$ 20,424,723.26
FAFC Fee Slip - January 2013	1/7/2013	$ 300.00		$ 20,424,423.26
Savings Interest - December 2012	1/23/2013		$ 1,885.68	$ 20,426,308.94
Nichols Consulting Engineers, CHTD	1/29/2013	$ 1,905.00		$ 20,424,403.94
FAFC Fee Slip - February 2013	2/8/2013	$ 300.00		$ 20,424,103.94
Terraphase Engineering, Inc.	2/12/2013	$ 281,577.64		$ 20,142,526.30
Contra Costa Health Services	2/12/2013	$ 316.00		$ 20,142,210.30
Savings Interest - January 2013	2/13/2013		$ 3,340.54	$ 20,145,550.84
FAFC Fee Slip - March 2013	3/4/2013	$ 300.00		$ 20,145,250.84
Savings Interest - February 2013	3/18/2013		$ 3,040.52	$ 20,148,291.36
Terraphase Engineering, Inc.	4/2/2013	$ 202,972.88		$ 19,945,318.48
State Water Resources Control Board	4/2/2013	$ 23,492.08		$ 19,921,826.40
FAFC Fee Slip - April 2013	4/4/2013	$ 300.00		$ 19,921,526.40
Savings Interest - March 2013	4/16/2013		$ 3,346.60	$ 19,924,873.00
Terraphase Engineering, Inc.	4/30/2013	$ 82,590.63		$ 19,842,282.37
Terraphase Engineering, Inc.	5/1/2013	$ 75,316.43		$ 19,766,965.94
FAFC Fee Slip - May 2013	5/1/2013	$ 300.00		$ 19,766,665.94
Savings Interest - April 2013	5/13/2013		$ 3,206.73	$ 19,769,872.67
Savings Interest - May 2013	6/14/2013		$ 3,287.38	$ 19,773,160.05
Terraphase Engineering, Inc.	6/14/2013	$ 43,556.01		$ 19,729,604.04
Contra Costa Health Services	6/14/2013	$ 348.00		$ 19,729,256.04
Savings Interest - June 2013	7/10/2013		$ 3,180.04	$ 19,732,436.08
FAFC Fee Slip - June & July 2013	8/2/2013	$ 600.00		$ 19,731,836.08
Terraphase Engineering, Inc.	8/8/2013	$ 44,555.23		$ 19,687,280.85
Contra Costa Health Services	8/8/2013	$ 348.00		$ 19,686,932.85
State Water Resources Control Board	8/8/2013	$ 10,078.39		$ 19,676,854.46
Terraphase Engineering, Inc.	8/8/2013	$ 60,528.86		$ 19,616,325.60
Nichols Consulting Engineers, CHTD	8/8/2013	$ 1,046.00		$ 19,615,279.60
Savings Interest - July 2013	8/12/2013		$ 1,824.74	$ 19,617,104.34
Savings Interest - August 2013	9/11/2013		$ 1,818.23	$ 19,618,922.57
Union Bank Fee	9/20/2013	$ 1,560.00		$ 19,617,362.57
Terraphase Engineering, Inc.	10/17/2013	$ 51,248.57		$ 19,566,114.00
Nichols Consulting Engineers, CHTD	10/17/2013	$ 24,745.00		$ 19,541,369.00
Terraphase Engineering, Inc.	11/15/2013	$ 28,351.81		$ 19,513,017.19
Terraphase Engineering, Inc.	12/18/2013	$ 68,604.41		$ 19,444,412.78
Contra Costa Health Services	12/18/2013	$ 348.00		$ 19,444,064.78
State Water Resources Control Board	12/18/2013	$ 1,952.67		$ 19,442,112.11
State Water Resources Control Board	12/18/2013	$ 11,877.00		$ 19,430,235.11
Terraphase Engineering, Inc.	12/20/2013	$ 66,328.38		$ 19,363,906.73
Interest earned	9/13 - 11/13		$ 409.95	$ 19,364,316.68

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Terraphase Engineering, Inc.	2/10/2014	$ 65,579.43		$ 19,298,737.25
Contra Costa Health Services	2/10/2014	$ 348.00		$ 19,298,389.25
State Water Resources Control Board	2/10/2014	$ 19,032.82		$ 19,279,356.43
Terraphase Engineering, Inc.	3/17/2014	$ 103,683.69		$ 19,175,672.74
Terraphase Engineering, Inc.	3/27/2014	$ 102,373.52		$ 19,073,299.22
State Water Resources Control Board	3/27/2014	$ 6,224.57		$ 19,067,074.65
Interest earned	12/13 - 5/14		$ 959.40	$ 19,068,034.05
Terraphase Engineering, Inc.	5/6/2014	$ 68,324.79		$ 18,999,709.26
Terraphase Engineering, Inc.	6/3/2014	$ 61,640.00		$ 18,938,069.26
State Water Resources Control Board	6/3/2014	$ 553.32		$ 18,937,515.94
Contra Costa Health Services	6/3/2014	$ 348.00		$ 18,937,167.94
Dividend	6/1/14 - 6/30/14		$ 155.49	$ 18,937,323.43
Terraphase Engineering, Inc.	7/11/2014	$ 36,883.79		$ 18,900,439.64
Dividend	7/1/14 - 7/31/14		$ 160.41	$ 18,900,600.05
Terraphase Engineering, Inc.	8/2/2014	$ 52,505.63		$ 18,848,094.42
State Water Resources Control Board	8/2/2014	$ 20,589.19		$ 18,827,505.23
Nichols Consulting Engineers, CHTD	8/2/2014	$ 18,683.67		$ 18,808,821.56
Dividend	8/1/14 - 8/31/14		$ 220.77	$ 18,809,042.33
Terraphase Engineering, Inc.	9/2/2014	$ 51,882.72		$ 18,757,159.61
City of Richmond - 2012 Single Audit Reimbursement (Re-issue)	9/17/2017	$ 10,227.00		$ 18,746,932.61
City of Richmond - 2013 Single Audit Reimbursement (Re-issue)	9/17/2017	$ 9,200.00		$ 18,737,732.61
Dividend	9/1/14 - 9/30/14		$ 154.17	$ 18,737,886.78
Terraphase Engineering, Inc.	9/27/2014	$ 114,953.96		$ 18,622,932.82
Nichols Consulting Engineers, CHTD	9/27/2014	$ 57,071.54		$ 18,565,861.28
BPXpress	9/27/2014	$ 1,145.64		$ 18,564,715.64
Terraphase Engineering, Inc.	11/4/2014	$ 95,929.77		$ 18,468,785.87
Pacific States Environmental Contractors, Inc.	11/4/2014	$ 855,815.67		$ 17,612,970.20
Union Bank - Annual Fees (9/1/14 - 8/31/15)	9/17/2014	$ 1,060.00		$ 17,611,910.20
Dividend Earned	10/1/14 - 10/31/14		$ 157.79	$ 17,612,067.99
State Water Resources Control Board	11/19/2014	$ 34,327.45		$ 17,577,740.54
Dividend Earned	11/1/14 - 11/30/14		$ 146.72	$ 17,577,887.26
Pacific States Environmental Contractors, Inc.	12/16/2014	$ 1,006,214.83		$ 16,571,672.43
Dividend Earned	12/1/14 - 12/31/14		$ 144.94	$ 16,571,817.37
Pacific States Environmental Contractors, Inc.	1/14/2015	$ 779,224.77		$ 15,792,592.60
Nichols Consulting Engineers, CHTD	1/23/2015	$ 24,708.88		$ 15,767,883.72
Terraphase Engineering, Inc.	1/23/2015	$ 104,493.74		$ 15,663,389.98
State Water Resources Control Board	1/23/2015	$ 11,497.00		$ 15,651,892.98
Dividend Earned	1/1/15 - 1/31/15		$ 136.60	$ 15,652,029.58
Pacific States Environmental Contractors, Inc.	1/27/2015	$ 23,947.99		$ 15,628,081.59
Terraphase Engineering, Inc.	2/20/2015	$ 204,422.29		$ 15,423,659.30
State Water Resources Control Board	2/20/2015	$ 11,497.00		$ 15,412,162.30
Dividend Earned	2/1/15 - 2/28/15		$ 119.33	$ 15,412,281.63
Pacific States Environmental Contractors, Inc.	3/25/2015	$ 67,017.85		$ 15,345,263.78
Terraphase Engineering, Inc.	3/25/2015	$ 125,312.63		$ 15,219,951.15
Terraphase Engineering, Inc.	3/25/2015	$ 90,210.64		$ 15,129,740.51
Pacific States Environmental Contractors, Inc.	3/25/2015	$ 7,324.50		$ 15,122,416.01
State Water Resources Control Board	3/25/2015	$ 18,593.45		$ 15,103,822.56
Terraphase Engineering, Inc.	3/30/2015	$ 87,923.69		$ 15,015,898.87
Dividend Earned	3/1/15 - 3/31/15		$ 129.97	$ 15,016,028.84
Terraphase Engineering, Inc.	4/28/2015	$ 139,943.20		$ 14,876,085.64
Dividend Earned	4/1/15 - 4/30/15		$ 123.21	$ 14,876,208.85
Dividend Earned	5/1/15 - 5/31/15		$ 126.48	$ 14,876,335.33
Pacific States Environmental Contractors, Inc.	6/2/2015	$ 259,652.05		$ 14,616,683.28
Nichols Consulting Engineers, CHTD	6/2/2015	$ 19,792.56		$ 14,596,890.72
Terraphase Engineering, Inc.	6/17/2015	$ 125,374.10		$ 14,471,516.62
Pacific States Environmental Contractors, Inc.	6/17/2015	$ 1,705,593.08		$ 12,765,923.54
Dividend Earned	6/1/15 - 6/30/15		$ 113.08	$ 12,766,036.62
Refund - Duplicate payment from State of CA	7/1/2015		$ 11,497.00	$ 12,777,533.62
Pacific States Environmental Contractors, Inc.	7/9/2015	$ 2,211,213.49		$ 10,566,320.13
State Water Resources Control Board	7/9/2015	$ 13,325.32		$ 10,552,994.81
City of Richmond (reimbursement for Single Audit)	7/9/2015	$ 6,478.01		$ 10,546,516.80
Nichols Consulting Engineers, CHTD	7/9/2015	$ 43,179.74		$ 10,503,337.06

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Nichols Consulting Engineers, CHTD (Cash Receipt)	7/31/2015		$ 43,179.74	$ 10,546,516.80
Terraphase Engineering, Inc.	7/9/2015	$ 126,704.25		$ 10,419,812.55
Dividend Earned	7/1/15 - 7/31/15		$ 93.32	$ 10,419,905.87
Nichols Consulting Engineers, CHTD	8/6/2015	$ 23,625.00		$ 10,396,280.87
Terraphase Engineering, Inc.	8/7/2015	$ 133,605.29		$ 10,262,675.58
Pacific States Environmental Contractors, Inc.	8/20/2015	$ 1,831,042.78		$ 8,431,632.80
Dividend Earned	8/1/15 - 8/30/15		$ 153.65	$ 8,431,786.45
Pacific States Environmental Contractors, Inc.	9/21/2015	$ 1,300,776.20		$ 7,131,010.25
Terraphase Engineering, Inc.	9/21/2015	$ 135,433.09		$ 6,995,577.16
Dividend Earned	9/1/15 - 9/30/15		$ 65.66	$ 6,995,642.82
Union Bank Administrative Fees	10/21/2015	$ 1,060.00		$ 6,994,582.82
Dividend Earned	10/1/15 - 10/31/15		59.21	$ 6,994,642.03
State Water Resources Control Board	11/3/2015	$ 10,600.60		$ 6,984,041.43
Terraphase Engineering, Inc.	11/3/2015	$ 140,582.81		$ 6,843,458.62
Dividend Earned	11/1/15 - 11/30/15		$ 62.51	$ 6,843,521.13
State Water Resources Control Board - SCP Program	12/2/2015	$ 15,344.24		$ 6,828,176.89
Terraphase Engineering, Inc.	12/2/2015	$ 88,207.01		$ 6,739,969.88
Pacific States Environmental Contractors, Inc.	12/2/2015	$ 153,431.01		$ 6,586,538.87
State Water Resources Control Board	12/2/2015	$ 659.00		$ 6,585,879.87
Dividend Earned	12/1/15 - 12/31/15		$ 55.83	$ 6,585,935.70
Contra Costa Enviornmental Health	1/7/2016	$ 522.00		$ 6,585,413.70
Pacific States Environmental Contractors, Inc.	1/7/2016	$ 425,137.76		$ 6,160,275.94
Pacific States Environmental Contractors, Inc.	1/22/2016	$ 279,641.87		$ 5,880,634.07
Nichols Consulting Engineers, CHTD	1/28/2016	$ 12,601.89		$ 5,868,032.18
Dividend Earned	1/1/16 - 1/31/16		$ 348.95	$ 5,868,381.13
Dividend Earned	2/1/16 - 2/29/16		$ 534.10	$ 5,868,915.23
State Water Resources Control Board	3/18/2016	$ 4,519.18		$ 5,864,396.05
Terraphase Engineering, Inc.	3/18/2016	$ 32,548.97		$ 5,831,847.08
Terraphase Engineering, Inc.	3/18/2016	$ 131,231.71		$ 5,700,615.37
Contra Costa Enviornmental Health	3/29/2016	$ 565.10		$ 5,700,050.27
Dividend Earned	3/1/16 - 3/31/16		$ 696.04	$ 5,700,746.31
State Water Resources Control Board	4/22/2016	$ 4,519.18		$ 5,696,227.13
Pacific States Environmental Contractors, Inc.	4/22/2016	$ 498,835.98		$ 5,197,391.15
Terraphase Engineering, Inc.	4/26/2016	$ 46,568.64		$ 5,150,822.51
Dividend Earned	4/1/16 - 4/30/16		$ 631.58	$ 5,151,454.09
Dividend Earned	5/1/16 - 5/31/16		$ 636.95	$ 5,152,091.04
Pacific States Environmental Contractors, Inc.	6/3/2016	$ 16,660.48		$ 5,135,430.56
State Water Resources Control Board	6/3/2016	$ 16,621.30		$ 5,118,809.26
City of Richmond (2015 Audit)	6/3/2016	$ 32,839.37		$ 5,085,969.89
State Water Resources Control Board	6/3/2016	$ 7,500.00		$ 5,078,469.89
Terraphase Engineering, Inc.	6/3/2016	$ 69,945.45		$ 5,008,524.44
Regional Monitoring Program	6/15/2016	$ 7,500.00		$ 5,001,024.44
Dividend Earned	6/1/16 - 6/30/16		$ 633.14	$ 5,001,657.58
State Water Resources Control Board (Reimbursement)	7/11/2016		$ 400.00	$ 5,002,057.58
Dividend Earned	7/1/16 - 7/31/16		$ 580.42	$ 5,002,638.00
Dividend Earned	8/1/16 - 8/31/16		$ 378.18	$ 5,003,016.18
Interest earned	8/1/16 - 8/31/16		$ 246.69	$ 5,003,262.87
Pacific States Environmental Contractors, Inc.	9/9/2016	$ 215,896.40		$ 4,787,366.47
Union Bank Administrative Fees	9/27/2016	$ 1,060.00		$ 4,786,306.47
Interest Earned	9/1/16 - 9/30/16		$ 796.42	$ 4,787,102.89
Pacific States Environmental Contractors, Inc.	10/5/2016	$ 90,000.00		$ 4,697,102.89
State Water Resources Control Board	10/5/2016	$ 15,371.77		$ 4,681,731.12
Terraphase Engineering, Inc.	10/5/2016	$ 260,319.65		$ 4,421,411.47
Contra Costa Enviornmental Health	10/5/2016	$ 1,044.00		$ 4,420,367.47
Interest earned	10/1/16 - 10/31/16		$ 758.84	$ 4,421,126.31
Terraphase Engineering, Inc.	11/8/2016	$ 53,040.20		$ 4,368,086.11
Contra Costa Enviornmental Health	11/8/2016	$ 1,044.40		$ 4,367,041.71
Nichols Consulting Engineers, CHTD	11/8/2016	$ 21,364.55		$ 4,345,677.16
Interest earned	11/1/16 - 11/30/16		$ 717.24	$ 4,346,394.40
Returned Check	12/5/2016		$ 1,044.40	$ 4,347,438.80
Terraphase Engineering, Inc.	12/6/2016	$ 233,484.70		$ 4,113,954.10
State Water Resources Control Board	12/6/2016	$ 909.00		$ 4,113,045.10
State Water Resources Control Board	12/6/2016	$ 6,235.91		$ 4,106,809.19
Interest earned	12/1/16 - 12/31/16		$ 704.36	$ 4,107,513.55
Interest earned	1/1/17 - 1/31/17		$ 697.79	$ 4,108,211.34
Terraphase Engineering, Inc.	2/1/2017	$ 155,391.57		$ 3,952,819.77
Contra Costa Health Services	2/1/2017	$ 609.00		$ 3,952,210.77
Interest earned	2/1/17 - 2/28/17		$ 610.73	$ 3,952,821.50
Terraphase Engineering, Inc.	3/15/2017	$ 77,731.52		$ 3,875,089.98
	3/15/2017	$ 3,438.35		$ 3,871,651.63
Current as of 5/3/2017		$ 24,822,011.96	$ 274,222.73	
Remaining Balance				$ 3,871,651.63
		Union Bank Escrow Account Total		$ 3,871,651.63
			Difference	$ (0.00)

Pt. Molate FY2016-17 Budget

Department	Account	Item	Vendor	Budget	Actual	Encumb.	Balance
Non-Departmental	01917090-400218	Security	First Alarm Security & Patrol	$ 253,331	$ 118,962	$ 69,003	$ 65,366
Public Works	01233631-400537	Landscape	Desert Parks Landscaping, Inc.	$ 83,940	$ 63,100	$ 20,840	$ -
				$ 337,271	$ 182,062	$ 89,843	$ 65,366

As of April 30, 2017

MEMO

TO: Point Molate Citizen's Advisory Committee

FR: Bobby Winston/Bay Crossings

RE: April report

9 April 2017

I am pleased to report the following items to the Committee:

1, **Income:**

Item	Notes
$7,515	Gross income, same as March (we are essentially filled up)
$615	Late/never payer; to be expected, but consistent with my agreement I will pay regardless
$4,324.10	My base rent
$3,190.90	Income above my base rent subject to 50-50 split with City
$1,595.45	50% of income realized above base rent to be added to base rent
$5,919.55	Base rent plus 50% surcharge due City
$150	Additional paid to cover Heyday Press temporary storage/donation (see below)
$6,069.55	My April payment to the City

2, **June 17 Open House/Mark your calendars!**

I'm pleased we have a firm date for an Open House! With the help of Joan Garett we are planning an afternoon of tours (TBD), history presentation by Mayor Tom Butt and music/wine & cheese on the roof of Winehaven. I hope you will all join us and take a look at what we're up to at Winehaven, I'm proud of what I and my folks have done to tidy it up.

3, **Artistic Interest (2)**

A, I'm pleased to report that we are providing temporary storage space the prestigious Heyday Press, which is in the process of moving to a new home. While the new building is getting prepared Heyday is occupying 1,500 s/f, storing their back stock library, office furniture, etc. in two bays of Bay 2. Heyday is not paying anything for this storage; note on my income reckoning that I am paying the cost.

B, Stephen Bull, a painter (and onetime host of his own DIY show) has taken some truly lovely photographs of the corrugated metal buildings across from Winehaven; see following.

4, Quonset Huts/security

Regrettably there has been break-ins/homeless encampments at the Quonset Huts. Thankfully, we have had no incidents at/around Winehaven or Bldg 123, which I put down to the proximity of security (when there at night) and the activation of my temporary storage renters.

I feel badly for the folks at the East Bay Center for the Performing Arts, who store stuff at the Quonset Huts (on pallet racking that I donated). I have told Craig that I will have my contractor secure the building and see if I can arrange activation of the building. Joan has agreed to help if this comes to pass. The City is mulling.

FIRST SECURITY SERVICES
PPO 11167
1801 Oakland Blvd #315
Walnut Creek, CA 94596
Office: (925) 295-1260
Fax: (510) 899-1444

Rich Fratus
Branch Manager
(510) 410-9175
Rfratus@firstsecurityservices.com

May 2, 2017

Captain Louie Tirona
Southern District Commander
Richmond Police Department
Richmond, CA, 94806

During the Month of April 2017, First Security Services maintained 128 hours per week of contracted security services. 1500-0700 hours (Mon-Fri), and 24 Hour weekend coverage.

The deployment of security at Point Molate, consist of the following service standards.

1. To monitor activity of the lower portion of the region to include the shoreline and perimeter fencing from a Mobile Position. Security personnel will also monitor all activities within the Point Molate region to include visitors and contractors during our onsite patrol hours.

2. During patrol hours First Security utilizes our FirstWatch patrolling and Incident reporting system. All site location activity tracks the movement of assigned security personnel to ensure that security expectations and contracts requirements are being fulfilled.

3. Document all contractors and visitor entry with prior approval per provided Release, Waiver of Liability and Indemnity agreement.

The reflected information is detail surrounding the security service at the Point Molate site during the month of April, 2017.

Primary Security Personnel Assigned:

Patrol Officers: Mussa Mohammed, Arlington Reed, Gilbert Pete and Lee Van Erby

Supervisors: Alex Treadwell and LaMeisha Reed and Operation Manager Michael Ward.

First Security Services personnel initiated **512** full patrols within the designated point Molate area during the month of April 2017.

Incident Reports:
No incidents detailed for the month of April 2017.

FIRST SECURITY SERVICES
PPO 11167
1801 Oakland Blvd #315
Walnut Creek, CA 94596
Office: (925) 295-1260
Fax: (510) 899-1444

Rich Fratus
Branch Manager
(510) 410-9175
Rfratus@firstsecurityservices.com

Administrative Action Take:

- 4/10/17; David and Helvarg Pt Molate Tour
  - Verbal authorization for Kate F. access processed on 4/10.
- 4/24 – Eastbay chapter of the CA Native Plant society authorization forms processed 4/18-december 31,2017.

Site Environmental Concerns:

- Continued, No Driving directives on IR Site (3) and shoreline area due to state regulators native grass grow initiative. (Enforced until further Notice)

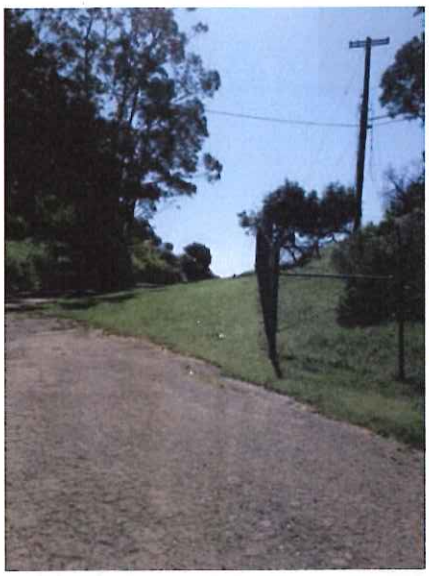
PACIFIC
SITE MANAGEMENT
A CDECKER COMPANY

PMCAC Landscapers Report

Please see update on landscaping at Point Molate as well as attached pictures of work done:

March 2nd and 3rd

- Abatement of weeds along Stenmark Dr. fence line by Tank 3 entrance to Garden Road.



March 9th and 10th

- Abatement of weeds on Ridge Road from Tank 10 to Road "F"

March 16th and 17th

- Abatement of weeds on Road "B".

8.15

March 23rd and 24th

- **Please Note:** Minimal work was done on March 24th due to weather conditions.
- Began mowing of grass around houses 31-47 and 53-56.


March 30th and 31st

- Finished abatement of grass around houses 31-47 and 53-56.
- Completed abatement of grass around Gray's Circle
- Removal of fallen tree limb by road to Tank 3.
- More limbs near "power Lines" by tank 3 road entrance in need of removal. See picture below.



Work to be done for Month of April:

- Tank mowing schedule will be paused for April.
- Brush abatement along Road "G", Range Road, and Ridge Road. Brush will be abated at least 5 feet from the road. **Map of work area is attached.**
- Estimate to have Blue Gum Eucalyptus near house 54 removed. Trees are touching building. Eric Munson recommends this work to be done. (see picture 5)

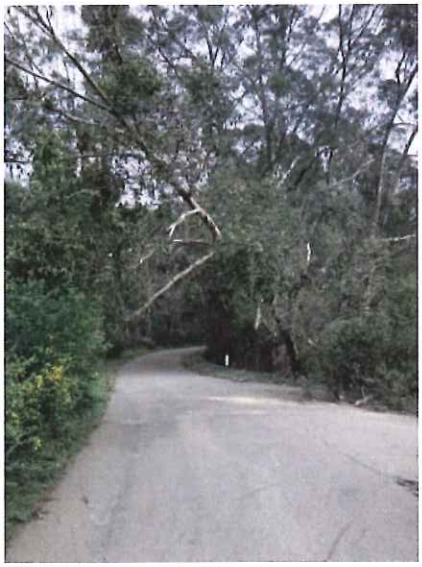
More trees have fallen on top of Bldg 32 and have caused minor damage. These trees are blocking access to Bldg 57, 58, 59. Estimate #1770 to remove trees is attached to this report. (see pictures 1, 2, 3)

Tree 3 Blocking Range Road at Road "C" needs to be cleared. Estimate #1879 to remove Tree is attached to this report. (see picture 4) **It was recommended by Eric Munson that these are given attention as soon as possible due to them blocking roads.**

1) 

2) 

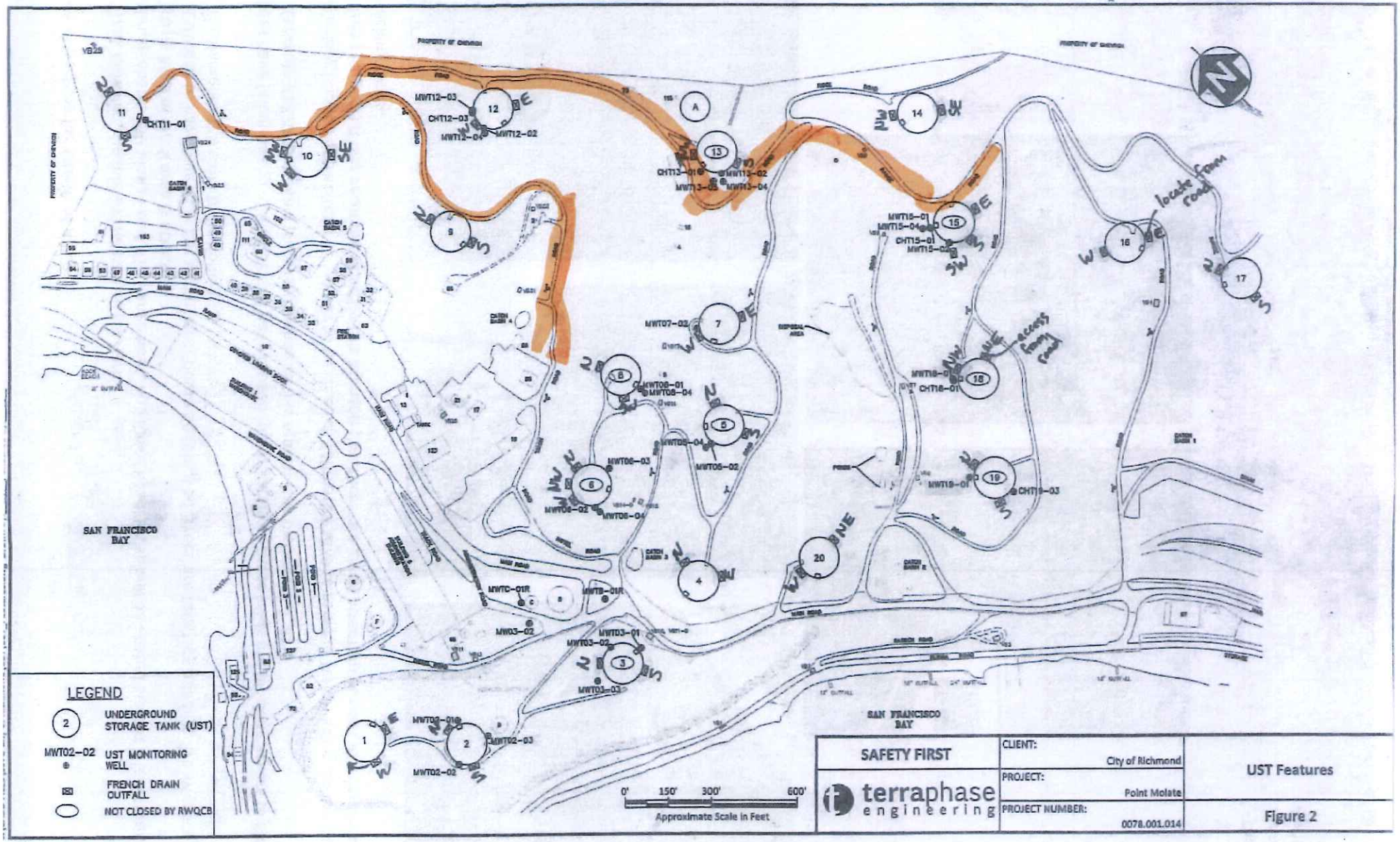
3) 

4) 

5) 

Thank You,
Jonathan Lal
April 6, 2017

8.17


LEGEND
2 UNDERGROUND STORAGE TANK (UST)
MWT02-02 UST MONITORING WELL
FRENCH DRAIN OUTFALL
NOT CLOSED BY RWQCB
SAN FRANCISCO BAY
SAN FRANCISCO BAY
0' 150' 300' 600'
Approximate Scale in Feet
SAFETY FIRST
terraphase engineering
CLIENT: City of Richmond
PROJECT: Point Molate
PROJECT NUMBER: 0078.001.014
UST Features
Figure 2

PACIFIC
SITE MANAGEMENT
A CDECKER COMPANY

Estimate #1770

From **Pacific Site Management**
510-223-6597
www.pacificsitemanagement.com
13265 Bill Francis Drive
Auburn, CA 95603

Bill To PO Box 4046 - Finance Department
Richmond, CA 94804

Sent On 01/27/2017

Job Description Remove Fallen Trees

Date 1/26/17

Rep Jonathan

Point Molate - 4385

Point Molate
2100 Stenmark Dr.
Richmond, CA 94801

Service / Product	Description	Total
Remove Fallen Trees	(5) Blue Gum Eucalyptus near Bldg 32. Removal of fallen trees. Tree stumps will be left in ground. The trees will be cut back past the fence line to allow for chain link fence to be rebuilt.	$8,595.00

Total $8,595.00

All work is to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon orders and will become an extra charge over and above the estimate. All agreements are contingent upon strikes, accidents, weather or delays beyond our control. The information on this proposal in proprietary and is for the sole use of the intended party.
Note: This proposal may be withdrawn by us if not accepted within 30 days.

Signature: _____ **Date:** _____

8.19

PACIFIC
SITE MANAGEMENT
A CDECKER COMPANY

Estimate #1879

From **Pacific Site Management**
510-223-6597
www.pacificsitemanagement.com
13265 Bill Francis Drive
Auburn, CA 95603

Bill To PO Box 4046 - Finance Department
Richmond, CA 94804

Job Description Remove Tree at Range Rd and Road "C"

Date 4/4/17

Rep Jonathan

Point Molate - 4385

Point Molate
2100 Stenmark Dr.
Richmond, CA 94801

Service / Product	Description	Total
Tree Removal	- Remove Fallen Eucalyptus from Range Road. Tree has fallen on slope and is blocking access to road from Maintenance and Fire Crew. Tree also is a HIGH fire danger since it will dry out.	$2,500.00

Total **$2,500.00**

All work is to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon orders and will become an extra charge over and above the estimate. All agreements are contingent upon strikes, accidents, weather or delays beyond our control. The information on this proposal in proprietary and is for the sole use of the intended party.
Note: This proposal may be withdrawn by us if not accepted within 30 days.

Signature: _____ **Date:** _____

8.20

Pt Molate Report
PMCAC #72 May 8, 2017

Tree down on Diesel Road blocking access to Pier area.

Good sized Eucalyptus Sapling.
Road. cleared by DIMO/Parks Staff Mark Maltagliati on Thursday April 27, 2017..

FRIENDS OF POINT MOLATE ACTIVITY REPORT FOR APRIL 2017

WORK ACCOMPLISHED

Due to rain outs, there were only a couple of workdays in April which were devoted to mowing and weeding the picnic areas. Volunteers located the first anise swallowtail caterpillar of the season on the fennel while mowing.

1courtesy Tom Gehling

COMMUNITY MEMBERS WHO HAVE CONTRIBUTED THEIR TIME THIS MONTH Jim McKissock, Jim Hanson, Dorothy Gilbert, Charles Smith, Joe Puleo, Tom Johnson, Tom Gehling, Chia Hamilton, Jim Hite, and Mike Eichenholtz. Their combined efforts total to approximately 70-80 person-hours this month.

NCE Collaboration. Commitment. Confidence.℠

MEMORANDUM

Date:	May 1st, 2017
To:	Tawfic Halaby, Yader Bermudez, Craig Murray
From:	Franz Haidinger
Subject:	Point Molate Beach Park Erosion Assessment – Memorandum

The purpose of this Memorandum is to summarize the work that was performed for the **Point Molate Beach Park Erosion Assessment** project and submit the *Final Beach Erosion Assessment* and the *Final Alternatives Study Report.*

As previously stated in the Progress Memorandum dated February 8th, 2017, the NCE Team completed site evaluation and investigative work, conducted a limited geotechnical soils characterization, conducted a beach erosion assessment, and formulated design alternatives to address the bluff erosion at the beach. The *Limited Geotechnical Soils Characterization*, the *Draft Beach Erosion Assessment* and the *Draft Alternatives Study Report* were included in this Progress Memorandum. Permitting and regulatory compliance related tasks will be completed as part of the design project.

Based on the investigations, analysis of the collected data, and studies, the NCE Team's recommendation is to implement **Alternative A – Rock Revetment** as described in the *Final Alternatives Study Report* to address bluff erosion and to restore the shoreline at the Point Molate Beach Park. The preliminary opinion of probable construction costs lists Alternative A – Rock Revetment at $430,080 (see Exhibit 7, *Final Point Molate Beach Park Alternatives Study Report*).

Now the City has asked NCE to provide a scope and fee to develop construction documents and provide permitting and regulatory compliance services for the **Pt. Molate Beach Park Shoreline Restoration**. The scope and fee will be submitted to the City on May 12th, 2017. The proposed design and permitting schedule will also be included in this scope of work.

Attachments:

1. Point Molate Beach Park – Beach Erosion Assessment (February 3, 2017)
2. Point Molate Beach Park – Shoreline Restoration Alternatives Study Report (February 13, 2017)

Sacramento, CA
8795 Folsom Blvd., Suite 250
Sacramento, CA 95826
(916) 388-5655
www.ncenet.com

Point Molate Beach Park
Beach Erosion Assessment (February 3, 2017)

Sacramento, CA
8795 Folsom Blvd., Suite 250
Sacramento, CA 95826
(916) 388-5655
www.ncenet.com

Point Molate Beach Park

Beach Erosion Assessment

February 3, 2017

Prepared for

Nichols Consulting Engineers

By

2-3-2017

A-N West, Inc.

Consulting Civil and Structural Engineers

Scope of Beach Erosion Assessment

The beach erosion assessment covers Point Molate Beach Park and the portion of bluff just to the north of the Beach Park, as shown on Exhibit 1. This length of shoreline is undergoing noticeable erosion.

The beach erosion assessment included visiting the site, assessing the recession of the bluff, considering wave run-up, future sea level conditions, the effects of regulatory constraints, and the extent of possible restoration efforts.

General Description

The length of shoreline under investigation is part of a beach between rock headlands. Exhibit 1 shows the shoreline and topography in 1939 and 2016. Various watersheds along the shoreline have fed outfalls that discharge at the beach. One such outfall is located at the shoreline near the end of the existing revetment, at the north end of the assessment area, where erosion has been greatest.

The beach foreshore rises from mud at a slope of about 10 horizontal to 1 vertical and appears to comprise compacted material with some rock fragments and debris. The foreshore is about 50-foot wide in general and is backed by the eroded bluff without shore protection.

The bluff material comprises predominantly fill materials of weathered sandstone and siltstone, possibly from past hillside grading.[1] The eroded bluff is steep and can be eroded by combinations of heating and cooling of the surface, wind and rain, drainage, wave and tidal action.

Historical recession has been investigated to provide the necessary information for the design of beach restoration and protection for the proposed trail. Google Earth has been used to assess the extent of recession. This data comprises an aerial photograph from 1939 and a later series of photographs from 1987 to the present.

Exhibit 2 shows the man-made changes that have occurred along this shoreline. The 1939 aerial shows the former Richmond landing for the Richmond/San Rafael ferry to the south, at the extreme left, and the shoreline before revetment construction to the north of the assessment area. The 1987 aerial show the extension to the ferry area and the now revetted shoreline.[2] The 2016 aerial shows the abandoned area at the old ferry site to the extreme left.

Bluff Recession

Major bluff recession has occurred at the northerly portion of the park and beyond the park.

Old aerial mapping from 1939 onwards is available at Google Earth. A 1939 aerial is available with a gap until 1987 onwards. The 1939 aerial does not register well with later mapping. An indication only of the 1939 shoreline is possible. The registration, clarity, and scale of the available mapping allowed for

[1] Limited Geotechnical Soils Characterization at Point Molate Park - NCE Memorandum dated December 13, 2016

[2] The revetment is understood to have been constructed in the early 1940s.

approximate estimates of recession to be made. For the study of recession, 1987, 2002, and 2016 mapping was compared closely. This allows relative recession between the first period of 15 years to be compared with recession over the last 15 years.

In general, recession of a bluff relates to the height of bluff being acted on by water and waves. With a large sea level rise, more of the bluff surface would be exposed to water and wave action for a greater period. Wind wave heights and pressures would increase with sea level rise. The rate of recession would be expected to increase in the future due to sea level rise unless protection is added.

Storm water percolating into the soils behind the beach, water from failed storm water pipes, and natural groundwater would result in soil erosion at the bluff. Areas graded towards the shore will lead to overland storm water saturating and weakening the bluffs.

Soil would be removed from the bluff should an extreme tsunami occur.

Approximate top of bluff lines in 1987 and 2002 have been marked on the 2016 aerial photograph for the area at the end of the existing revetment and the outfall where bluff recession has now extended into the asphalt pavement (Exhibit 3). The 1987 bluff line on the shoreline further to the to the south is shown on Exhibit 4. The magnitude of recession is much less along the beach to the south. It appears that sand has been deposited at the south end of the beach.

Severe erosion has occurred near the storm drain outfall at the end of the existing revetment.

It appears, based upon the information available, that the bluff recession has been caused by a combination of outfall failure and natural erosion processes.

The bluff recession process appears to have been:

- initial failure of the outfall pipe at the original bluff line
- weakening of the bluff due to storm water erosion
- removal of bluff material predominantly by tidal movement and wave action
- loss of support to the next section of pipe
- repetition of pipe loosening and bluff material removal

Pipe corrosion may have contributed to the outfall failure, particularly if the outfall was constructed of corrugated steel pipe.

As the bluff receded, some wave reflection from the end of the existing revetment would add to erosive forces.

Some estimates of the rate of recession and quantity of material removed have been made.

Most of the recession has occurred over a 400-foot length measured southerly from the existing revetment. Estimates have been made separately for the first 240 feet from the revetment and for the next 160 feet length.

From 1987 to 2002 over the 240-foot length, the average rate of recession was 1.4 foot/year for an approximate 1,900-cubic yard loss of material.

From 1987 to 2002 over the next 160-foot length, the average rate of recession was 0.3 foot/year for an approximate 200-cubic yard loss of material.

From 2002 to 2016 over the 240-foot length, the average rate of recession was 1.1 foot/year for an approximate 1,500-cubic yard loss of material.

From 2002 to 2016 over the next 160-foot length, the average rate of recession was 1.1 foot/year for an approximate 700-cubic yard loss of material.

As recession near the storm drain outfall proceeded, the lateral extent of shoreline undergoing recession increased.

The bluff near the outfall receded over the period from 1987 to 2016 by up to 40 feet.

Coastal Processes Considered

Future Sea Level Rise

The San Francisco Bay Conservation and Development Commission (BCDC) and the California Coastal Commission have published sea level rise projections and related inundation maps over the past several years. BCDC have advised that a sea level rise of 0.97 feet by 2030, 1.99 feet by 2050, and 5.46 feet at the end of this century are used in this report.

Tides

The tidal datum values in feet at nearby NOAA Station ID 9414863 are shown below together with estimated tide levels due to future sea level rise. Values are given in feet relative to NAVD88 (North American Vertical Datum of 1988).

		Present Day	2030	2050	2100
High Tide Level	HTL	+7.59	+8.56	+9.58	+13.05
Mean Higher High Water	MHHW	+6.06	+7.03	+8.05	+11.52
Mean High Water	MHW	+5.45	6.42	+7.44	+10.91
Mean Tide Level	MTL	+3.26	+4.23	+4.6	+7.9
Mean Sea Level	MSL	+3.26	+4.23	+5.25	+8.72
Mean Low Water	MLW	+1.12	+2.09	+3.11	+6.58
Mean Lower Low Water	MLLW	0.00	+0.97	+1.99	+5.46

The present published extreme high tide with a one percent exceedance (highest estimated tide) is approximately +9.0 (to within plus or minus 0.5 feet) at Richmond. Such a highest estimated tide would be associated with a storm surge due to sustained high winds in the ocean.

Wind Waves

Locally generated waves from the west and northwest are limited by the low fetch[3] and the protection from the coastal ridge along the ocean. Waves at the entrance to Richmond Harbor channel are reported to be on the order of 3-foot maximum.

The effective fetch for waves from the west and northwest is estimated at 3.9 nautical miles.[4]

In the region of Point Molate, the significant wave height[5] due to 50 knot[6] winds[7] sustained over 30 minutes would be 3.5-foot high with a 3.5 second wave period. An associated maximum wave would be about 5.6 feet high. Such waves will break and dissipate energy before reaching a bluff or shore protection at this study location.

The calculated wave height would be affected by storm surge, refraction, shoaling, and shelter from wave barriers. The wave height is low and adjustments have not been estimated. It is believed, by engineering judgment, that their effects on the wave height magnitude offset each other.

Storm surge resulting from sustained storms at the Golden Gate would raise up the water surface.

Refraction, the effects of varying bed contours, could reduce the wave height in curved bays and increase the wave height at headlands.

Shoaling, the reduction in wave height due to the very flat slope of the mud beach approaching the foreshore, occurs and would reduce the magnitude of the wave height.

The effect of sea level rise is to produce higher wind generated waves that would break on the shore protection with resulting greater forces and higher run-up.

The United States Geological Survey (USGS) shows the reduction of wave action from large waves moving into the Golden Gate. Waves of over 8 feet significant wave height at Golden Gate decay to less than 3 feet significant wave height as they approach the vicinity of Point Molate.

Wind and wave estimates for San Francisco Airport have been used to assess wave action at the Richmond Marina and the Outer Harbor. The estimated wave heights are larger than the waves near Point Molate. Refraction will cause a reduction in the size of such waves reaching the Point Molate shoreline to a somewhat similar value as estimated above.

The estimated waves are compared below against the operation and berthing conditions for wharves, piers, and the ferry once in use along this shoreline.

Limiting waves compatible with allowing operations at the open wharves at and near Point Molate would be likely be less than 1.5 feet high. The typical vessels moored at the wharves could ride out at berth in waves of 3.5 feet height with a wave period of 3.5 seconds.

---

[3] "Fetch" is the distance over which waves are generated.

[4] 1 nautical mile = 1.15 miles.

[5] The average height of the one-third highest waves of a group of waves.

[6] 1 knot = 1.15 miles per hour

[7] This is a high estimate. The maximum 30-minute sustained wind may be nearer 45 knots.

Significant wave heights generated in San Pablo Bay are believed to be up to 2 feet only.

The estimated wave height and period conform well with wave criteria related to past waterfront operations.

Concerns over ferry wake damage generally relate to vessels traveling close to beaches and wetlands. This is not the condition at Point Molate Beach Park. The route of ferries from Vallejo to San Francisco is from 1.1 to 1.6 miles from the shoreline. Other vessels move along the same channel. If there is proposed development near the Park involving the maneuvering and berthing of vessels near to the shore, then a further assessment would be appropriate.

In summary, a significant wave height of 3.5 feet and associated significant wave period of 3.5 seconds is suitable for beach assessment purposes.

Wave Run-up

Wave run-up and overtopping[8] will be of consideration for bluff restoration involving shore protection.

Run-up on shore protection depends on rock size, rock shape, slope, and gradation. For proposed rock slope protection, an estimated run-up height of 1.3 times the maximum wave height acting at the shore protection above the MHW level is assumed.

The present day maximum run-up elevation due to a depth limited 2.8 feet high wave is estimated to be no more than +9.1 NAVD88.

By year 2050, using a 24-inch projected sea level rise, the wave run-up at a future MHW of +7.4 NAVD88, would result in a run-up elevation of +13.1 NAVD88. This estimate is based on the higher limits of the sea level projection range from Table A-2 of the NRC (2012).

The trail is designed to be no lower than approximately +15 NAVD88. Therefor no overtopping of the trail is expected over its likely initial life of 20 to 30 years. Should sea level rise meet the high projections assumed for the end of this century then there could be concern over the vertical distance between trail and water surface caused by overtopping. In such a case, the trail could be raised or a protective barrier added as part of a major maintenance or reconstruction project. Other trails in the Bay Area have been designed with the expectation that they would be occasionally flooded.

Splashing and spray could occur due to winds approaching from the Bay acting together with larger waves at higher tides. Splash and spray nuisance would increase as sea level rises depending on the elevation and set back of the trail. Where the proposed alignment shows a setback of typically 20 feet or more from the top of bluff, the nuisance is likely to be slight during its initial life.

Tsunami[9]

Tsunami effects result from generation in the ocean at a great distance from the entrance to San Francisco Bay. The magnitude of a tsunami is reduced as it moves through the Bay to Point Molate to about a third of the height at the Golden Gate.

[8] The passing of water over the top of a structure resulting from wave run-up.

[9] A long period wave caused by an underwater earthquake or volcanic eruption.

Tsunami maximum water levels for marine terminal design are published for this area in Chapter 31F "Marine Oil Terminals" of the 2013 California Building Code (2013 CBC).

Another recent source[10] indicates a varying tsunami water surface level of +13 feet reducing to +9 feet NAVD88 along the west side of the Chevron Richmond Refinery.

The tsunami wave heights at the refinery are for a very extreme long term condition and overly conservative for a trail located away from Risk Category III and IV development.[11] The more appropriate recurrence interval related to a coastal trail with low risk category development nearby might be less than 100 years. Values for a 100-year return period are given in this report. The tsunami run-up height at Point Molate for a 100-year return period could be just over a foot above mean high tide.

Records of tsunami related readings in the Bay over the past few decades are consistent with tsunami run-up heights of about a foot or less at Point Molate Beach Park.

Information on and analysis of tsunamis has been incorporated in the American Society of Civil Engineer's ASCE 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures for inclusion by reference to the next edition of the California Building Code. If there is to be new Risk Category III or IV building development close to the trail, the Tsunami run-up appropriate for that level of development will likely be that related to a 2,500-year return period (0.0004 annual occurrence rate and a 2 percent probability of occurrence in the next 50 years).

Summary of Water Surface and Run-up Elevations

The higher still water elevations, wave run-up predictions at the bluff, and the BCDC 100-year Base Flood Elevations are summarized below.

		Present Day	2030	2050	2100
BCDC 100-year Base Flood Elevation			+13.97	+14.99	+18.46
Highest Wave Run-up Elevation with water surface at MHW		+9.1	+11.0	+13.1	+18.3
Tsunami run-up with 2,500-year return period		+10.9	+11.8	+12.8	+16.3
Approximate Extreme High Tide at Richmond		+9.0	+10.0	+11.0	+14.5
Tsunami run-up with 100-year return period with water surface at MHW		+6.6	+7.5	+8.5	+12.0
High Tide Level	HTL	+7.59	+8.6	+9.6	+13.1
Mean Higher High Water	MHHW	+6.06	+7.0	+8.1	+11.5
Mean High Water	MHW	+5.45	+6.4	+7.4	+10.9
Mean Tide Level	MTL	+3.26	+4.2	+5.3	+8.7

[10] Draft report to Chevron by URS.

[11] Table 1604.5 of 2013 CBC.

Values are given relative to NAVD88 (North American Vertical Datum of 1988).

The approximate extent of inundation under the BCDC 100-year Base Flood elevations of 2030, 2050, and 2100 is shown on the NCE Shore Erosion Layout Plans. The trail through the park is not inundated by the 2050 100-year Base Flood but portions are shown as inundated by the 2100 100-year Base Flood.

Conclusions

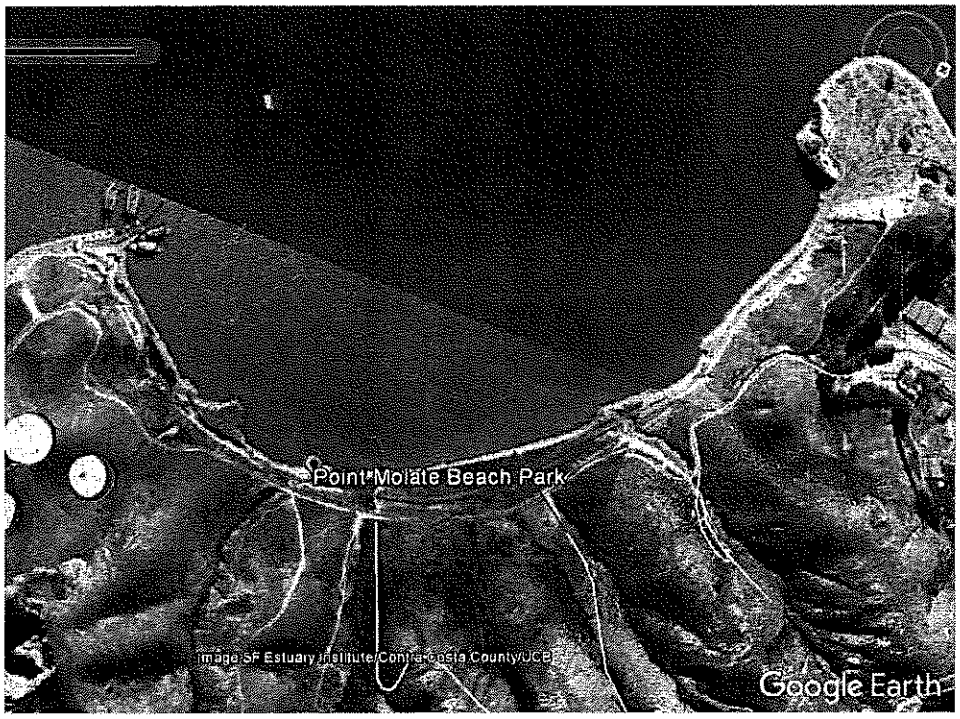
The shoreline within the Beach Park and to the north of the Park has been undergoing recession over the past 30 years or more. This recession appears to be the result of a combination of progressive storm drain outfall failure and bluff erosion caused by the action of storm water, seepage, tides, waves, rain and wind.

Over the past 30-years bluff recession has ranged from negligible towards the south end of the Beach Park up to 40 feet at the storm drain outfall close to the existing rock revetment at the north end of the Beach Park.

Shoreline and outfall restoration is necessary to halt further bluff recession, preserve the beach, and to allow the future trail to be extended on its proposed alignment through this area.

POINT MOLATE
SHORELINE AND TOPOGRAPHY

EXHIBIT 1



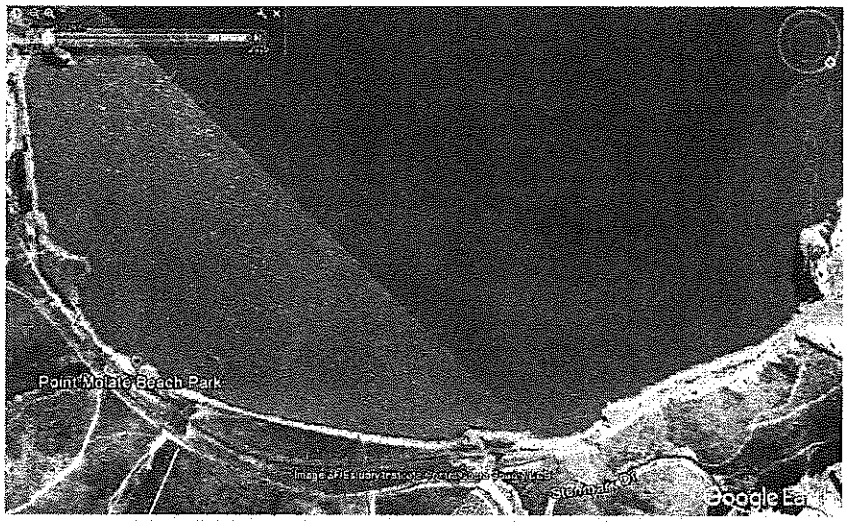
1939

2016

9,13

POINT MOLATE
BEACH CONFIGURATION

EXHIBIT 2



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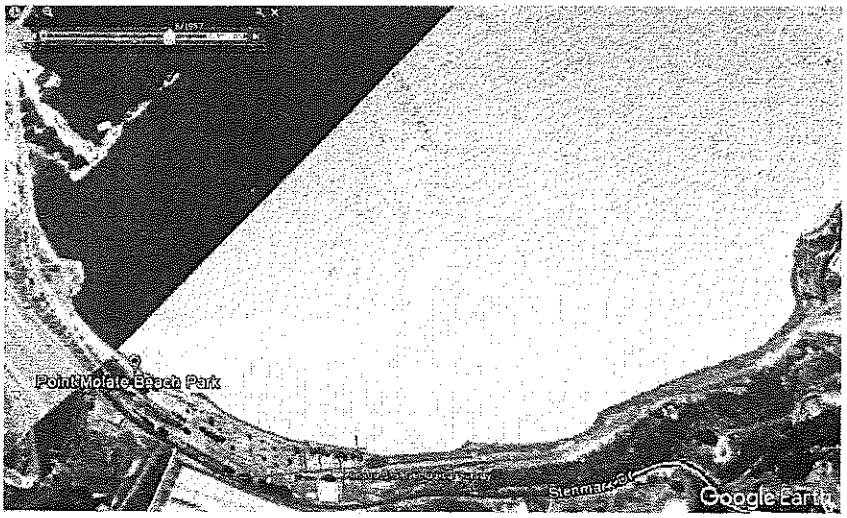
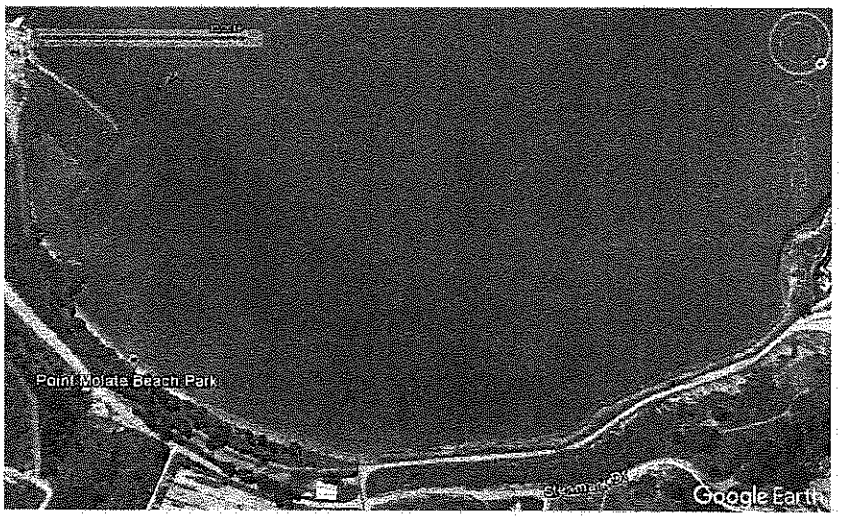
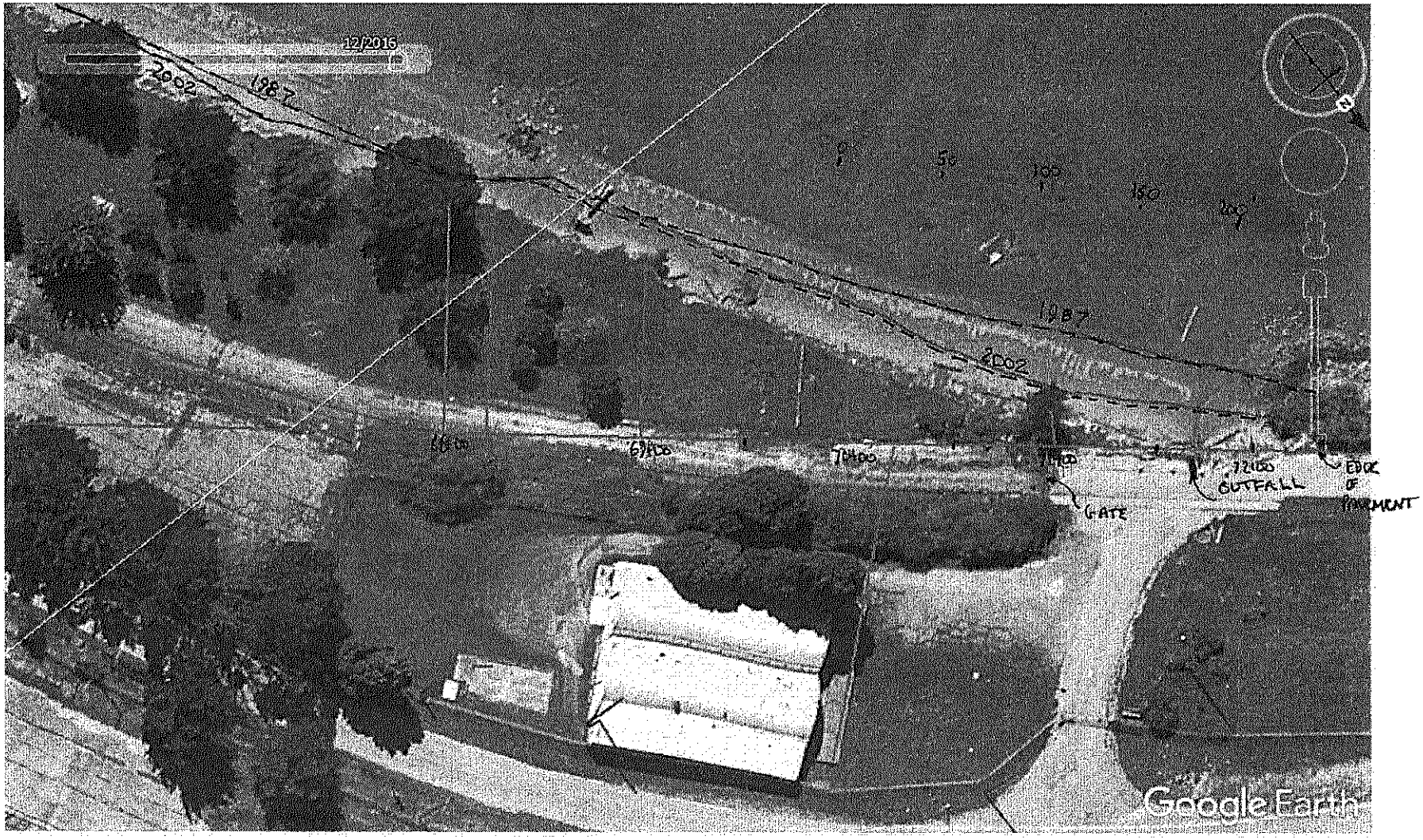


1987



2016

EXHIBIT 3



2016

EXHIBIT 4

DEC 2016

Point Molate Beach Park
Shoreline Restoration Alternatives Study Report (February 13, 2017)

9.17

Point Molate Beach Park

Shoreline Restoration

Alternatives Study Report

February 13, 2017

Prepared for

Nichols Consulting Engineers

By

2.13.2017

A-N West, Inc.
Consulting Civil and Structural Engineers

9.18

Existing Site Conditions

The Beach Erosion Assessment for the Beach Park shows that the bluff along the north end of the Park northwards to the existing revetment has receded due to a combination of storm drain outfall failure and natural shoreline processes resulting from the action of tides, waves, wind, seepage and rain.

Further along the beach to the south, the bluff is continuing to recede to a lesser extent.

The extent of bluff recession is shown on Exhibits 1 and 2.

Phased Approach

The immediate need is to address the erosion where the bluff has moved back to the proposed trail alignment at the north end of the Park.

Phase 1 addresses approximately 400 feet of shoreline at the north end of the Park. The aim is to protect the trail and to halt the active erosion both at the north end of the Park and further down the beach to the south. Two alternatives for partial shoreline restoration have been selected from the design concepts considered. The expectation is that both alternatives will halt the erosion to the south because the shoreline is effectively being restored to that of an earlier time. There could be localized beach erosion occurring just past the end of Phase 1 construction.

Phase 2 addresses the beach to the south that is presently under active erosion. Because the extent of the effect of the Phase 1 restoration on the beach to the south cannot be determined, the Phase 2 process will take place several years after completion of Phase 1. This process will involve an appraisal of bluff changes and the taking of appropriate actions to improve the shoreline. These actions may involve different types of bluff stabilization to those of Phase 1.

Description of the Design Alternatives for Phase 1

It would be expected that restoring the beach out to nearer the 1987 bluff line at the location of greatest recession would be most effective in halting further recession along the beach to the south. However, partial restoration should be sufficient to halt further recession at a reasonable cost.

No borings have been taken at the site. The further development of the adopted Alternative will require soils borings and evaluation of soils data to confirm the suitability of the design, to set design criteria, specify materials, and to finalize dimensions.

The existing outfall drains the watershed at the back of the shore. This drain has not been maintained for many years. This deferred maintenance now needs to be addressed by repair of the remaining drainage line and reconstruction of the outfall to the extent and in a form compatible with the partial shoreline restoration.

In summary, the design Alternatives need to:

1. Repair and protect the bluff at the proposed trail to the north of the Park to ensure that the trail will not be damaged in the future
2. Prevent recession at the restoration and prevent further recession along the beach to the south.
3. Incorporate a repaired and restored storm drain outfall

Two design alternatives have been developed. Both use traditional and well tested forms of construction used for marine waterfront structures.

Alternative A - Revetment

The plan and typical section for the Alterative A is included as Exhibits 3 & 4.

This alternative uses processed rock materials.

The advantages of this revetment alternative are:

- Limited types of materials used and associated lesser complexity
- Lower cost
- Better wave energy reduction
- Negligible impact on existing bank material which may include cultural resources

Alternative B2 - Piled Wall

The plan and typical section for the Alterative B2 is included as Exhibits 5 and 6.

This alternative uses precast concrete and processed rock materials. Precast concrete is preferred over reinforced concrete because of the greater care that can be taken at a precast yard and the resulting more durable and higher quality concrete. Precast prestressed concrete rectangular piles and precast panels are connected. Pre-drilling of holes for the piles would allow better control of the positioning and alignment of the piles and assist driving through hard material.

The vertical wall reflects wave energy which requires a blanket or apron of rock protection in front to prevent scour erosion of the beach and the resulting reduction in lateral support to the piles.

The final portion of the protection to the south is like Alternative A. If the piled wall were to be extended the full length and abruptly terminated, there would be erosion caused by reflected wave energy.

The advantages of the precast concrete concept are:

- Limited or no cofferdam construction in comparison with reinforced concrete construction

The disadvantages of the precast concrete concept are:

- More types of materials, more types of equipment used and greater complexity of construction
- Higher cost than for a processed rock revetment

Two alignments were initially considered for this wall. Alignment B1 was closer to the trail. Alignment B2 is further out from the trail alignment beyond the 2002 top of bluff line. Alignment B1, being close in alignment to the present bluff would result in continuing active erosion further down the beach to the south and therefore did not meet the second need of the project. Alignment B2 also has the added advantage of limiting wave spray on the trail.

Both selected Alternatives involve only partial restoration of the shoreline over the portion of beach extending approximately 400 feet from the existing revetment. The approximate percentage restoration by volume for both Alternatives is about 50 percent of the volume of material eroded since 1987.

Both Alternatives are shown with bluff protection extended to TS Station 12+90 on Exhibit 3. Further extension to the south would limit the accessible area for park users. The attractiveness of the Beach Park is dependent on its being perceived as a natural shoreline park.

Other Concepts Considered

Sheet piling was not considered because of the potential for rock being close to the surface. If borings proved otherwise, then this might be considered further. However, the form of construction would be like that of Alternative B2 - Piled Wall.

Reinforced concrete walls were considered. A conventional cantilever type wall founded in the underlying soils would be feasible, A cofferdam along the front of the wall would be required to allow work to proceed in the dry. Precast concrete is preferred for marine concrete construction due to its greater durability.

Steel sheet piling and reinforced concrete construction are more susceptible to corrosion than precast concrete construction.

Other shoreline protection measures such as gabions and articulated mats are not suitable for saline water, due to deterioration resulting from corrosion.

Environmental Considerations

Cultural Resources

It is understood that the site may have remains of an Indian settlement. Preferably the existing beach should not be disturbed. If it is necessary to disturb the soils, such sites are subject to monitoring during construction, screening of excavated soil, and removal of remains to one of a limited number of approved custodial locations able to accept the remains. The design Alternatives under consideration will result in negligible disturbance of existing soil.

Relationship with respect to Mean High Water

The restoration alternatives show limited extension beyond the 1987 top of bluff line. It is believed that recession began before 1987. Partial restoration construction can be assumed as terminating behind the mean high water line at the start of beach recession.

Construction Feasibility

The feasibility of constructing the two alternatives with reduced environmental impact has been considered.

Alternative A - Revetment

A buttress of rockfill is constructed in front of the existing eroded bluff by means of dumping and grading out with a dozer and excavator, working out from the existing revetment. The buttress is built up full height to the existing grade. Crane mats are placed and a crane with clamshell and grapple are

used to excavate the key and place rock on the flank of the rockfill buttress. After placing the armor rock, the very top of the buttress is taken down and the rockfill material replaced with stone to the typical section shown in Exhibit 4.

Should borings show the presence of hard material at the key, then the rockfill material could be ramped down at about 15 percent slope for access by a tracked rock breaker. Following this operation, the buttress would be raised full height.

Alternative B2 - Piled Wall

A buttress of rockfill is constructed in front of the existing eroded bluff by means of end dumping and grading out with a dozer, working out from the existing revetment. The buttress is built up full height to the existing grade. Crane mats are placed and a crane used to drive the piles which could weigh up to approximately 20 ton. After excavating and placing the apron rock, precast panels would be installed and lightweight fill placed as backfill to the panels.

Should borings show the presence of hard material, then predrilling of piles would be necessary.

Should borings show the presence of hard material at the apron, then the rockfill material could be ramped down at about 15 percent slope for access by a tracked rock breaker. Following this operation, the buttress would be raised full height.

Construction Cost

Budget construction cost estimates have been made for Alternative A - Revetment and Alternative B2 - Piled Wall. These are shown in Exhibit 7.

The cost of Alternative A is about half that of Alternative B2.

A contingency of 40 percent has been used for the alternatives. Both alternatives are dependent upon certain assumptions regarding the subsurface conditions and will need to be confirmed.

In the case of Alternative A, no rock breaking for the key has been assumed. Sufficiently compact material is assumed to be present below the buttress and associated preliminary excavation is assumed as being minimal.

In the case of Alternative B2, no predrilling for piles nor rock breaking for the apron has been assumed. Sufficiently compact material is assumed to be present below the buttress and associated preliminary excavation is assumed as being minimal.

For this budget estimate, the rockfill has been assumed to be reasonably well graded angular rock fragments, and the rock armor assumed to match the Caltrans ½ ton rock slope protection specification.

Recommendation

The recommended alternative is Alternative A – Revetment as shown on Exhibits 3 and 4.

EXHIBIT 1

DEC 2016

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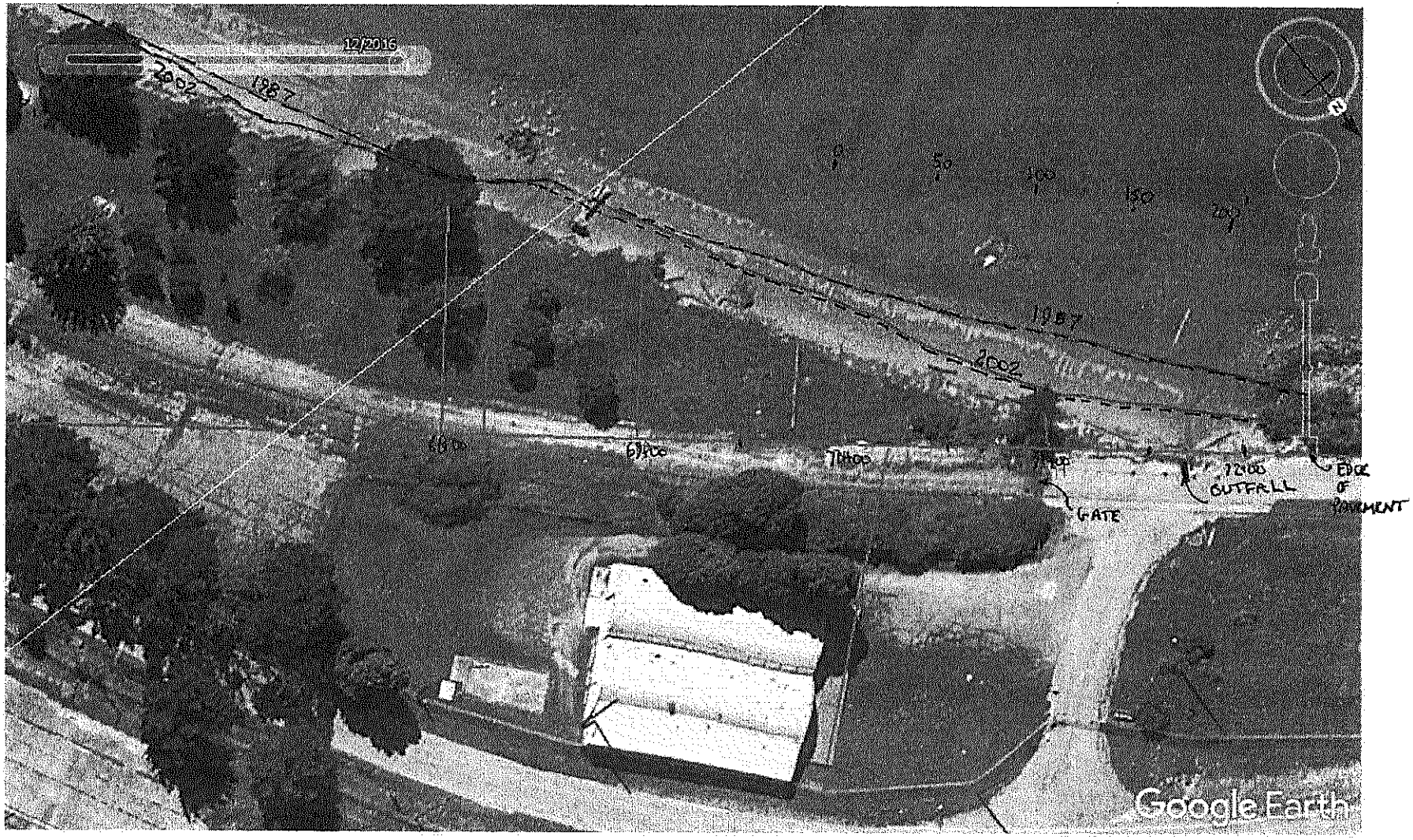
EXHIBIT 2



2016

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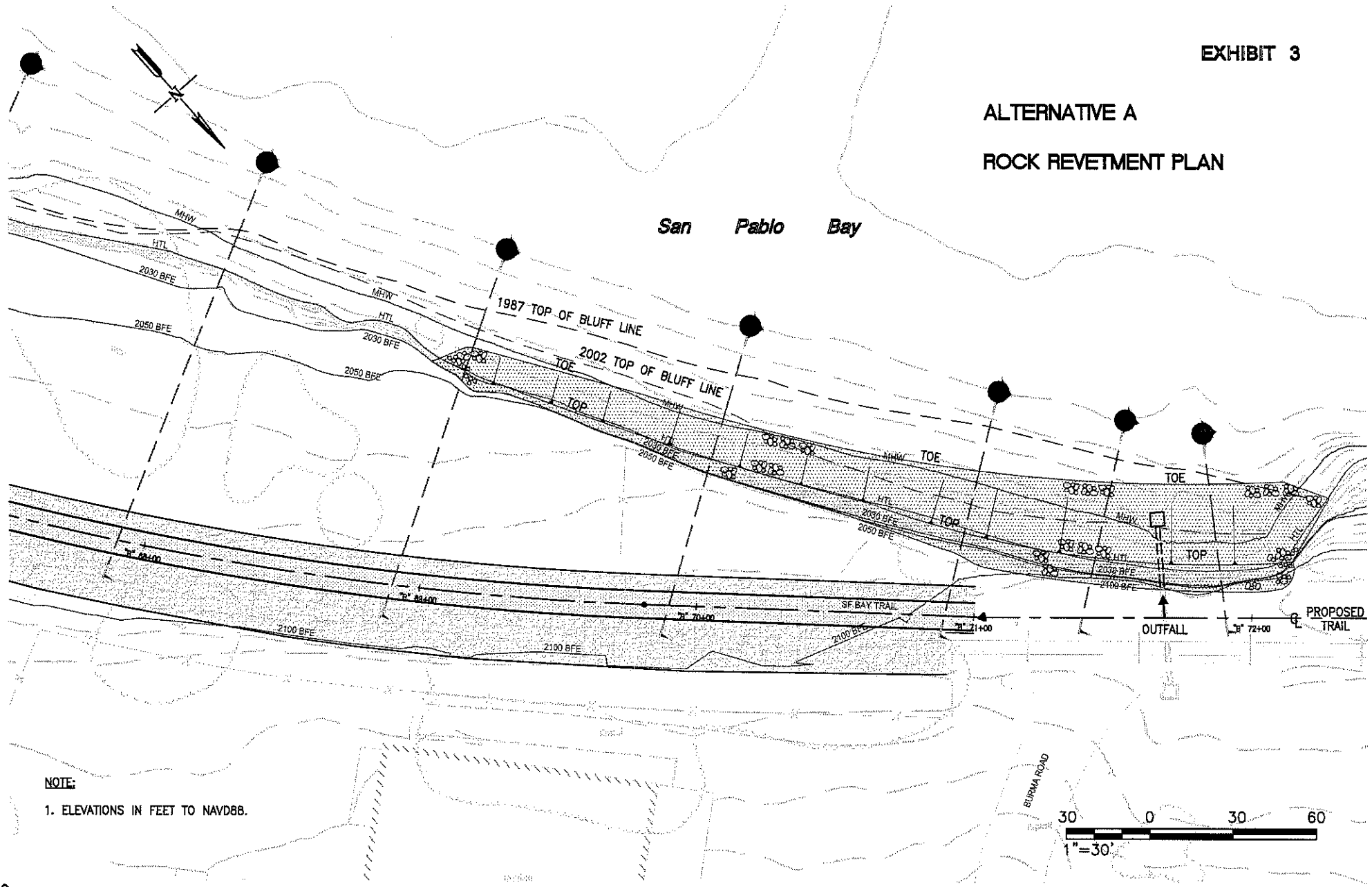
EXHIBIT 3

ALTERNATIVE A

ROCK REVETMENT PLAN

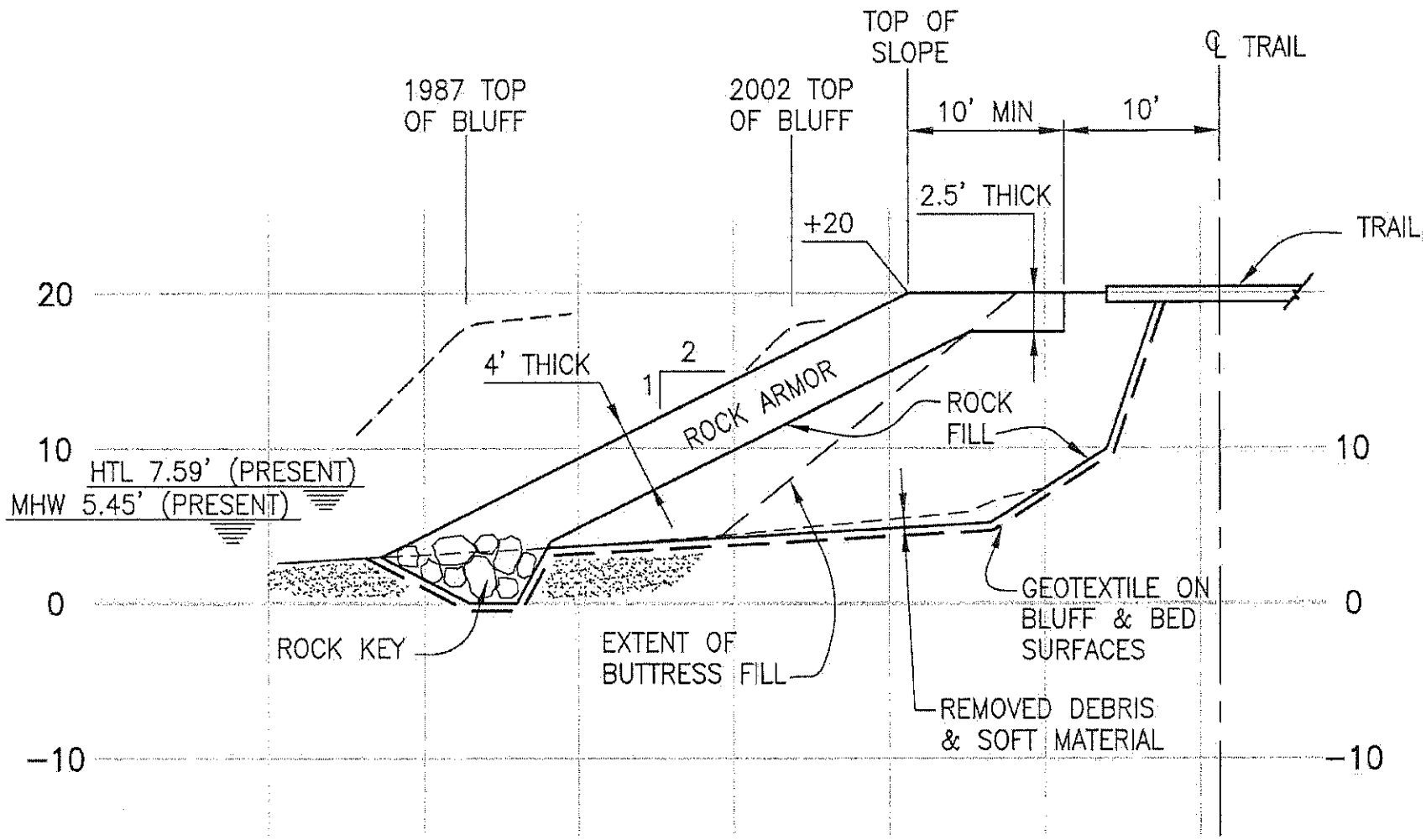


NOTE:

1. ELEVATIONS IN FEET TO NAVD88.

4.25

EXHIBIT 4



10 0 10 20

1"=10'

TYPICAL SECTION – ALTERNATIVE A

1"=10'

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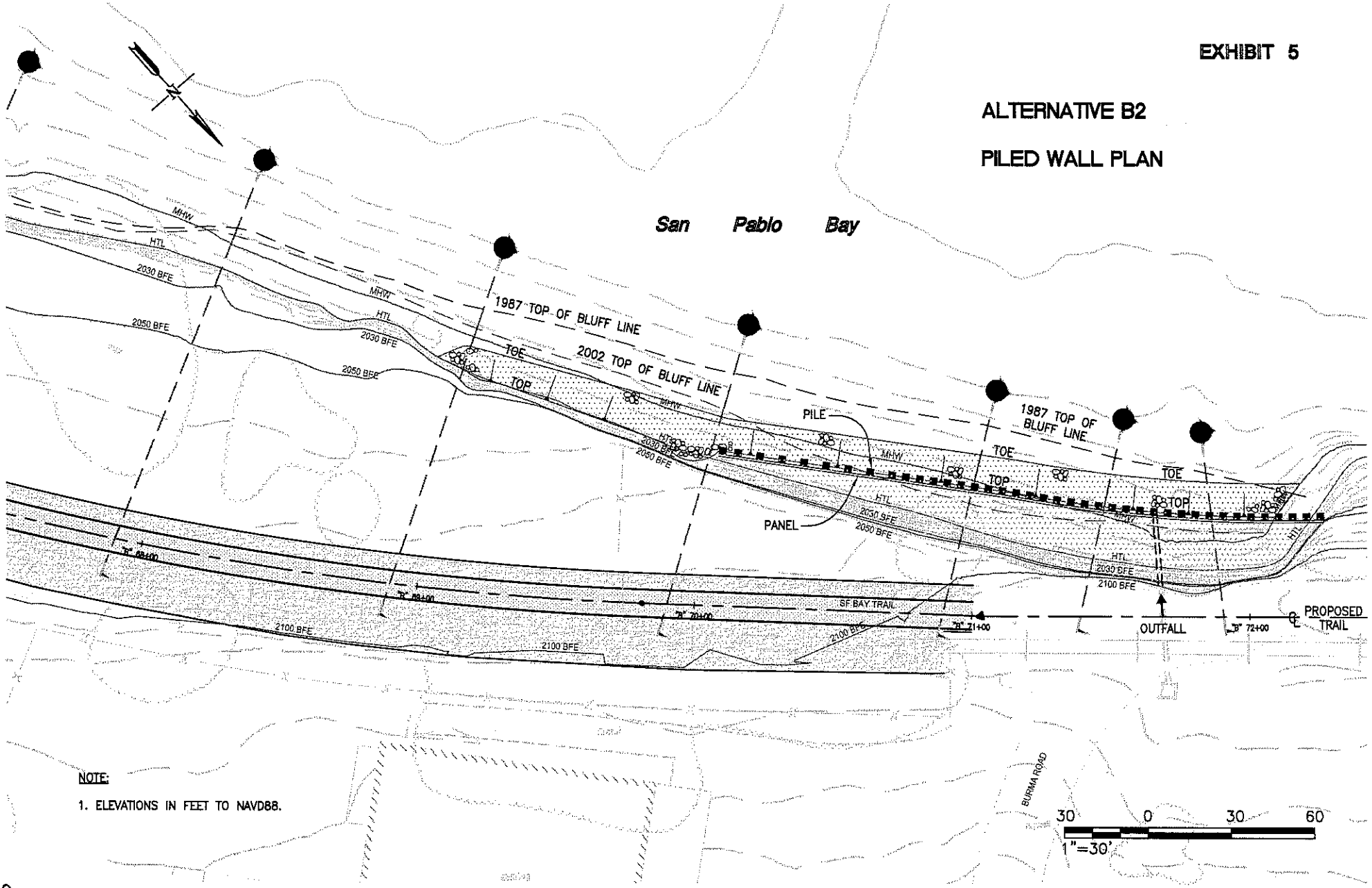
EXHIBIT 5

ALTERNATIVE B2

PILED WALL PLAN

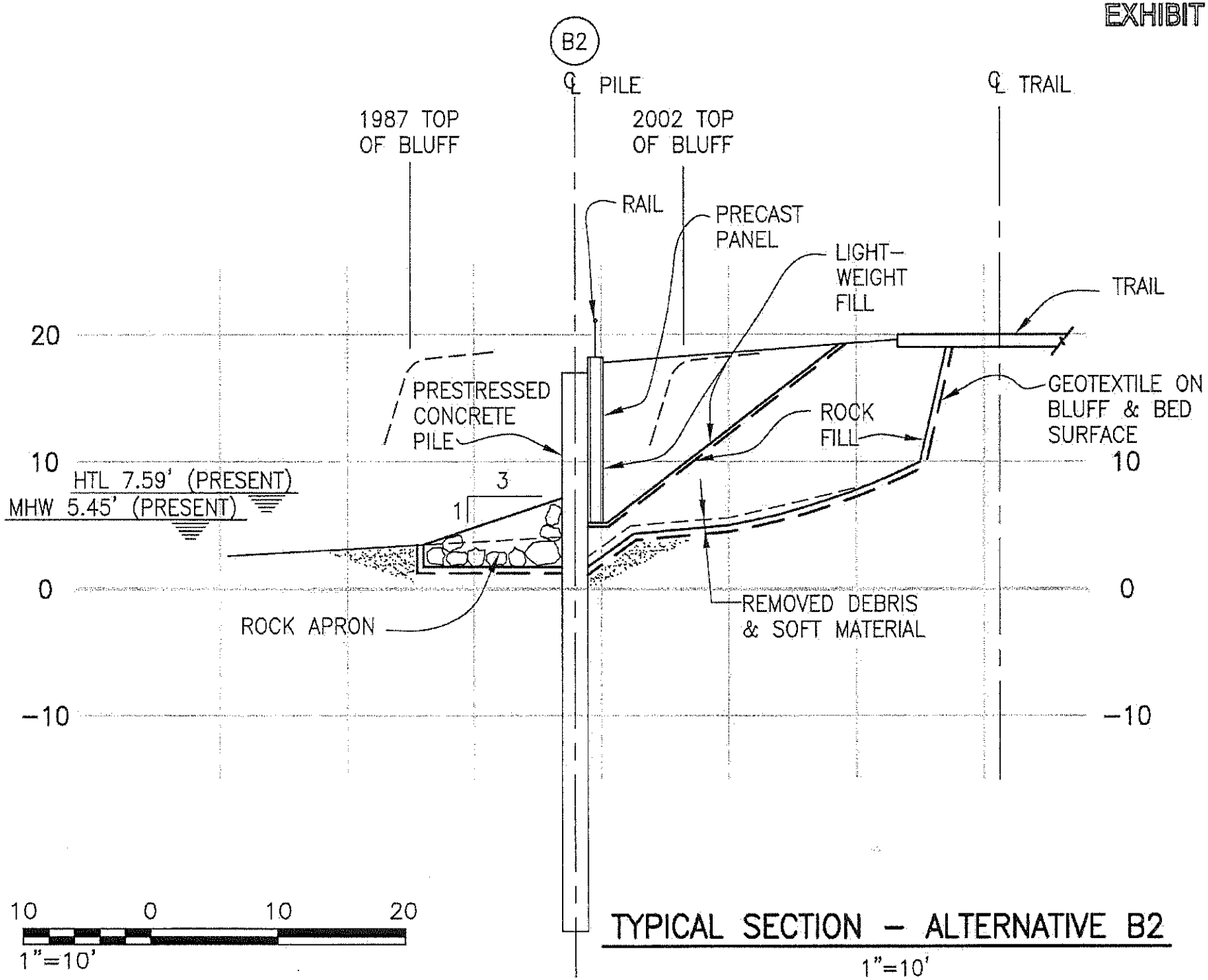


NOTE:

1. ELEVATIONS IN FEET TO NAVD88.

9.27

EXHIBIT 6



TYPICAL SECTION – ALTERNATIVE B2

1"=10'

7,28

Point Molate Beach Park Partial Shoreline Restoration EXHIBIT 7
Budget Cost Estimates
Excluding Cost of Outfall Restoration

ALTERATIVE A - ROCK REVETMENT

ITEM	UNIT	QTY	UNIT COST	AMOUNT
Mobilization	Lump Sum	1	30,000	30,000
Clearing and Excavation	Cubic Yard	300	20	6,000
Geotextile Fabric	Square Yard	470	10	4,700
Rockfill	Cubic Yard	830	80	66,400
Rock	Cubic Yard	1380	145	200,100
	Subtotal			307,200
	Contingency (40%)			122,880
	Estimated Total			430,080

ALTERNATIVE B2 - PILED WALL - ON ALIGNMENT B2 AWAY FROM EXISTING SHORE

ITEM	**UNIT**	**QTY**	**UNIT COST**	**AMOUNT**
Mobilization	Lump Sum	1	60,000	60,000
Clearing and Excavation	Cubic Yard	300	20	6,000
Prestressed piles, furnish	Linear Foot	1475	120	177,000
Prestressed piles, drive	Each	35	2,000	70,000
Precast Panels	Cubic Yard	80	1,200	96,000
Rockfill	Cubic Yard	770	80	61,600
Lightweight Backfill	Cubic Yard	500	90	45,000
Rock Apron	Cubic Yard	740	145	107,300
Geotextile	Square Yard	1330	10	13,300
Railing	Linear Foot	200	30	6,000
	Subtotal			642,200
	Contingency (40%)			256,880
	Estimated Total			899,080