

**APPENDIX A**

**SURFACE CONTAINMENT AND SOIL MANAGEMENT PLAN**

# **APPENDIX A**

## **SURFACE CONTAINMENT AND SOIL MANAGEMENT PLAN**

### **INTRODUCTION**

AECOM has prepared this Surface Containment and Soil Management Plan (SMP) as part of the Remedial Design and Implementation Plan (RDIP) for the Former Kast Property (Site) in Carson, California on behalf of Equilon Enterprises LLC, doing business as Shell Oil Products US (Shell or SOPUS). The SMP is submitted in accordance with Cleanup and Abatement Order (CAO) No. R4-2011-0046 issued to Shell by the California Regional Water Quality Control Board – Los Angeles Region (RWQCB or Regional Board) on March 11, 2011 and amended on July 10, 2015 with approval of the Revised Remedial Action Plan (Revised RAP) and Addendum to the Revised RAP.

The Regional Board is the lead Regulatory Agency for this project; however, the protocols presented in this SMP are intended to apply to all parties involved in soil disturbance activities at the Site (e.g., excavation, landscaping, utility installation), including the City of Carson, County of Los Angeles Department of Public Works, local utility providers, contractors, and residents.

### **OBJECTIVE**

This SMP provides the detailed approach to mitigate potential residential, construction, or utility worker exposure to soils that do not meet Remedial Action Objectives (RAOs) and that may remain at the Site following implementation of the excavation remedy outlined in the Revised RAP and RDIP. For the purposes of this SMP, these soils will be referred to herein as “residual soils.” The SMP details the long-term approach to address potential residual soils should the need arise to disturb these soils in the future. Residual soils may be present at depths below the depth of excavation, as well as in areas not excavated such as beneath homes, City sidewalks and streets.

### **BACKGROUND**

Remediation of soil, soil vapor, and groundwater is required, as approved by the Regional Board, in portions of the Site that do not meet RAOs under existing conditions. In accordance with the CAO, this SMP specifies on-going monitoring requirements for residual soils that will remain in place after remedial excavation. The SMP summarizes protocols for containment, monitoring, and management of such residual soils. This SMP is designed to be used in conjunction with existing administrative controls (e.g., City of Carson and Los Angeles County Codes regarding construction, grading, landscaping, and excavation and encroachment permits).

Site-related constituents of concern (COCs, those COCs associated with the historic use of the Site as an oil storage facility) consist of petroleum hydrocarbon-derived constituents and some metals. In addition, other chemicals have been detected in Site soils that are unrelated to the former Site use as an oil storage facility and are referred to as non-Site-related COCs.

Proposed remedial actions include excavation to 5 feet bgs in landscaped areas of residential properties and areas covered by residential hardscape, including residential planters, walkways, and uncovered patios at properties where RAOs and the more stringent of the health risk-based or leaching to groundwater criteria are not met under existing conditions. Additionally, local targeted deeper excavations from 5 to 10 feet bgs will be conducted at properties in areas where significant additional hydrocarbon mass can be removed. Soil will not be excavated from areas beneath homes, City sidewalks and streets. Excavated areas will be backfilled and landscaping/hardscape will be restored to like conditions or as agreed to with the owner. The backfill and landscaping will provide a protective barrier to minimize the potential for exposure to soils below the depth of excavation. Soils below a depth of 5 feet and soils beneath surface containment features (see below) will be addressed through a combined soil vapor extraction (SVE) and bioventing system that will include installation of SVE/bioventing wells both in City streets and on residential properties where RAOs are not met following soil excavation.

This Soil Containment and Soil Management Plan outlines procedures so that residents or construction/utility workers are not inadvertently exposed to soils that exceed the RAOs for the Site. It also addresses handling and management of impacted soils during remedial construction activities in a manner that is protective of residents in the community and consistent with State and Federal laws and regulations.

## **SURFACE CONTAINMENT**

Physical barriers (e.g., presence of soil not impacted with COCs that exceed RAOs soil to a depth of 5 feet, hardscape, or structures, and City streets and sidewalks) will serve to contain and/or prevent exposure to underlying impacted soils and will restrict access and exposure to deeper soils. In areas where impacted soils will be excavated to 5 feet bgs, the clean imported soil backfill or controlled low strength materials (CLSM, or sand-cement slurry) will serve as a barrier restricting exposure to underlying soils. Additionally, Site soils that meet RAOs will provide surface containment preventing contact with underlying residual soils. Where soils are not removed as part of the remedial excavation, the existing cover (consisting of concrete foundations and floor slabs of houses, garages, City sidewalks, street pavement, etc.) will provide a protective barrier to minimize the potential for exposure to impacted soil below. Site features, such as homes, garages, City sidewalks, and roads are considered part of the protective barrier.

## **MANAGEMENT OF RESIDUAL SOILS CONTAINING SITE COCs ABOVE SSCGS**

Following remedial excavation, residual soils may remain below 5 feet bgs and beneath homes, garages, streets and City sidewalks. The potential for contact with these residual soils will be mitigated by the surface containment features described above, except in limited instances where excavation deeper than 5 feet may be necessary. Because City Code requires Grading Permits for excavations deeper than 3 feet, there is an administrative control already in place to restrict potential contact with these deeper soils (i.e., a permit requirement). This administrative control and notification mechanism is further discussed below.

Based on the distributions of COCs on each property (e.g., Figures 2-3 through 3-8 of this RDIP) and the results of post-excavation soil sampling, Shell will have a means to identify soils remaining after

remedial excavation and remedial system installation that do not meet RAOs. This will provide sufficient identification of the residual soils remaining at the Site to allow any entity performing future excavations at the Site to anticipate the environmental conditions they may encounter. It is anticipated that SVE/bioventing will reduce COC concentrations in residual soils to meet RAOs within an estimated 30 to 40 years (see Section 8.2.4 of the Revised RAP).

### **Administrative Controls**

The City of Carson Building Code Section 8105, which amends the L.A. County Building Code Section 7003.1, is an existing institutional control that would limit, through permitting processes, contact with impacted soils beneath a depth of 3 feet. This existing institutional control supports the planned 5-foot soil excavation remedy. Because of this code provision, the City must be notified and approve excavations deeper than 3 feet. The City could readily inform residents and workers of other appropriate precautions necessary for excavations below the 5-foot depth of planned remedial excavation through existing administrative processes, and also notify Shell that monitoring and disposal may be required. Shell would coordinate with the City of Carson to establish a process through existing building and grading permit reviews, General Plan overlay or footnote, area plan, or similar process, to ensure that if a property owner were to conduct activities involving excavations greater than 5 feet deep (such as building renovation, installation of a pool or deeper landscape alterations), Shell would be notified so that the company could arrange for sampling and proper handling of impacted soils.

Because an institutional control is already in place in the City of Carson requiring Grading Permits in order to excavate at depths below 3 feet, these requirements would not interfere with a homeowner's unrestricted property use and enjoyment. Depending on the selected remedy, land use covenants (LUCs) (e.g., restrictive covenants, easements) may also be appropriate to fully implement remedial alternatives for the Site. Under certain remedial scenarios such as a homeowner requesting that certain landscaping or hardscape not be removed, a new LUC would be required to advise of the residual soils present, but it would not be effective absent homeowner agreement and cooperation.

Anyone performing excavation is required by law to notify the Underground Service Alert (USA) one-call system. Additionally, Shell's contractors are, and would continue to be, set up within the USA one-call system to receive notification of planned excavation work in the Carousel Tract. Upon notification of planned excavations, Shell or their contractors would coordinate with the entity that contacted USA (whether the homeowner or their representative, a homeowner's contractor, or utility company such as Cal-Water, Southern California Gas Company, or AT&T) to provide monitoring and management and handling of residual soils during excavation activities.

Additionally, Shell will implement a community outreach program to inform and educate residents in the community of residual impacted soils and of the notification procedures for management of these materials via the Surface Containment and Soil Management Plan.

### **Monitoring**

A number of types of monitoring may be performed to support excavation activities, depending on the volume and extent of excavation. Appropriate monitoring for dust, odor, and vapors will be conducted. Where required, Shell will offer to perform monitoring if not otherwise being performed by the party doing the work. At a minimum, real-time monitoring of the work area and excavations

will be conducted using a photoionization detector (PID) during excavation operations. Monitoring may also be conducted with a flame-ionization detector (FID) for methane in the parts per million by volume (ppmv) range and a four-gas meter for methane in the percent level, oxygen, carbon dioxide, and hydrogen sulfide. Monitoring for odors may also be conducted based on worker perception, at the downwind property boundary of the residential property where excavation is occurring.

To mitigate offsite dust migration and resultant impacts to neighboring properties, dust monitoring will be conducted for large excavations. If visible dust is encountered, periodic watering of the active excavation areas will be recommended throughout the excavation and backfill activities. In addition to dust suppression efforts, odor suppressants will be recommended to mitigate offsite migration of odors from the work area.

### **Post-Remediation Soil Handling and Management**

As discussed above, notification through participation in the USA system or City of Carson permit requirements would allow Shell's representatives to collect appropriate samples and arrange for disposal of soil generated from excavation work for utilities or for residential construction/maintenance activities, if appropriate. If excavation of the soil is necessary for residential or utility provider construction activities, it is likely that impacted soil would not be suitable for re-use. If requested by the property owner or utility service provider, Shell would arrange for the removal, transportation, and offsite disposal of impacted soil by a qualified waste contractor. If potentially impacted soil is observed during urgent or emergency construction activities (e.g., a gas line repair), and an authorized representative is not onsite, Shell should be notified as early as possible to allow the material to be profiled and properly disposed. If Site soils are being excavated on an urgent basis, the property owner or contractor should ensure that potentially affected soil is segregated and stockpiled to allow for proper soil profiling and management.

After receiving notification that potentially impacted soil could be encountered during the course of construction activities, Shell would arrange for a contractor to collect samples of the soil (either in situ or from a segregated stockpile) for profiling purposes if an updated waste profile is needed.

To the extent possible, impacted soil would be direct loaded into approved waste containers for transport to the appropriate recycling or disposal facility. With advance notice, Shell would provide suitable containers based on the nature of the excavation work being conducted. In the event that it is necessary to temporarily stockpile soil onsite before loading, soils should be placed upon plastic sheeting and covered with plastic until they could be loaded into approved waste containers to be provided.

Excavated impacted soil would be transported offsite to appropriately licensed recycling/disposal facilities by a state-licensed waste hauler for appropriate recycling or disposal. To the extent possible, soils would be pre-profiled, and approval would be obtained from the recycling/disposal facilities before excavation activities begin. Documentation pertaining to waste disposal profiles and waste disposal acceptance would be in place prior to any offsite shipments of waste.

## **Remediation-Related Soil Handling and Management**

Residential excavation will generally start in the backyards, through the side yards and conclude in the front yard of each property. During excavation activities soil will be monitored for volatile organic compounds (VOCs) using an appropriately calibrated photoionization detector (PID). Soil determined as non-VOC containing in accordance with South Coast Air Quality Management District criteria (<50 ppmv) will be moved to the front yards for temporary stockpiling. Soil determined as VOC containing (>50ppmv) will be moved to the front yard and separately stockpiled from non-VOC soil. Soil stockpiles will be loaded on a continuous basis during each work day. The temporary stockpiles will be wetted using an electric pressure washer spraying a fine mist during stockpiling and loading operations. If wetting is found ineffective to control vapors and odor, a solution of BioSolve® and water will be implemented. If this method of vapor control requires upgrading, Rusmar AC-565 long-duration foam will be employed.

An electric conveyor system may be utilized in certain situations if to move soil from the back yards and side yards to the front yard. The soil may be loaded directly into the transport trucks by the conveyor system or temporarily stockpiled for loading. The conveyor will be equipped with a Dust Boss, Model DB-R at the discharge end to dampen soil with a fine mist continuously as it leaves the conveyor belt. If this method of vapor control requires upgrading, a solution of BioSolve® and water or Rusmar AC-565 long-duration foam will be employed as appropriate.

At the end of each work day all stockpiled soil unable to be loaded will be covered using a minimum of 6 ml plastic secured using sandbags following application of vapor and odor suppressants.

## **CONTACTS**

Information regarding the implementation of this SMP can be obtained by calling the Regional Water Quality Control Board project manager at the number listed below. Other governmental agencies that may be responsible for implementing the Soil Management Plan include the South Coast Air Quality Management District (SCAQMD), Los Angeles County Department of Public Works, Los Angeles County Fire Department, Los Angeles County Department of Health, and the City of Carson.

If you have any questions or wish to discuss the project, please contact:

Teklewold Ayalew, PhD, PG  
Regional Board Project Manager  
(213) 576-6739  
tayalew@waterboards.ca.gov

Shell's Kast Community Information Line  
(310) 857-2335  
info@kastproperty.com

## **APPENDIX C**

### **STORMWATER POLLUTION PREVENTION PLAN**

# APPENDIX C

## STORMWATER POLLUTION PREVENTION PLAN

for

Former Kast Property

**RISK LEVEL**   2  

**Legally Responsible Person [LRP]:**

Shell Oil Products US  
20945 S. Wilmington Ave Carson, CA 90810  
Douglas J. Weimer  
310-816-2043

**SWPPP Prepared by:**

AECOM  
999 Town and Country Road, Orange, CA 92868  
Mitali Goel, QSD

**SWPPP Preparation Date**

September 30, 2015

**Estimated Project Dates:**

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Start of Construction	<b>January 2016</b>	Completion of Construction	<b>January 2022</b>
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# Qualified SWPPP Developer

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## Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name:

*Former Kast Property*

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“This Stormwater Pollution Prevention Plan and Attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Orders No. 2009-009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below.”

*Mitali Goel*

09/30/2015

*QSD Signature*

*Date*

Mitali Goel

25169

*QSD Name*

*QSD Certificate Number*

Staff Engineer, AECOM

(714) 689-7319

*Title and Affiliation*

*Telephone Number*

mitali.goel@aecom.com

*Email*

# Legally Responsible Person

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Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: Former Kast Property

"I certify under penalty of law that this document and all Attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Electronically Signed by Douglas J. Weimer

10/12/15

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Signature Legally Responsible Person

---

Date

Douglas J. Weimer

310-816-2043

---

Name of Legally Responsible Person

---

Telephone Number

# Amendment Log

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Project Name: Former Kast Property

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<b>Amendment No.</b>	<b>Date</b>	<b>Brief Description of Amendment, include section and page number</b>	<b>Prepared and Approved By</b>
			Name: QSD#

# Section 1 SWPPP Requirements

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## 1.1 INTRODUCTION

The Former Kast Property (project) comprises approximately 44 acres and is located in the City of Carson, California, in the area inclusive of Marbella Avenue on the west, Panama Avenue on the east, E. 244th Street on the north, and E. 249th Street on the south. The site was former Kast Property and was sold to real estate developers who redeveloped it into the Carousel Community residential housing tract. The project is to perform remedial actions as part of a remedial action plan (RAP) to address environmental conditions in the Carousel neighborhood and protect the Carousel residents. The projects location is shown on the Site Map in Appendix B.

This Stormwater Pollution Prevention Plan (SWPPP) is designed to comply with California's General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (CGP or General Permit) Order No. 2009-0009-DWQ as amended in 2010 and 2012 (NPDES No. CAS000002) issued by the State Water Resources Control Board (State Water Board). This SWPPP has been prepared following the SWPPP Template provided on the California Stormwater Quality Association Stormwater *Best Management Practice Handbook Portal: Construction* (CASQA, 2012). In accordance with the General Permit, Section XIV, this SWPPP is designed to address the following:

- Control of pollutants and their sources, including sources of sediment associated with construction activities (e.g., excavation of hardscape and landscape areas), construction site erosion, and other activities associated with construction activity;
- Where not otherwise required to be under a Los Angeles Water Quality Control Board (Regional Water Board) permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
- Effective site Best Management Practices (BMPs) are included, which will result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Control Technology (BAT/BCT) standard; and
- Calculations and design details, as well as BMP controls, are complete and correct, Appendix A.

The General Permit also requires Risk Level 2 and 3 dischargers to develop and implement a Rain Event Action Plan (REAP) designed to protect all exposed portions of the site within 48 hours prior to any likely precipitation event. A REAP is necessary for traditional construction projects to ensure that active construction sites have adequate erosion and sediment controls implemented prior to the onset of a storm event, even if construction is planned only during the dry season. Specific information on implementing REAPs is provided in Section 4.2.controls.

## 1.2 PERMIT REGISTRATION DOCUMENTS

Required Permit Registration Documents (PRDs) shall be submitted to the SWRCB via the Stormwater Multi Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP), or authorized personnel (i.e., Approved Signatory) under the direction of the LRP. Permit coverage will not commence until the PRDs have been uploaded

and certified through SMARTS, the SWRCB has received the fee statement with check via mail, and a Waste Discharge Identification number (WDID No.) has been assigned. The project-specific PRDs include:

1. Notice of Intent (NOI): To obtain coverage under the CGP, an NOI must be completed in SMARTS. The SWRCB will issue a WDID No. and send all applicable materials to the Los Angeles Regional Water Quality Board (LARWQCB), which then administers and enforces the CGP.
2. Risk Assessment (Construction Site Sediment): The Qualified SWPPP Developer (QSD) shall calculate the Project's risk level following the guidance provided by the Risk Determination Worksheet in Appendix 1 of the CGP.
3. Site Maps: These must include, at a minimum, the specific requirements described in Section J.2 of Attachment B of the CGP.
4. Annual Fee: Under state law, a fee is assessed annually for persons who may discharge construction stormwater under a general permit. Stormwater fee invoices are sent to all filers of an NOI with the SWRCB.
5. Signed Certification Statement (LRP Certification is provided electronically with SMARTS PRD submittal): By approving the submission of information through SMARTS, the LRP / AS agrees to accept responsibility for the information submitted and for the overall compliance of the Project with the CGP.
6. SWPPP: To demonstrate compliance with the requirements of the CGP, the QSD shall include information in the SWPPP that supports the conclusions, selections, use, and maintenance of BMPs. The Qualified SWPPP Practitioner (QSP) shall implement and update the SWPPP as necessary to match site conditions, monitor the site, and maintain BMPs in effective working condition. The SWPPP and each amendment shall be signed by the QSD.

A copy of the submitted PRDs shall also be kept in Appendix C along with the Waste Discharge Identification (WDID) confirmation. The CGP requires the AS to electronically file all permit-related compliance documents. Electronically submitted compliance information is immediately available to the public, as well as the Regional Water Quality Control Boards, via the SMARTS website. In addition, the CGP enables public review and hearings on permit applications when appropriate.

Site Maps can be found in Appendix B. A copy of the submitted PRDs shall also be kept in Appendix C along with the Waste Discharge Identification (WDID) confirmation.

### **1.3 SWPPP AVAILABILITY AND IMPLEMENTATION**

The discharger shall make the SWPPP available at the construction site during working hours (see Section 7.5 of CSMP for working hours) while construction is occurring and shall be made available upon request by site employees, representatives of the LARWQCB, SWRCB, United States Environmental Protection Agency (USEPA), and/or local municipality or stormwater management staff.. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone. (CGP Section XIV.C)

The SWPPP shall be implemented concurrently with the start of ground disturbing activities.

#### 1.4 SWPPP AMENDMENTS

The SWPPP should be revised if any of the following events occur:

- there are any amendments to the CGP;
- there are any changes in project design, construction, or operations that may have a significant effect on the potential for discharge of pollutants to surface waters, groundwater, or municipal separate storm sewer systems (MS4);
- there is a reduction or increase in total disturbed acreage;
- there are violations of any condition of the CGP;
- the general objective of eliminating or minimizing pollutants in stormwater discharges is not achieved;
- there is a change in the project duration that changes the project’s risk level; or
- When deemed necessary by the QSD (note that the QSD has determined that the changes listed in Table 1.1 can be field determined by the QSP; all other changes shall be made by the QSD as formal amendments to the SWPPP).

The following changes have been designated by the QSD as "to be field determined" and constitute minor changes that the QSP may implement based on field conditions.

**Table 1.1 List of Changes to be Field Determined**

Candidate changes for field location or determination by QSP <sup>(1)</sup>	Check changes that can be field located or field determined by QSP
Increase quantity of an Erosion or Sediment Control Measure	✓
Relocate/Add stockpiles or stored materials	✓
Relocate or add toilets	✓
Relocate vehicle storage and/or fueling locations	✓
Relocate areas for waste storage	✓
Relocate water storage and/or water transfer location	✓
Changes to access points (entrance/exits)	✓
Change type of Erosion or Sediment Control Measure	
Changes to location of erosion or sediment control	✓
Minor changes to schedule or phases	✓
Changes in construction materials	✓
<i>(1) Any field changes not identified for field location or field determination by QSP must be approved by QSD</i>	

The following items shall be included in the Amendment Log for each amendment:

- Who requested the amendment;
- The location of proposed change;
- The reason for change;
- The original BMP proposed, if any; and
- The new BMP proposed.

If the LARWQCB determines that the discharger is in violation of the CGP, the SWPPP should be amended and the changes shall be implemented in a timely manner, but in no case more than 14 calendar days after notification.

All amendments shall be dated and signed by the QSD and documented in Appendix D of the SWPPP. In addition, since the SWPPP is intended to be a living document, the QSP shall keep the SWPPP updated with the most current data regarding the Project such that the SWPPP accurately reflects existing on-site conditions.

## **1.5 RETENTION OF RECORDS**

Per the CGP, all dischargers shall maintain a paper or electronic copy of all required records for three (3) years from the date generated or date submitted, whichever is last. These records must be available at the Site until field operations are completed. Within 30 days of completion of field operations, the contractor shall provide Shell Kast with the SWPPP and all associated data as part of the as-built submittal to maintain in their records.

Shell Kast must retain copies of the SWPPP, including a summary of all amendments or revisions, all required inspection reports and visual observations, compliance certifications, sampling forms, non-compliance reports, training records, and records of data used to complete anything uploaded through SMARTS for at least three (3) years from the date after Project completion.

Records assisting in the determination of compliance with the General Permit shall be made available within a reasonable time, to the LARWQCB, SWRCB or U.S. Environmental Protection Agency (USEPA) upon request. Requests by the CVRWQCB for retention of records for a period longer than three years shall be adhered to.

## **1.6 REQUIRED NON-COMPLIANCE REPORTING**

If a General Permit discharge violation occurs the QSP shall immediately notify the LRP. The LRP shall include information on the violation with the Annual Report. Corrective measures will be implemented immediately following identification of the discharge or written notice of non-compliance from the LARWQCB. Discharges and corrective actions must be documented and include the following items:

- The date, time, location, nature of operation and type of unauthorized discharge.
- The cause or nature of the notice or order.
- The control measures (BMPs) deployed before the discharge event, or prior to receiving notice or order.
- The date of deployment and type of control measures (BMPs) deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent re-occurrence.

Reporting requirements for Numeric Action Levels (NALs) exceedances are discussed in Section 7.7.2.7.

## **1.7 ANNUAL REPORT**

The CGP requires all projects that are enrolled for more than one continuous three-month period to submit information and annually certify that their site is in compliance with General Permit requirements. The Annual Report forms must be submitted via SMARTS no later than September 1 of each year. The Annual Report will be used to document continued compliance with the CGP until the Project is completed and the NOT is submitted to the SWRCB through SMARTS.

Forms/logs are included in this SWPPP for the collection of required information during the course of the year. The Inspection Log for the Annual Report can be found in Appendix O, the Summary of Violations can be found in Appendix P, and the Training Log can be found in Appendix K.

## **1.8 CHANGES TO PERMIT COVERAGE**

The General Permit allows for the reduction or increase of the total acreage covered under the General Permit when: a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in permit covered acreage is to be sought. The SWPPP shall be modified appropriately, shall be logged at the front of the SWPPP and certification of SWPPP amendments are to be kept in Appendix D. Updated PRDs submitted electronically via SMARTS can be found in Appendix E.

## **1.9 NOTICE OF TERMINATION**

A Notice of Termination (NOT) must be submitted electronically by the LRP via SMARTS to terminate coverage under the General Permit. The NOT must include a final Site Map and representative photographs of the project site that demonstrate final stabilization has been achieved. The NOT shall be submitted within 90 days of completion of construction. The LARWQCB will consider a construction site complete when the conditions of the General Permit, Section II.D have been met, including the following:

- a) For purposes of "final stabilization," the site will not pose any additional sediment discharge risk than it did prior to the commencement of construction activity.
- b) There is no potential for construction-related stormwater pollutants to be discharged into site runoff.
- c) Proof has been provided that final stabilization has been reached.
  1. Photos showing 70% final cover, no computational proof required; OR
  2. "RUSLE or RUSLE2 method," computational proof required; OR
  3. "Custom method," the discharger shall demonstrate in some manner other than 1 or 2, above, that the site complies with the "final stabilization" requirement.

- d) Construction materials and wastes have been disposed of properly.
- e) Compliance has been demonstrated with the Post-Construction Standards (CGP Section XIII) in the Project's long-term stormwater management plan.
- f) Post-construction stormwater management measures have been installed and a long-term maintenance plan has been established, in accordance with Section XIII of the CGP.
- g) All construction-related equipment, materials and any temporary BMPs no longer needed are removed from the site.

The intent of these requirements is that the post-construction conditions at the project site do not cause or contribute to direct or indirect water quality impacts (i.e., pollution and/or hydromodification) upstream and downstream. The discharger shall certify that final stabilization conditions and all compliance issues, including all annual fees, are satisfied. Failure to certify shall result in continuation of permit coverage, permit requirements, and annual billing.

## Section 2 Project Information

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### 2.1 PROJECT AND SITE DESCRIPTION

#### 2.1.1 Site Description

The former Kast Property site comprises approximately 44 acres occupied by 285 single and two-story single-family residential properties and City streets collectively referred to as the Carousel Tract. The Site is located in the City of Carson in the area inclusive of Marbella Avenue on the west, Panama Avenue on the east, E. 244th Street on the north, and E. 249th Street on the south (Figure 2-1). The Site is bordered by the Los Angeles County Metropolitan Transportation Authority (MTA) railroad tracks to the north (formerly owned by the BNSF Railway Company), Lomita Boulevard to the south, residential properties of the Monterey Pines Community and industrial property of the former Turco Products Facility to the west, and residential properties to the east. The project site is located approximately 1.8 miles South West of the nearest water body Harbor Lake. The project is located at Latitude/Longitude 33.804005/118.270591 at the North West Corner and 33.799444/118.268111 at the South East corner and is identified on the Site Map in Appendix B.

#### 2.1.2 Existing Conditions

As of the initial date of this SWPPP, the project site is occupied by residential properties and collectively with the City Streets is referred to as the Carousel Tract since 1970s. There are 208 identified properties with landscape and hardscape areas with approximate 28 percent pervious and 72 percent impervious area. The Site was undeveloped until 1923 when Shell Company of California constructed three oil storage reservoirs. The oil storage reservoirs were primarily used to store crude oil; however, historical records indicate that bunker oil or heavier intermediate refinery streams may also have been stored in the reservoirs at one time. There is no indication that the reservoirs were used to store any other chemicals or compounds. In year 2008 contamination by petroleum hydrocarbons was discovered at sample locations within the former Kast Property.

#### 2.1.3 Existing Drainage

The Site is relatively flat, with a gradual slope to the northwest. The elevation across the Site ranges from approximately 30 to 40 feet above mean sea level. Stormwater is conveyed through surface runoff and Los Angeles County Storm Drain system. Stormwater discharges, from the site, are not considered direct discharges, as defined by the State Water Board into Machado Lake (Harbor Park Lake). Existing site topography, drainage patterns, and stormwater conveyance systems are shown on Figure 7B.

The construction laydown yard drains to the north west. There is no discharge expected to leave the site.

The project discharges to Machado Lake (Harbor Park Lake) that is listed for water quality impairment on the most recent 303(d)-list for:

- Algae

- Ammonia
- ChemA (tissue)
- Chordane (tissue)
- DDT (tissue)
- Dieldrin (tissue)
- Eutrophic
- Odor
- PCBs (Polychlorinated biphenyls)  
(tissue)

The only potential pollutant from the site that is in list above is trash.

#### **2.1.4 Geology and Groundwater**

The site is underlain by mostly silty and clayey sands. Groundwater occurs beneath the site at approximately 55 feet below ground surface. The groundwater gradient is toward north east.

#### **2.1.5 Project Description**

Land disturbing activities at the site will occur on approximately 35 acres of the project and would include excavation of soil conducted at impacted residential properties where Remedial Action Objectives are not met under existing conditions (Remedial Design and Implementation Plan, 2015). The limits of excavation are shown on Figure 7B in Appendix B. Excavation would be conducted in both landscaped and hardscaped areas of residential yards. Exceptions to excavation beneath hardscape may include patios covered by structures and roofs, swimming pools and pool decking surrounding swimming pools. No excavation for the purposes of direct soil removal remediation would occur beneath City streets and sidewalks or beneath houses. Excavation would be to a depth of five (5) feet below ground surface (bags) and targeted excavation where practicable to 10 feet bags at properties where significant hydrocarbon mass in soil can be reduced. The excavation would also remove residual concrete slabs if encountered during excavation, where practicable and where the slabs can be removed safely. Following excavation, hardscape and landscaping would be restored to like conditions.

A laydown yard of 2.2 acres will be used for construction activities to be performed on site. The laydown yard site plan is shown in Figure 7C. The yard will consist of three modular offices, construction vehicles and equipment storage yard, and related parking.

#### **2.1.6 Developed Condition**

Post construction surface drainage will remain the same as pre construction. The flows will be directed to the north west through surface flows and through stormwater conveyance system on Marbella Avenue and ultimately discharge into Harbor Lake. Post construction drainage patterns and conveyance systems are as shown on Figure 7B in Appendix B.

**Table 2.1 Construction Site Estimates**

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**Table 2.1 Construction Site Estimates**

Construction site area	<u>46.2</u>	acres
Percent impervious before construction	<u>72</u>	%
Runoff coefficient before construction	<u>0.67</u>	
Percent impervious after construction	<u>72</u>	%
Runoff coefficient after construction	<u>0.67</u>	

## **2.2 PERMITS AND GOVERNING DOCUMENTS**

In addition to the General Permit, the following documents have been taken into account while preparing this SWPPP

- Storm Water Management and Discharge Control Ordinance. (Ord. 96-1101, § 1), Carson Municipal Code

## **2.3 STORMWATER RUN-ON FROM OFFSITE AREAS**

There is no anticipated offsite run-on to this construction site. Based on the USGS contour data the site and vicinity is gently sloping towards south west. To the north of the site are the railroad tracks and because of the grading, no flow is expected on to the site. The east border of the site are the houses from which stormwater is drained and conveyed south of the site. The existing curb and gutter will be maintained during construction. The excavation areas (homes) all drain toward the street.

The south and east boundaries of the construction laydown yard has curb and gutter that will be maintained to prevent run-on. The site flows to the north west.

## **2.4 FINDINGS OF THE CONSTRUCTION SITE SEDIMENT AND RECEIVING WATER RISK DETERMINATION**

A construction site risk assessment has been performed for the project and the resultant risk level is Risk Level 2.

Project Sediment Risk. Project Sediment Risk is determined by multiplying the R, K, and LS factors from the Revised Universal Soil Loss Equation (RUSLE) to obtain an estimate of project-related bare ground soil loss expressed in tons/acre. The RUSLE equation is as follows:

$$A = (R)(K)(LS)(C)(P)$$

Where:

A = the rate of sheet and rill erosion

R = rainfall-runoff erosivity factor

K = soil erodibility factor

LS = length-slope factor

C = cover factor (erosion controls)

P = management operations and support practices (sediment controls)

The C and P factors are given values of 1.0 to simulate bare ground conditions.

The R factor is determined using the online USEPA Rainfall Erosivity Factor Calculator (<http://water.epa.gov/polwaste/npdes/stormwater/Welcome-to-the-Rainfall-Erosivity-Factor-Calculator.cfm>). The K and LS factors were used as provided in SMARTS, a site specific analysis as provided in Appendix 1 of the CGP.

Table 2.2 and Table 2.3 summarize the sediment and receiving water risk factors and document the sources of information used to derive the factors.

The risk level is based on project duration, location, proximity to impaired receiving waters and soil conditions. A copy of the Risk Level determination submitted on SMARTS with the PRDs is included in Appendix C.

Table 2.2 and Table 2.3 summarize the sediment and receiving water risk factors and document the sources of information used to derive the factors.

**Table 2.2 Summary of Sediment Risk**

<b>RUSLE Factor</b>	<b>Value</b>	<b>Method for establishing value</b>
R	219.41	EPA LEW Calculator
K	0.32	GIS Map Method as per CGP
LS	9.62	GIS Map Method as per CGP
<b>Total Predicted Sediment Loss (tons/acre)</b>		<b>675.4</b>
<b>Overall Sediment Risk</b> Low Sediment Risk < 15 tons/ acre Medium Sediment Risk >= 15 and < 75 tons/acre High Sediment Risk >= 75 tons/acre		<input type="checkbox"/> Low <input type="checkbox"/> Medium <input checked="" type="checkbox"/> High

Runoff from the project site sheet flows towards south west and also discharges through a storm drain on Marbella Avenue towards West of the site that discharge into Harbor Park Lake through a storm drain.

**Table 2.3 Summary of Receiving Water Risk**

<b>Receiving Water Name</b>	<b>303(d) Listed for Sediment Related Pollutant<sup>(1)</sup></b>	<b>TMDL for Sediment Related Pollutant<sup>(1)</sup></b>	<b>Beneficial Uses of COLD, SPAWN, and MIGRATORY<sup>(1)</sup></b>
Machado Lake (Harbor Park Lake)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Overall Receiving Water Risk</b>			<input checked="" type="checkbox"/> Low <input type="checkbox"/> High
(1) If yes is selected for any option the Receiving Water Risk is High			

Risk Level 2 sites are subject to both the narrative effluent limitations and numeric effluent standards. The narrative effluent limitations require stormwater discharges associated with construction activity to minimize or prevent pollutants in stormwater and authorized non-stormwater through the use of controls, structures and best management practices. Discharges from Risk Level 2 site are subject to NALs for pH and turbidity shown in Table 2-4. This SWPPP has been prepared to address Risk Level 2 requirements (General Permit Attachment D).

**Table 2.4      Numeric Action Levels**

<b>Parameter</b>	<b>Unit</b>	<b>Numeric Action Level Daily Average</b>
pH	pH units	Lower NAL = 6.5 Upper NAL = 8.5
Turbidity	NTU	250 NTU

## **2.5                    CONSTRUCTION SCHEDULE**

The site sediment risk was determined based on construction activities taking place between January 2016 and January 2022. The construction will take place in phases in sequential order from 1 through 27. Modification or extension of the schedule (start and end dates) may affect risk determination and permit requirements. The LRP shall contact the QSD if the schedule changes during construction to address potential impact to the SWPPP. The estimated schedule for planned work can also be found in Appendix F.

## **2.6                    POTENTIAL CONSTRUCTION ACTIVITY AND POLLUTANT SOURCES**

Appendix G includes a list of construction activities and associated materials that are anticipated to be used onsite. These activities and associated materials will or could potentially contribute pollutants, other than sediment, to stormwater runoff.

The anticipated activities and associated pollutants were used in Section 3 to select the Best Management Practices for the project. Location of anticipated activities and associated BMPs are show on the Site Map in Appendix B.

For sampling requirements for non-visible pollutants associated with construction activity please refer to Section 7.7.1. For a full and complete list of onsite pollutants, refer to the Material Safety Data Sheets (MSDS), which are retained onsite at the construction trailer.

## **2.7                    IDENTIFICATION OF NON-STORMWATER DISCHARGES**

Non-stormwater discharges consist of discharges which do not originate from precipitation events. The General Permit provides allowances for specified non-stormwater discharges that do not cause erosion or carry other pollutants.

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit and listed in the SWPPP, or authorized under a separate NPDES permit, are prohibited.

Non-stormwater discharges that are authorized from this project site include the following:

- Discharges from emergency fire-fighting activities;
- Water used to control dust, provided reclaimed water or other wastewaters are not used;
- Uncontaminated groundwater or spring water;
- Flushing of fire hydrants and pipes using dechlorinated potable water sources;
- Water used for compacting soil, provided reclaimed water or other wastewaters are not used; and,
- Uncontaminated waters obtained from dewatering.

These authorized non-stormwater discharges will be managed with the stormwater and non-stormwater BMPs described in Section 3 of this SWPPP and will be minimized by the QSP.

There are no activities at this site that may result in unauthorized non-stormwater discharges. Discharges of construction materials and wastes, such as fuel or paint, resulting from dumping, spills, or direct contact with rainwater or stormwater runoff, are also prohibited.

The following discharge(s) have been authorized by (a) regional NPDES permit(s):

- None

## 2.8 REQUIRED SITE MAP INFORMATION

The construction project’s Site Map(s) showing the project location, surface water boundaries, geographic features, construction site perimeter and general topography and other requirements identified in Attachment B of the General Permit is located in Appendix B. Table 2.5 identifies Map or Sheet Nos. where required elements are illustrated.

**Table 2.5 Required Map Information**

Included on Map/Plan Sheet No. <sup>(1)</sup>	Required Element
Yes	The project’s surrounding area (vicinity)
Yes	Site layout
Yes	Construction site boundaries
Yes	Drainage areas
Yes	Discharge locations
Yes	Sampling locations (may be modified based on field observations)
Yes	Areas of soil disturbance (temporary or permanent)

**Table 2.5 Required Map Information**

<b>Included on Map/Plan Sheet No. <sup>(1)</sup></b>	<b>Required Element</b>
NA	Active areas of soil disturbance (cut or fill)
Yes	Locations of runoff BMPs
Yes	Locations of erosion control BMPs
Yes	Locations of sediment control BMPs
NA	ATS location (if applicable)
NA	Locations of sensitive habitats, watercourses, or other features which are not to be disturbed
Yes	Locations of all post construction BMPs
Yes	Waste storage areas
Yes	Vehicle storage areas
Yes	Material storage areas
Yes	Entrance and Exits
Yes	Fueling Locations

Notes: (1) Indicate maps or drawings that information is included on (e.g., Vicinity Map, Site Map, Drainage Plans, Grading Plans, Progress Maps, etc.)

## Section 3 Best Management Practices

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### 3.1 SCHEDULE FOR BMP IMPLEMENTATION

The deployment of BMPs will be conducted as shown in Table 3.1.

**Table 3.1 BMP Implementation Schedule**

	<b>BMP</b>	<b>Implementation</b>	<b>Duration</b>
<b>Erosion Control</b>	EC-1, Scheduling, EC-2 Preservation of Existing Vegetation	Prior to Construction	Entirety of Project
<b>Sediment Control</b>	SE-4, Check Dams, SE-5, Fiber Rolls, SE-6, Gravel Bag Berm, SE-7, Street Sweeping and Vacuuming SE-8, Sandbag Barrier, SE-10, Storm Drain Inlet Protection	Prior to Construction or As determined necessary by QSP	Entirety of Project or As determined necessary by QSP
<b>Tracking Control</b>	TC-1 Stabilized Construction Entrance/Exit, SE-7, Street Sweeping and Vacuuming	Prior to Construction	Entirety of Project
<b>Wind Erosion</b>	TC-1 Stabilized Construction Entrance/Exit SE-7 Street Sweeping and Vacuuming	Prior to Construction	Entirety of Project

### 3.2 EROSION AND SEDIMENT CONTROL

Erosion and sediment controls are required by the General Permit to provide effective reduction or elimination of sediment related pollutants in stormwater discharges and authorized non-stormwater discharges from the Site. Applicable BMPs are identified in this section for erosion control, sediment control, tracking control, and wind erosion control.

#### 3.2.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles.

This construction project will implement the following practices to provide effective temporary and final erosion control during construction:

1. Preserve existing vegetation where required and when feasible.

2. The area of soil disturbing operations shall be controlled such that the Contractor is able to implement erosion control BMPs quickly and effectively.
3. Stabilize non-active areas within 14 days of cessation of construction activities or sooner if stipulated by local requirements.
4. Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding or alternate methods.
5. Prior to the completion of construction, apply permanent erosion control to remaining disturbed soil areas.

Sufficient erosion control materials shall be maintained onsite to allow implementation in conformance with this SWPPP.

The following temporary erosion control BMP selection table indicates the BMPs that shall be implemented to control erosion on the construction site. Fact Sheets for temporary erosion control BMPs are provided in Appendix H.

In addition to the BMPs provided in Appendix H, the excavations performed at the site will also be considered as the storm retention BMPs.

**Table 3.2 Temporary Erosion Control BMPs**

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement <sup>(1)</sup>	BMP Used		If not used, state reason
			YES	NO	
EC-1	Scheduling	✓	✓		Project phasing shall limit the area of disturbance to that which can be adequately protected prior to forecasted rain events.
EC-2	Preservation of Existing Vegetation	✓	✓		Soils will be excavated from landscaped areas, however, vegetation will be restored post completion of excavation.
EC-3	Hydraulic Mulch	✓ <sup>(2)</sup>		✓	No grading activities are occurring to use this BMP. Since the site is mostly paved, the perimeter BMPs (silt fence and gravel bags) will provide erosion control.
EC-4	Hydroseed	✓ <sup>(2)</sup>		✓	See above note for Hydraulic Mulch
EC-5	Soil Binders	✓ <sup>(2)</sup>		✓	See above note for Hydraulic Mulch
EC-6	Straw Mulch	✓ <sup>(2)</sup>		✓	See above note for Hydraulic Mulch
EC-7	Geotextiles and Mats	✓ <sup>(2)</sup>		✓	See above note for Hydraulic Mulch
EC-8	Wood Mulching	✓ <sup>(2)</sup>		✓	See above note for Hydraulic Mulch
EC-9	Earth Dike and Drainage Swales	✓ <sup>(3)</sup>		✓	See above note for Hydraulic Mulch
EC-10	Velocity Dissipation Devices			✓	Not required since no steep slopes exist on site.
EC-11	Slope Drains			✓	Not required since no steep slopes exist on site.
EC-12	Stream Bank Stabilization			✓	There are no streambanks or channels to protect onsite.
EC-14	Compost Blankets	✓ <sup>(2)</sup>		✓	Not applicable to this site.
EC-15	Soil Preparation-Roughening			✓	Not applicable to this site.
EC-16	Non-Vegetated Stabilization	✓ <sup>(2)</sup>		✓	Contractor(s) shall use other measures.
WE-1	Wind Erosion Control	✓		✓	Contractor(s) shall use other measures.
<b>Alternate BMPs Used:</b>					<b>If used, state reason:</b>
Construction trenches					Trenches dug during excavation will also act as storm retention BMPs
<sup>(1)</sup> Applicability to a specific project shall be determined by the QSD. <sup>(2)</sup> The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements. <sup>(3)</sup> Run-on from offsite shall be directed away from all disturbed areas, diversion of offsite flows may require design/analysis by a licensed civil engineer					

**Table 3.2 Temporary Erosion Control BMPs**

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement <sup>(1)</sup>	BMP Used		If not used, state reason
			YES	NO	
and/or additional environmental permitting					

These temporary erosion control BMPs shall be implemented in conformance with the following guidelines and as outlined in the BMP Factsheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

### **Scheduling**

Excavation will proceed in twenty-seven (27) phases, with each phase of work including an average of approximately ten contiguous properties, assuming access can be obtained. Each phase will include homes on both sides of a city block (e.g., the east side of Marbella and west side of Neptune Avenues or the west side of Ravenna and east side of Panama Avenues). This approach will be used so that back-of-lot fences or block walls can be removed one time and excavation conducted in both yards before the fences are restored. Removal of the side and back fences/walls will also facilitate equipment access and ability to conduct bulk excavations rather than more time consuming slot trenching.

Project phasing shall limit the area of disturbance to that which can be adequately protected prior to forecasted rain events. All BMPs shall be in place year-round on an as-needed basis. Construction activities shall be scheduled and performed to minimize the area and duration of exposure of soil to erosion by wind, rain, runoff and vehicle tracking.

### **Preservation of Existing Vegetation**

Soils will be excavated from landscaped areas, however, vegetation will be restored post completion of excavation.

### **Construction Trenches as BMP**

Excavations will be conducted as part of the project. Result of these excavations will be temporary trenches up to 10 ft. These trenches would also temporarily act as erosion control stormwater retention BMP in case of a rain event.

### **3.2.2 Sediment Controls**

Sediment controls are temporary or permanent structural measures that are intended to complement the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water.

The following sediment control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site. Fact Sheets for temporary sediment control BMPs are provided in Appendix H.

**Table 3.3 Temporary Sediment Control BMPs**

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement <sup>(1)</sup>	BMP used		If not used, state reason
			YES	NO	
SE-1	Silt Fence	✓ <sup>(2) (3)</sup>		✓	The site slopes are gentle and fiber rolls or gravel bags will be more effective for sediment control
SE-2	Sediment Basin			✓	It is not anticipated that sediment basin will be required.
SE-3	Sediment Trap			✓	It is not anticipated that sediment basin will be required.
SE-4	Check Dams		✓		Contractor(s) shall use check dam configuration if flow exceeds the ability of SE-6 to control.
SE-5	Fiber Rolls	✓ <sup>(2)(3)</sup>	✓		Contractor(s) shall place linear sediment barriers along the toe of slope, face of slope, and at the grade breaks of exposed slope. When SE-5 is used with construction fence as a perimeter control, fiber rolls must be adequately secured so that stormwater flows cannot go around or under them. Fiber rolls shall also be used as linear sediment barriers in vegetated areas and around stockpiles.
SE-6	Gravel Bag Berm	✓ <sup>(3)</sup>	✓		Contractor(s) shall use gravel bags to hold plastic sheeting in place when protecting materials/stockpiles or slopes, and lieu of SE-5 where necessary to control erosion.
SE-7	Street Sweeping	✓	✓		Contractor(s) shall clean streets whenever tracking is evident.
SE-8	Sandbag Barrier		✓		Contractor(s) may use sand bags in lieu of gravel bags
SE-9	Straw Bale Barrier			✓	Other barrier type BMPs (SE-1 or SE-5 & SE-8) shall control sediment from site.
SE-10	Storm Drain Inlet Protection	✓ RL2&3	✓		Contractor(s) shall install gravel bags and filter fabric at any existing and proposed inlets.
SE-11	ATS			✓	Not applicable.
SE-12	Manufactured Linear Sediment Controls			✓	Contractor(s) shall use other measures.
SE-13	Compost Sock and Berm	✓ <sup>(3)</sup>		✓	Contractor(s) shall use other measures.
SE-14	Biofilter Bags	✓ <sup>(3)</sup>		✓	Contractor(s) shall use other measures.
TC-1	Stabilized Construction Entrance and Exit	✓	✓		Contractor(s) shall stabilize all entrance/exits to the site.
TC-2	Stabilized Construction Roadway			✓	Contractor(s) shall use other measures.
TC-3	Entrance Outlet Tire Wash			✓	It is not anticipated that tire wash will be required.
<b>Alternate BMPs Used:</b>					<b>If used, state reason:</b>

**Table 3.3 Temporary Sediment Control BMPs**

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement <sup>(1)</sup>	BMP used		If not used, state reason
			YES	NO	
Construction trenches					Trenches dug during excavation will also act as storm retention BMPs
<sup>(1)</sup> Applicability to a specific project shall be determined by the QSD <sup>(2)</sup> The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements <sup>(3)</sup> Risk Level 2 & 3 shall provide linear sediment control along toe of slope, face of slope, and at the grade breaks of exposed slope					

These temporary sediment control BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

### **Check Dams**

Contractor(s) will use check dam configuration if flow exceeds the ability of gravel bag berm to control.

### **Fiber Rolls**

Contractor(s) shall place linear sediment barriers along the perimeter of each phase. When SE-5 is used with construction fence as a perimeter control, fiber rolls must be adequately secured so that stormwater flows cannot go around or under them. Fiber rolls will also be used as linear sediment barriers in landscape areas and around stockpiles.

### **Gravel Bag Berm**

Contractor(s) will use gravel bags to hold plastic sheeting in place when protecting materials/stockpiles or slopes, and lieu of SE-5 where necessary to control erosion.

### **Street Sweeping**

Contractor(s) will keep the streets free of sediment/debris and will use street sweepers as necessary to prevent tracking sediment.

### **Sandbag Barrier**

Contractor(s) may use sand bags in lieu of gravel bags.

### **Storm Drain Inlet Protection**

Contractor(s) will install gravel bags and filter fabric at any existing and proposed inlets.

### **Stabilized Construction Entrance and Exit**

Contractor will use existing paved streets as the entrance/exit when available at the site and at laydown yard, in conjunction with street sweeping. Contractor will use the stabilized entrance/exit and modify as per site conditions. These will vary for each construction schedule. Only vehicles and equipment needed for the site work will be allowed on the exposed areas of the site. Regular ingress/egress of construction vehicle is not expected during the day for each phase. The vehicle will only leave the site when that phase is complete. Most vehicles will be parked on the paved streets outside of the excavation areas.

### **Construction Trenches as BMP**

Excavations will be conducted as part of the project. Result of these excavations will be temporary trenches up to 10 ft. These trenches would also temporarily act as sediment control and stormwater retention BMP in case of a rain event.

### **3.3 NON-STORMWATER CONTROLS AND WASTE AND MATERIALS MANAGEMENT**

#### **3.3.1 Non-Stormwater Controls**

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit, are prohibited. Non-stormwater discharges for which a separate NPDES permit is required by the local Regional Water Board are prohibited unless coverage under the separate NPDES permit has been obtained for the discharge. The selection of non-stormwater BMPs is based on the list of construction activities with a potential for non-stormwater discharges identified in Section 2.7 of this SWPPP.

The following non-stormwater control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site. Fact Sheets for temporary non-stormwater control BMPs are provided in Appendix H.

**Table 3.4 Temporary Non-Stormwater BMPs**

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement <sup>(1)</sup>	BMP used		If not used, state reason
			YES	NO	
NS-1	Water Conservation Practices	✓	✓		No additional water used onsite except for dust control.
NS-2	Dewatering Operation		✓		All procedures outlined in NS-2 will be followed
NS-3	Paving and Grinding Operation		✓		All procedures outlined in NS-3 will be followed.
NS-4	Temporary Stream Crossing			✓	No stream crossings onsite.
NS-5	Clear Water Diversion			✓	No permanent water diversions onsite.
NS-6	Illicit Connection/Discharge	✓	✓		Inspections shall be performed daily. Issues shall be reported to the engineer.
NS-7	Potable Water/Irrigation		✓		For the existing irrigation lines, procedures outlined in NS-7 shall be followed
NS-8	Vehicle and Equipment Cleaning	✓	✓		Vehicle cleaning will be performed offsite as much as possible
NS-9	Vehicle and Equipment Fueling	✓	✓		Vehicle fueling will be performed offsite as much as possible
NS-10	Vehicle and Equipment Maintenance	✓	✓		Vehicle maintenance will be performed offsite as much as possible
NS-11	Pile Driving Operation			✓	No pile driving operations occurring onsite
NS-12	Concrete Curing		✓		All procedures outlined in NS-12 will be followed
NS-13	Concrete Finishing		✓		All procedures outlined in NS-13 will be followed
NS-14	Material and Equipment Use Over Water			✓	No equipment will be used over water.
NS-15	Demolition Removal Adjacent to Water			✓	No demolition removal adjacent to water.
NS-16	Temporary Batch Plants			✓	No temporary batch plants on site.
<b>Alternate BMPs Used:</b>				<b>If used, state reason:</b>	

**Table 3.4 Temporary Non-Stormwater BMPs**

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement <sup>(1)</sup>	BMP used		If not used, state reason
			YES	NO	
<sup>(1)</sup> Applicability to a specific project shall be determined by the QSD					

Non-stormwater BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

### **Dewatering Operation**

Groundwater is at about 50 feet bgs and is not expected to be encountered. However, since the soil is contaminated and groundwater may be perched on a site, any groundwater would be collected and tested and disposed of offsite. There will be no discharge to storm drain system. If rain water collects into the excavation, it will be collected and tested for off-site disposal.

### **Vehicle cleaning, fueling, maintenance**

Vehicle cleaning, fueling and maintenance will be performed offsite as much as possible or at the construction yard. BMPs will be implemented on site to prevent leaks and spills from vehicles or equipment when fueling, conducting maintenance, storage or cleaning.

### **Water Conservation/irrigation/potable water**

Contractor(s) shall use the procedures outlined in NS-1 and NS-7 for the conserving water and preventing discharges during irrigation line work.

### **Illicit Connection/Discharge**

Inspections shall be performed for any illicit connections or discharge onto the site. Issues shall be reported to the engineer.

## **3.3.2 Materials Management and Waste Management**

Materials management control practices consist of implementing procedural and structural BMPs for handling, storing and using construction materials to prevent the release of those materials into stormwater discharges. The amount and type of construction materials to be utilized at the Site will depend upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as soil binders for temporary stabilization.

Waste management consist of implementing procedural and structural BMPs for handling, storing and ensuring proper disposal of wastes to prevent the release of those wastes into stormwater discharges.

Materials and waste management pollution control BMPs shall be implemented to minimize stormwater contact with construction materials, wastes and service areas; and to prevent materials and wastes from being discharged off-site. The primary mechanisms for stormwater contact that shall be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials

- Direct discharge to the storm drain system through spills or dumping
- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products, which can leach pollutants into stormwater.

A list of construction activities is provided in Section 2.6. The following Materials and Waste Management BMP selection table indicates the BMPs that shall be implemented to handle materials and control construction site wastes associated with these construction activities. Fact Sheets for Materials and Waste Management BMPs are provided in Appendix H.

**Table 3.5 Temporary Materials Management BMPs**

CASQA Fact Sheet	BMP Name	Meets a Minimum Requirement <sup>(1)</sup>	BMP used		If not used, state reason
			YES	NO	
WM-01	Material Delivery and Storage	✓	✓		Materials to be delivered and stored in designated areas of the site.
WM-02	Material Use	✓	✓		All procedures outlined in WM-2 shall be followed.
WM-03	Stockpile Management	✓	✓		All procedures outlined in WM-3 shall be followed.
WM-04	Spill Prevention and Control	✓	✓		Spill Prevention and Control Plan shall be followed. Spill response supplies will be located on site.
WM-05	Solid Waste Management	✓	✓		All procedures outlined in WM-5 shall be followed.
WM-06	Hazardous Waste Management	✓	✓		All procedures outlined in WM-6 shall be followed.
WM-07	Contaminated Soil Management		✓		All procedures outlined in WM-7 shall be followed.
WM-08	Concrete Waste Management	✓	✓		All procedures outlined in WM-8 shall be followed.
WM-09	Sanitary-Septic Waste Management	✓	✓		Secondary containment to be provided.
WM-10	Liquid Waste Management		✓		All procedures outlined in WM-10 shall be followed.
<b>Alternate BMPs Used:</b>				<b>If used, state reason:</b>	
<sup>(1)</sup> Applicability to a specific project shall be determined by the QSD.					

Material management BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets.

### **3.4 POST CONSTRUCTION STORMWATER MANAGEMENT MEASURES**

Post construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed.

This site is located in an area subject to a Phase I or Phase II Municipal Separate Storm Sewer System (MS4) permit approved Stormwater Management Plan.  Yes  No

After the excavations are completed, the roads, pavement, landscaping etc will be replaced in kind. This will result in no additional post BMP installations on-site.

A plan for the post construction funding and maintenance of these BMPs has been developed to address at minimum five years following construction. The post construction BMPs that are described above shall be funded and maintained by the LRP (until turned over to each homeowner).

## Section 4 BMP Inspection, Maintenance, and Rain Event Action Plans

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### 4.1 BMP INSPECTION AND MAINTENANCE

The General Permit requires routine weekly inspections of BMPs, along with inspections before, during, and after qualifying rain events. A BMP inspection checklist must be filled out for inspections and maintained on-site with the SWPPP. The inspection checklist includes the necessary information covered in Section 7.6. A blank inspection checklist can be found in Appendix I. Completed checklists shall be kept in CSMP Attachment 2 “Monitoring Records.

BMPs shall be maintained regularly to ensure proper and effective functionality. If necessary, corrective actions shall be implemented within 72 hours of identified deficiencies and associated amendments to the SWPPP shall be prepared by the QSD.

Specific details for maintenance, inspection, and repair of Construction Site BMPs can be found in the BMP Factsheets in Appendix H.

### 4.2 RAIN EVENT ACTION PLANS

The Rain Event Action Plans (REAP) is written document designed to be used as a planning tool by the QSP to protect exposed portions of project sites and to ensure that the discharger has adequate materials, staff, and time to implement erosion and sediment control measures. These measures are intended to reduce the amount of sediment and other pollutants that could be generated during the rain event. It is the responsibility of the QSP to be aware of precipitation forecast and to obtain and print copies of forecasted precipitation from NOAA’s National Weather Service Forecast Office.

The SWPPP includes REAP templates but the QSP will need to customize them for each rain event. Site-specific REAP templates for each applicable project phase can be found in Appendix J. The QSP shall maintain a paper copy of completed REAPs in compliance with the record retention requirements Section 1.5 of this SWPPP. Completed REAPs shall be maintained in Appendix J.

The QSP will develop an event specific REAP 48 hours in advance of a precipitation event forecast to have a 50% or greater chance of producing precipitation in the project area. The REAP will be onsite and be implemented 24 hours in advance of any the predicted precipitation event.

At minimum the REAP will include the following site and phase-specific information:

1. Site Address;
2. Calculated Risk Level 2;
3. Site Stormwater Manager Information including the name, company and 24-hour emergency telephone number;
4. Erosion and Sediment Control Provider information including the name, company and 24-hour emergency telephone number;

5. Stormwater Sampling Agent information including the name, company, and 24-hour emergency telephone number;
6. Activities associated with each construction phase;
7. Trades active on the construction site during each construction phase;
8. Trade contractor information; and
9. Recommended actions for each project phase.

## Section 5 Training

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Appendix L identifies the QSPs for the project. To promote stormwater management awareness specific for this project, periodic training of job-site personnel shall be included as part of routine project meetings (e.g. daily/weekly tailgate safety meetings), or task specific trainings as needed.

The QSP shall be responsible for providing this information at the meetings, and subsequently completing the training logs shown in Appendix K, which identifies the site-specific stormwater topics covered as well as the names of site personnel who attended the meeting. Tasks may be delegated to trained employees by the QSP provided adequate supervision and oversight is provided. Training shall correspond to the specific task delegated including: SWPPP implementation; BMP inspection and maintenance; and record keeping.

Documentation of training activities (formal and informal) is retained in SWPPP Appendix K.

## Section 6 Responsible Parties and Operators

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### 6.1 RESPONSIBLE PARTIES

Approved Signatory or LRP who is responsible for SWPPP implementation and have authority to sign permit-related documents is listed below. If an approved Signatory is assigned to the project, a written authorization from the LRP for this individual should be kept in Appendix L.

Name	Title	Phone Number
Douglas Weimer	Senior Principal Program Manager	310-816-2043

QSPs identified for the project are identified in Appendix L. The QSP shall have primary responsibility and significant authority for the implementation, maintenance and inspection/monitoring of SWPPP requirements. The QSP will be available at all times throughout the duration of the project. Duties of the QSP include but are not limited to:

- Implementing all elements of the General Permit and SWPPP, including but not limited to:
  - Ensuring all BMPs are implemented, inspected, and properly maintained;
  - Performing non-stormwater and stormwater visual observations and inspections;
  - Performing non-stormwater and storm sampling and analysis, as required;
  - Performing routine inspections and observations;
  - Implementing non-stormwater management, and materials and waste management activities such as: monitoring discharges; general Site clean-up; vehicle and equipment cleaning, fueling and maintenance; spill control; ensuring that no materials other than stormwater are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems; etc.;
- The QSP may delegate these inspections and activities to an appropriately trained employee, but shall ensure adequacy and adequate deployment.
- Ensuring elimination of unauthorized discharges.
- The QSPs shall be assigned authority by the LRP to mobilize crews in order to make immediate repairs to the control measures.
- Coordinate with the Contractor(s) to assure all of the necessary corrections/repairs are made immediately and that the project complies with the SWPPP, the General Permit and approved plans at all times.

- Notifying the LRP or Authorized Signatory immediately of off-site discharges or other non-compliance events.

## **6.2 CONTRACTOR LIST**

### **Contractor**

Name: Ron J. Gentile

Title: Superintendent

Company: AIS, Inc.

Address: 1502 E. Opp Street Wilmington, CA 90744-3927

Phone Number: 310-713-8764

Number (24/7): 310-713-8764

Name: Bobby Ponce

Title: Field Personnel

Company: AECOM

Address: 999 Town and Country Road

Phone Number: 714-567-2501

Number (24/7): 714-  
567-2501

## Section 7 Construction Site Monitoring Program

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### 7.1 Purpose

This Construction Site Monitoring Program was developed to address the following objectives:

1. To demonstrate that the site is in compliance with the Discharge Prohibitions and Numeric Action Levels (NALs) of the Construction General Permit;
2. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;
3. To determine whether immediate corrective actions, additional Best Management Practices (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in stormwater discharges and authorized non-stormwater discharges;
4. To determine whether BMPs included in the SWPPP and REAP are effective in preventing or reducing pollutants in stormwater discharges and authorized non-stormwater discharges.

### 7.2 Applicability of Permit Requirements

This project has been determined to be a Risk Level 2 project. The General Permit identifies the following types of monitoring as being applicable for a Risk Level 2 project.

#### Risk Level 2

- Visual inspections of Best Management Practices (BMPs);
- Visual monitoring of the site related to qualifying storm events;
- Visual monitoring of the site for non-stormwater discharges;
- Sampling and analysis of construction site runoff for pH and turbidity;
- Sampling and analysis of construction site runoff for non-visible pollutants when applicable; and
- Sampling and analysis of non-stormwater discharges when applicable.

### **7.3. Weather and Rain Event Tracking**

Visual monitoring, inspections, and sampling requirements of the General Permit are triggered by a qualifying rain event. The General Permit defines a qualifying rain event as any event that produces ½ inch of precipitation. A minimum of 48 hours of dry weather will be used to distinguish between separate qualifying storm events.

#### **7.3.1 Weather Tracking**

The QSP should daily consult the National Oceanographic and Atmospheric Administration (NOAA) for the weather forecasts. These forecasts can be obtained at <http://www.srh.noaa.gov/>. Weather reports should be printed and maintained with the SWPPP in CSMP Attachment 1 “Weather Reports”.

#### **7.3.2 Rain Gauges**

The nearest NOAA rain gauge is Hawthorne, Hawthorne Municipal Airport (KHHR) Latitude: 33.92361°, Longitude: - 118.33194°) to obtain the observed precipitation data (<http://www.cnrfc.noaa.gov/>). A log of rain gauge readings will be maintained in CSMP Attachment 1 “Weather Records”.

### **7.4 Monitoring Locations**

Monitoring locations are shown on the Site Map 7A in Appendix B. Monitoring locations are described in the Sections 7.6 and 7.7.

Whenever changes in the construction site might affect the appropriateness of sampling locations, the sampling locations shall be revised accordingly. All such revisions shall be implemented as soon as feasible and the SWPPP amended. Temporary changes that result in a one-time additional sampling location do not require a SWPPP amendment.

### **7.5 Safety and Monitoring Exemptions**

Safety practices for sample collection will be in accordance with the project-specific Health and Safety Plan prepared by the Contractor.

This project is not required to collect samples or conduct visual observations (inspections) under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms.
- Outside of scheduled site business hours.

Scheduled site business hours are Monday to Friday, 7am to 4pm

If monitoring (visual monitoring or sample collection) of the site is unsafe because of the dangerous conditions noted above then the QSP shall document the conditions for why an exception to performing the monitoring was necessary. The exemption documentation shall be filed in CSMP Attachment 2 “Monitoring Records”.

## 7.6 Visual Monitoring

Visual monitoring includes observations and inspections. Inspections of BMPs are required to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Visual observations of the site are required to observe storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources.

Table 7.1 identifies the required frequency of visual observations and inspections. Inspections and observations will be conducted at the locations identified in Section 7.6.3.

<b>Table 7.1 Summary of Visual Monitoring and Inspections</b>	
<b>Type of Inspection</b>	<b>Frequency</b>
<i>Routine Inspections</i>	
BMP Inspections	Weekly <sup>1</sup>
BMP Inspections – Tracking Control	Daily
Non-Stormwater Discharge Observations	Quarterly during daylight hours
<i>Rain Event Triggered Inspections</i>	
Site Inspections Prior to a Qualifying Event	Within 48 hours of a qualifying event <sup>2</sup>
BMP Inspections During an Extended Storm Event	Every 24-hour period of a rain event <sup>3</sup>
Site Inspections Following a Qualifying Event	Within 48 hours of a qualifying event <sup>2</sup>
<sup>1</sup> Most BMPs must be inspected weekly; those identified below must be inspected more frequently. <sup>2</sup> Inspections are required during scheduled site operating hours. <sup>3</sup> Inspections are required during scheduled site operating hours regardless of the amount of precipitation on any given day.	

### 7.6.1 Routine Observations and Inspections

Routine site inspections and visual monitoring are necessary to ensure that the project is in compliance with the requirements of the Construction General Permit.

#### 7.6.1.1 Routine BMP Inspections

Inspections of BMPs are conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

#### 7.6.1.2 Non-Stormwater Discharge Observations

Each drainage area will be inspected for the presence of or indications of prior unauthorized and authorized non-stormwater discharges. Inspections will record:

- Presence or evidence of any non-stormwater discharge (authorized or unauthorized);

- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

## **7.6.2      *Rain-Event Triggered Observations and Inspections***

Visual observations of the site and inspections of BMPs are required prior to a qualifying rain event; following a qualifying rain event, and every 24-hour period during a qualifying rain event. Pre-rain inspections will be conducted after consulting NOAA and determining that a precipitation event with a 50% or greater probability of precipitation has been predicted.

### **7.6.2.1      *Visual Observations Prior to a Forecasted Qualifying Rain Event***

Within 48-hours prior to a qualifying event a stormwater visual monitoring site inspection will include observations of the following locations:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly implemented;
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

BMP inspections and visual monitoring will be triggered by a NOAA prediction of rain in the project area.

BMP inspections and visual monitoring will be triggered by a NOAA quantitative predicted forecast (QPF) that indicates ½-inch or more of rain will occur in the project area.

### **7.6.2.2      *BMP Inspections During an Extended Storm Event***

During an extended rain event BMP inspections will be conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

If the construction site is not accessible during the rain event, the visual inspections shall be performed at all relevant outfalls, discharge points, downstream locations. The inspections should record any projected maintenance activities.

### **7.6.2.3      *Visual Observations Following a Qualifying Rain Event***

Within 48 hours following a qualifying rain event (0.5 inches of rain) a stormwater visual monitoring site inspection is required to observe:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly designed, implemented, and effective;
- Need for additional BMPs;
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard; and
- Discharge of stored or contained rain water.



#### **7.6.4 Visual Monitoring Follow-Up and Reporting**

Correction of deficiencies identified by the observations or inspections, including required repairs or maintenance of BMPs, shall be initiated and completed as soon as possible.

If identified deficiencies require design changes, including additional BMPs, the implementation of changes will be initiated within 72 hours of identification and be completed as soon as possible. When design changes to BMPs are required, the SWPPP shall be amended to reflect the changes.

Deficiencies identified in site inspection reports and correction of deficiencies will be tracked on the *Inspection Field Log Sheet* or *BMP Inspection Report* and shall be submitted to the QSP and shall be kept in CSMP Attachment 2 “Monitoring Records”.

The QSP shall within three (3) days of the inspection submit copies of the completed *Inspection Field Log Sheet* or *BMP Inspection Report* with the corrective actions to LRP, AS and QSD.

Results of visual monitoring must be summarized and reported in the Annual Report.

#### **7.6.5 Visual Monitoring Locations**

The inspections and observations identified in Sections 7.6.1 and 7.6.2 will be conducted at the locations identified in this section.

BMP locations are shown on the Site Maps in SWPPP Appendix A.

There are 27 drainage area(s) on the project site and the contractor’s yard, staging areas, and storage areas. Drainage area(s) are shown on the Site Maps in Appendix B and Table 7.2 identifies each drainage area by location.

The excavation areas are stormwater storage or containment area(s) on the project site. Stormwater storage or containment area(s) are shown on the Site Maps in Appendix B. Water collected in the excavation will be contained and tested prior to discharge.

The discharge location(s) on the project site will be determined by the QSP.

### **7.7 Water Quality Sampling and Analysis**

#### **7.7.1 Sampling and Analysis Plan for Non-Visible Pollutants in Stormwater Runoff Discharges**

This Sampling and Analysis Plan for Non-Visible Pollutants describes the sampling and analysis strategy and schedule for monitoring non-visible pollutants in stormwater runoff discharges from the project site.

Sampling for non-visible pollutants will be conducted when (1) a breach, leakage, malfunction, or spill is observed; and (2) the leak or spill has not been cleaned up prior to the rain event; and (3) there is the potential for discharge of non-visible pollutants to surface waters or drainage system.

The following construction materials, wastes, or activities, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project. Storage, use, and operational locations are shown on the Site Maps in Appendix B.

- Earthwork
- Waste Management
- Equipment Use
- Masonry, Concrete, Asphalt Work

The following existing site features, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project. Locations of existing site features contaminated with non-visible pollutants are shown on the Site Maps in Appendix B.

- None

The following soil amendments have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil and will be used on the project site. Locations of soil amendment application are shown on the Site Maps in Appendix B.

- None

The project has the potential to receive stormwater run-on from the following locations with the potential to contribute non-visible pollutants to stormwater discharges from the project. Locations of such run-on to the project site are shown on the Site Maps in Appendix B.

- None

#### 7.7.1.1 *Sampling Schedule*

Samples for the potential non-visible pollutant(s) and a sufficiently large unaffected background sample shall be collected during the first two hours of discharge from rain events that result in a sufficient discharge for sample collection. Samples shall be collected during the site's scheduled hours and shall be collected regardless of the time of year and phase of the construction.

Collection of discharge samples for non-visible pollutant monitoring will be triggered when any of the following conditions are observed during site inspections conducted prior to or during a rain event.

- Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions. Watertight conditions are defined as (1) storage in a watertight container, (2) storage under a watertight roof or within a building, or (3) protected by temporary cover and containment that prevents stormwater contact and runoff from the storage area.
- Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but (1) a breach, malfunction, leakage, or spill is observed, (2) the leak or spill is not cleaned up prior to the rain event, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- A construction activity, including but not limited to those in Section 2.6, with the potential to contribute non-visible pollutants (1) was occurring during or within 24 hours prior to the rain event, (2) BMPs were observed to be breached, malfunctioning, or improperly implemented, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Stormwater runoff from an area contaminated by historical usage of the site has been observed to combine with stormwater runoff from the site, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.

#### 7.7.1.2 *Sampling Locations*

Sampling locations are based on proximity to planned non-visible pollutant storage, occurrence or use; accessibility for sampling, and personnel safety. Discharge from the site is unlikely since the site will have large excavations. However, a discharge point and sampling location will be shown for each drainage area/excavation sequence number. Actual sampling locations will be determined on-site by a QSP or by a QSP delegate. Discharge from the Contractor's yard is to the large storage area to the north east. No discharge is expected from the contractor's yard.

#### 7.7.1.3 *Monitoring Preparation*

Non-visible pollutant samples will be collected by:

Contractor	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Consultant	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Laboratory  Yes  No

Samples on the project site will be collected by the following contractor sampling personnel:

Name/Company/Telephone Number: Ron J. Gentile/AIS Inc./ 310-713-8764

Alternate(s)/Telephone Number: Bobby Ponce/AECOM/714-567-2501

An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, clean powder-free nitrile gloves, sample collection equipment, coolers, appropriate number and volume of sample bottles, identification labels, re-sealable storage bags, paper towels, personal rain gear, ice, and *Effluent Sampling Field Log Sheets* and Chain of Custody (CoC) forms, which are provided in CSMP Attachment 3 “Monitoring Forms”.

7.7.1.4 Analytical Constituents

Table 7.10 lists the specific sources and types of potential non-visible pollutants on the project site and the water quality indicator constituent(s) for that pollutant.

**Table 7.10 Potential Non-Visible Pollutants and Water Quality Indicator Constituents**

Pollutant Source	Pollutant	Water Quality Indicator Constituent
Concrete and Masonry	Acid wash	pH
	Curing compounds	pH, alkalinity, Volatile organic compounds (VOCs)
	Concrete rinse water	pH
Grading/Earthwork	Gypsum / Lyme amendments	pH
Landscaping	Fertilizers	TKN, NO <sub>3</sub> , BOD, COD, DOC, Sulfate, NH <sub>3</sub> , Phosphate, Potassium
	Lime and gypsum	Acidity/alkalinity
	Aluminum sulfate, sulfur	Al, Total dissolved solids (TDS), alkalinity
Sanitary Waste	Portable Toilets	BOD, Total/Fecal coliform
Solid Waste (leakage)		BOD
Vehicle and Equipment Use	Batteries	Sulfuric acid; Pb, pH
Site Contamination	Crude Oil	TPHg, TPHd, TPHmo, VOCs,

**Table 7.10 Potential Non-Visible Pollutants and Water Quality Indicator Constituents**

Pollutant Source	Pollutant	Water Quality Indicator Constituent
		SVOCs, PCE, TCE, THMs

**7.7.1.5 Sample Collection**

Samples of discharge shall be collected at the designated non-visible pollutant sampling locations shown on the Site Maps in Appendix B or in the locations determined by observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.

Grab samples shall be collected and preserved in accordance with the methods identified in the Table, “Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants” provided in Section 7.7.1.6. Only the QSP, or personnel trained in water quality sampling under the direction of the QSP shall collect samples.

Sample collection and handling requirements are described in Section 7.7.7.

**7.7.1.6 Sample Analysis**

Samples shall be analyzed using the analytical methods identified in the Table 7.11.

Samples will be analyzed by:

Laboratory Name: Eurofins Calscience laboratory  
 Street Address: 7440 Lincoln Way  
 City, State Zip: Garden Grove, CA 92841-1427  
 Telephone Number: 714-895-5494  
 Point of Contact: Vikas Patel  
 ELAP Certification Number: 2944

Samples will be delivered to the laboratory by:

- Driven by Contractor  Yes  No
- Picked up by Laboratory Courier  Yes  No
- Shipped  Yes  No

**Table 7.11 Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants**

Constituent	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Reporting Limit	Maximum Holding Time
VOCs - Solvents	EPA 8260B	3 x 40 mL	VOA-glass	Store at 4°C, HCl to pH<2	1 ug/L	14 days
SVOCs	EPA 8270C	1 x 1000 mL	Glass-Amber	Store at 4°C	10 ug/L	7 days
TPH	EPA Method 8015M	(2) 40 ml VOA Vials	Glass-Amber	HCl, pH<2, 4° C	1 ug/L	14 days
BOD	EPA 405.1	1 x 500 mL	Polypropylene	Store at 4°C	1 mg/L	48 hours
COD	EPA 410.1	1 x 100 mL	Glass-Amber	Store at 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	10 mg/L	28 days
pH	EPA 150.1	1 x 100 mL	Polypropylene	None	0.01 pH units	Immediate
Alkalinity	SM 2320B	1 x 250 mL	Polypropylene	Store at 4°C	1 mg/L	14 days
Metals (Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, Se, Na, Th, Va, Zn)	EPA 200.8	1 x 250 mL	Polypropylene	Store at 4°C, HNO <sub>3</sub> to pH<2	0.2-5 ug/L	6 months
Anions (Sulfate, Nitrate, Bromide, Chloride, Flouride, Nitrite, O-Phosphorus)	EPA 300.0	1 x 125 mL	Polypropylene	None	0.05-0.5 mg/L	28 days

**Table 7.11 Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants**

Constituent	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Reporting Limit	Maximum Holding Time
Potassium	EPA 7610	1 x 250 mL	Polypropylene	Store at 4°C, HNO <sub>3</sub> to pH<2	0.5 mg/L	6 months

Notes:

- |                                |  |      |  |
|--------------------------------|--|------|--|
| °C                             | Degree Celsius   | ug/L | <i>micrograms per liter</i>  |
| BOD                            | Biological Oxygen Demand                                       | mL   | <i>milliliter</i>  |
| COD                            | Chemical Oxygen Demand   | PCB  | <i>Polychlorinated Biphenyl</i>  |
| VOC                            | Volatile Organic Compound                                      | SVOC | <i>Semi-Volatile Organic Compound</i>  |
| EPA                            | United States Environmental Protection Agency                  | HCl  | <i>Hydrogen Chloride</i>   |
| H <sub>2</sub> SO <sub>4</sub> | Hydrogen Sulfide   | VOA  | <i>Volatile Organic Analysis</i>   |
| HNO <sub>3</sub>               | Nitric Acid  | mg/L | <i>milligrams per liter</i>  |
| TDS                            | Total Dissolved Solids   | TOC  | <i>Total Organic Carbon (water)</i>  |
| L                              | Liter  | TKN  | <i>Total Kjeldahl Nitrogen</i>   |
| NA                             | Not Applicable   |      |  |
| RPD                            | <i>Relative percent difference between duplicate analyses.</i> |      | <i>Recovery, lower and upper limits refer to analysis of spiked samples.</i> |

#### *7.7.1.7 Data Evaluation and Reporting*

The QSP shall complete an evaluation of the water quality sample analytical results.

Runoff/downgradient results shall be compared with the associated upgradient/unaffected results and any associated run-on results. Should the runoff/downgradient sample show an increased level of the tested analyte relative to the unaffected background sample, which cannot be explained by run-on results, the BMPs, site conditions, and surrounding influences shall be assessed to determine the probable cause for the increase.

As determined by the site and data evaluation, appropriate BMPs shall be repaired or modified to mitigate discharges of non-visible pollutant concentrations. Any revisions to the BMPs shall be recorded as an amendment to the SWPPP.

The General Permit prohibits the storm water discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4. The results of any non-stormwater discharge results that indicate the presence of a hazardous substance in excess of established reportable quantities shall be immediately reported to the Regional Water Board and other agencies as required by 40 C.F.R. §§ 117.3 and 302.4.

Results of non-visible pollutant monitoring shall be reported in the Annual Report.

#### **7.7.2 Sampling and Analysis Plan for pH and Turbidity in Stormwater Runoff Discharges**

Sampling and analysis of runoff for pH and turbidity is required for this project. This Sampling and Analysis Plan describes the strategy for monitoring turbidity and pH levels of stormwater runoff discharges from the project site and run-on that may contribute to an exceedance of a Numeric Action Level (NAL)

Samples for turbidity will be collected from all drainage areas with disturbed soil areas and samples for pH will be collected from all drainage areas with a high risk of pH altering discharge.

##### *7.7.2.1 Sampling Schedule*

Stormwater runoff samples shall be collected for turbidity from each day of a qualifying rain event that results in a discharge from the project site. At minimum, turbidity samples will be collected from each site discharge location draining a disturbed area. A minimum of three samples will be collected per day of discharge during a qualifying event. Samples should be representative of the total discharge from the project each day of discharge during the qualifying event. Typically representative samples will be spaced in time throughout the daily discharge event.

Stormwater runoff samples shall be collected for pH from each day of qualifying rain events that result in a discharge from the project site. Note that pH samples are only required to be collected during project phases and from drainage areas with a high risk of pH altering discharge. A minimum of three samples will be collected per day of discharge during a qualifying event. Samples should be representative of the total discharge from the location each day of discharge during the qualifying event. Typically representative samples will be spaced in time throughout the daily discharge event.

Stored or collected water from a qualifying storm event when discharged shall be tested for turbidity and pH (when applicable). Stored or collected water from a qualifying event may be sampled at the point it is released from the storage or containment area or at the site discharge location.

Run-on samples shall be collected whenever the QSP identifies that run-on has the potential to contribute to an exceedance of a NAL.

No discharge is expected from the excavation sites since the water would collect in the excavation. Any water that must be removed, from the excavation will be tested prior to discharge to ensure it meets NALs.

**7.7.2.2 Sampling Locations**

Sampling locations are based on the site runoff discharge locations and locations where run-on enters the site; accessibility for sampling; and personnel safety. Planned pH and turbidity sampling locations are shown on the Site Maps in Appendix B and include the locations identified in Table 7.13 and Table 7-14.

The sampling location(s) on the project site have been identified for the collection of runoff samples. Table 7.12 also provides an estimate of the site’s area that drains to each location.

<b>Sample Location Number</b>	<b>Sample Location</b>	<b>Estimate of Site [Factor] (%)</b>
1 through 27: Field Determined by QSP for each of the 27 phases	QSP Determined representative discharge location(s)	100% of each phase

The project does not receive run-on with the potential to exceed NALs or Receiving Water Monitoring Triggers.

**7.7.2.3 Monitoring Preparation**

Turbidity and pH samples will be collected and analyzed by:

- Contractor             Yes         No
- Consultant            Yes         No
- Laboratory            Yes         No

Samples on the project site will be collected by the following contractor sampling personnel:

Name/Company/Telephone Number:    Ron J. Gentile/AIS, Inc./Cell: 310-713-8764  
 Alternate Name/Company/Telephone Number:    Bobby Ponce/AECOM./714-567-2501

An adequate stock of monitoring supplies and equipment for monitoring turbidity and will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct

sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, field meters, extra batteries; clean powder-free nitrile gloves, sample collection equipment, appropriate sample containers, paper towels, personal rain gear, and *Effluent Sampling Field Log Sheets* and CoC forms provided in CSMP Attachment 3 “Example Forms”.

The contractor will obtain and maintain the field testing instruments, as identified in Section 7.7.2.6, for analyzing samples in the field by contractor sampling personnel.

The QSP or his/her designee will contact Eurofins Calscience laboratory, 24 hours prior to a predicted rain event or for an unpredicted event, as soon as a rain event begins to ensure that adequate sample collection personnel, supplies for monitoring pH and turbidity are available and will be mobilized to collect samples on the project site in accordance with the sampling schedule.

7.7.2.4 *Field Parameters*

Samples shall be analyzed for the constituents indicated in the Table 7.14.

**Table 7.14 Sample Collection and Analysis for Monitoring Turbidity and pH**

Parameter	Test Method	Minimum Sample Volume <sup>(1)</sup>	Sample Collection Container Type	Detection Limit (minimum)
Turbidity	Field meter/probe with calibrated portable instrument	500 mL	Polypropylene or Glass (Do not collect in meter sample cells)	1 NTU
pH	Field meter/probe with calibrated portable instrument or calibrated pH test kit	100 mL	Polypropylene	0.2 pH units

Notes: <sup>1</sup> Minimum sample volume recommended. Specific volume requirements will vary by instrument; check instrument manufacturer instructions.  
 L – Liter  
 mL – Milliliter  
 NTU – Nephelometric Turbidity Unit

7.7.2.5 *Sample Collection*

Samples of discharge shall be collected at the designated runoff and run-on sampling locations shown on the Site Maps in Appendix B. Run-on samples shall be collected within close proximity of the point of run-on to the project.

Only personnel trained in water quality sampling and field measurements working under the direction of the QSP shall collect samples.

Sample collection and handling requirements are described in Section 7.7.7.

7.7.2.6 *Field Measurements*

Samples collected for field analysis, collection, analysis and equipment calibration shall be in accordance with the field instrument manufacturer’s specifications.

Immediately following collection, samples for field analysis shall be tested in accordance with the field instrument manufacturer’s instructions and results recorded on the *Effluent Sampling Field Log Sheet*.

The field instrument(s) listed in Table 7.15 will be used to analyze the following constituents:

**Table 7.15 Field Instruments**

Field Instrument (Manufacturer and Model)	Constituent
Portable pH meter HQ11d Portable pH/ORP Meter (HACH) or equivalent model	pH

**Table 7.15 Field Instruments**

<b>Field Instrument (Manufacturer and Model)</b>	<b>Constituent</b>
Portable Turbidimeter 2100Q Portable Turbidimeter (HACH) or equivalent model	Turbidity

The manufacturers’ instructions are included in CSMP Attachment 4 “Field Meter Instructions”. Field sampling staff shall review the instructions prior to each sampling event and follow the instructions in completing measurement of the samples.

- The instrument(s) shall be maintained in accordance with manufacturer’s instructions.
- The instrument(s) shall be calibrated before each sampling and analysis event.
- Maintenance and calibration records shall be maintained with the SWPPP.

The QSP may authorize alternate equipment provided that the equipment meets the Construction General Permit’s requirements and the manufacturers’ instructions for calibration and use are added to CSMP Attachment 4 “Field Meter Instructions”.

#### 7.7.2.7 Data Evaluation and Reporting

Immediately upon completing the measurements for the sampling event, provide the *Effluent Sampling Field Log Sheets* to the QSP for evaluation.

#### Numeric Action Levels

This project is subject to NALs for pH and turbidity (Table 7.16). Compliance with the NAL for pH and turbidity is based on a daily average. Upon receiving the field log sheets, the QSP shall immediately calculate the arithmetic average of the turbidity samples, and the logarithmic average of the pH samples<sup>1</sup> to determine if the NALs, shown in the table below, have been exceeded.

**Table 7.16 Numeric Action Levels**

<b>Parameter</b>	<b>Unit</b>	<b>Daily Average</b>
pH	pH units	Lower NAL = 6.5 Upper NAL = 8.5
Turbidity	NTU	250 NTU

The QSP shall within three (3) days of the sample collection submit copies of the completed *Effluent Sampling Field Log Sheets* to LRP, AS and QSD.

In the event that the pH or turbidity NAL is exceeded, the QSP shall immediately notify LRP, AS and QSD and investigate the cause of the exceedance and identify corrective actions.

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<sup>1</sup> Daily average pH values must be calculated through the logarithmic method. In order to calculate an average, you must: (1) Convert the pH measurements from logarithms to real numbers; (2) Take the average of the real numbers; and (3) Convert the average of the real numbers back to a logarithm.

Exceedances of NALs shall be electronically reported to the State Water Board by LRP, Data Submitter through the SMARTs system within 10 days of the conclusion of the storm event. If requested by the Regional Board, a NAL Exceedance report will be submitted. The NAL Exceedance Report must contain the following information:

- Analytical method(s), method reporting unit(s), and MDL(s) of each parameter;
- Date, place, time of sampling, visual observation, and/or measurements, including precipitation; and
- Description of the current BMPs associated with the sample that exceeded the NAL and the proposed corrective actions taken.

### **7.7.3            *Sampling and Analysis Plan for pH, Turbidity, and SSC in Receiving Water***

This project is not subject to Receiving Water Monitoring.

### **7.7.4            *Sampling and Analysis Plan for Non-Stormwater Discharges***

This Sampling and Analysis Plan for non-stormwater discharges describes the sampling and analysis strategy and schedule for monitoring pollutants in authorized and unauthorized non-stormwater discharges from the project site in accordance with the requirements of the Construction General Permit.

Sampling of non-stormwater discharges will be conducted when an authorized or unauthorized non-stormwater discharge is observed discharging from the project site. In the event that non-stormwater discharges run-on to the project site from offsite locations, and this run-on has the potential to contribute to a violation of a NAL, the run-on will also be sampled. No run-on is expected since the homes all drain toward the street and the existing curb and gutter that capture run-on will be maintained throughout this construction activity.

The following authorized non-stormwater discharges identified in Section 2.7, have the potential to be discharged from the project site.

- None

In addition to the above authorized stormwater discharges, some construction activities have the potential to result in an unplanned (unauthorized) non-stormwater discharge if BMPs fail. These activities include:

- Concrete washout
- Portable toilets

#### **7.7.4.1            *Sampling Schedule***

Samples of authorized or unauthorized non-stormwater discharges shall be collected when they are observed.

#### 7.7.4.2 *Sampling Locations*

Samples shall be collected from the dirtiest discharge point of the construction site where the non-stormwater discharge is running off the project site. The site discharge locations will be determined by the QSP for sampling purposes.

#### 7.7.4.3 *Monitoring Preparation*

Non-stormwater discharge samples will be collected by:

Contractor	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Consultant	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Laboratory	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Samples on the project site will be collected by the following contractor sampling personnel:

Name/Company/Telephone Number:	Ron J. Gentile/AIS, Inc./Cell: 310-713-8764
Alternate Name/Company/Telephone Number:	Bobby Ponce/AECOM./714-567-2501

An adequate stock of monitoring supplies and equipment for monitoring non-stormwater discharges will be available on the project site. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Personnel trained in sampling will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, clean powder-free nitrile gloves, sample collection equipment, field meters, coolers, appropriate number and volume of sample bottles, identification labels, re-sealable storage bags, paper towels, personal rain gear, ice, and *Effluent Sampling Field Log Sheets* and CoC forms provided in CSMP Attachment 3 “Example Forms”.

The contractor will obtain and maintain the field testing instruments, as identified in Section 7.7.2, for analyzing samples in the field by contractor sampling personnel.

The QSP or his/her designee will contact Eurofins Calscience laboratory, 24 hours prior to a planned non-stormwater discharge or as soon as an unplanned non-stormwater discharge is observed to ensure that adequate sample collection personnel, supplies for non-stormwater discharge monitoring are available and will be mobilized to collect samples on the project site in accordance with the sampling schedule.

#### 7.7.4.4 *Analytical Constituents*

All non-stormwater discharges that flow through a disturbed area shall, at minimum, be monitored for turbidity.

All non-stormwater discharges that flow through an area where they are exposed to pH altering materials shall be monitored for pH.

The QSP shall identify additional pollutants to be monitored for each non-stormwater discharge incident based on the source of the non-stormwater discharge. If the source of an unauthorized

non-stormwater discharge is not known, monitoring for pH, turbidity, MBAS, TOC, and residual chlorine or chloramines is recommended to help identify the source of the discharge.

Non-stormwater discharge run-on shall be monitored, at minimum, for pH and turbidity. The QSP shall identify additional pollutants to be monitored for each non-stormwater discharge incident based on the source of the non-stormwater discharge. If the source of an unauthorized non-stormwater discharge is not known, monitoring for pH, turbidity, MBAS, TOC, and residual chlorine or chloramines is recommended to help identify the source of the discharge.

Table 7.22 lists the specific sources and types of potential non-visible pollutants on the project site and the water quality indicator constituent(s) for that pollutant.

**Table 7.22 Potential Non-Stormwater Discharge Pollutants and Water Quality Indicator Constituents**

<b>Pollutant Source</b>	<b>Pollutant</b>	<b>Water Quality Indicator Constituent</b>
Disturbed Areas	Sediment	Turbidity
Concrete Work	pH	pH

**7.7.4.5 Sample Collection**

Samples shall be collected at the discharge locations where the non-stormwater discharge is leaving the project site. Potential discharge locations are determined by the QSP to collect the dirtiest sample and identified in Section 7.7.4.2.

Grab samples shall be collected and preserved in accordance with the methods identified in Table 7.23. Only personnel trained in water quality sampling under the direction of the QSP shall collect samples.

Sample collection and handling requirements are described in Section 7.7.7.

**7.7.4.6 Sample Analysis**

Samples shall be analyzed using the analytical methods identified in Table 7.23.

**7.7.4.7 Data Evaluation and Reporting**

The QSP shall complete an evaluation of the water quality sample analytical results.

Turbidity and pH results shall be evaluated for compliance with NALs as identified in Section 7.7.2.7.

Runoff results shall also be evaluated for the constituents suspected in the non-stormwater discharge. Should the runoff sample indicate the discharge of a pollutant which cannot be explained by run-on results, the BMPs, site conditions, and surrounding influences shall be assessed to determine the probable cause for the increase.

As determined by the site and data evaluation, appropriate BMPs shall be repaired or modified to mitigate discharges of non-visible pollutant concentrations. Any revisions to the BMPs shall be recorded as an amendment to the SWPPP.

Non-storm water discharge results shall be submitted with the Annual Report.

The General Permit prohibits the non-storm water discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4. The results of any non-stormwater discharge results that indicate the presence of a hazardous substance in excess of established reportable quantities shall be immediately reported to the Regional Water Board.

**Table 7.23 Sample Collection, Preservation and Analysis for Monitoring Pollutants in Non-Stormwater Discharges**

Constituent	Analytical Method	Minimum Sample Volume	Sample Bottle	Sample Preservation	Reporting Limit	Maximum Holding Time	Maximum Allowable RPD	Recovery Lower Limit	Recovery Upper Limit
pH	EPA 150.1	1 x 100 mL	Polypropylene	None	0.01 pH units	Immediate	20%	NA	NA
Turbidity	Standard Method 2130 or EPA 0180.1 and/or field test with calibrated portable instrument	1 x 100 mL	Polypropylene	None	1 NTU	Immediate	20%	NA	NA
VOCs - Solvents	EPA 8260B	3 x 40 mL	VOA-glass	Store at 4°C, HCl to pH<2	1 ug/L	14 days	--	Constituent specific	
SVOCs	EPA 8270C	1 x 1000 mL	Glass-Amber	Store at 4°C	10 ug/L	7 days	--	Constituent specific	
BOD	EPA 405.1	1 x 500 mL	Polypropylene	Store at 4°C	1 mg/L	48 hours	20%	80%	120%
COD	EPA 410.1	1 x 100 mL	Glass-Amber	Store at 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	10 mg/L	28 days	20%	80%	120%
Alkalinity	SM 2320B	1 x 250 mL	Polypropylene	Store at 4°C	1 mg/L	14 days	20%	80%	120%
Metals (Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, Se, Na, Th, Va, Zn)	EPA 200.8	1 x 250 mL	Polypropylene	Store at 4°C, HNO <sub>3</sub> to pH<2	0.2-5 ug/L	6 months	20%	75%	125%
Anions (Sulfate, Nitrate, Bromide, Chloride, Fluoride, Nitrite, O-Phosphorus)	EPA 300.0	1 x 125 mL	Polypropylene	None	0.05-0.5 mg/L	28 days	20%	90%	110%

**Table 7.23 Sample Collection, Preservation and Analysis for Monitoring Pollutants in Non-Stormwater Discharges**

Constituent	Analytical Method	Minimum Sample Volume	Sample Bottle	Sample Preservation	Reporting Limit	Maximum Holding Time	Maximum Allowable RPD	Recovery Lower Limit	Recovery Upper Limit
Potassium	EPA 7610	1 x 250 mL	Polypropylene	Store at 4°C, HNO <sub>3</sub> to pH<2	0.5 mg/L	6 months	20%	80%	120%
Calcium	EPA 6010B	1 x 250 mL	Polypropylene	Store at 4°C, HNO <sub>3</sub> to pH<2	0.5 mg/L	6 months	20%	80%	120%
Acidity	EPA 305.1	1 x 125 mL	Polypropylene	Store at 4°C	2 mg/L	14 days	20%	80%	120%
TDS	EPA 160.1	1 x 100 mL	Polypropylene	Store at 4°C	1 mg/L	7 days	20%	80%	120%
Sulfate	EPA 375.4	1 x 125 mL	Polypropylene	Store at 4°C	1 mg/L	28 days	20%	90%	110%
Nitrate	EPA 300.0	1 x 100 mL	Polypropylene	Store at 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	0.1 mg/L	48 hours	20%	80%	120%
Total Phosphorus	EPA 300.0	1 x 100 mL	Polypropylene	Store at 4°C	0.1 mg/L	28 days	20%	80%	120%
TKN	EPA 351.3	1 x 100 mL	Polypropylene	Store at 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	0.10 mg/L	28 days	<1	80%	120%
TOC	EPA 415.1	1 x 100 mL	Polypropylene	Store at 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	1 mg/L	28 days	--	80%	120%
Total Residual Chlorine	SM 4500	1 x 500 mL	Glass-Amber	Do not expose to light	0.1 mg/L	Immediate	--	--	--
Total Phenolics	EPA 420.1/9065	1 x 1000 mL	Glass-Amber	Store at 4°C, H <sub>2</sub> SO <sub>4</sub> to pH<2	0.03 mg/L	28 days	0	80%	120%

Notes:

- |                                |   |      |                                |
|--------------------------------|---|------|--------------------------------|
| °C                             | Degree Celsius                                | ug/L | micrograms per liter           |
| BOD                            | Biological Oxygen Demand                      | mL   | milliliter                     |
| COD                            | Chemical Oxygen Demand                        | PCB  | Polychlorinated Biphenyl       |
| VOC                            | Volatile Organic Compound                     | SVOC | Semi-Volatile Organic Compound |
| EPA                            | United States Environmental Protection Agency | HCl  | Hydrogen Chloride              |
| H <sub>2</sub> SO <sub>4</sub> | Hydrogen Sulfide                              | VOA  | Volatile Organic Analysis      |
| HNO <sub>3</sub>               | Nitric Acid                                   | mg/L | milligrams per liter           |

TDS Total Dissolved Solids

L Liter

NA Not Applicable

RPD *Relative percent difference between duplicate analyses.*

TOC *Total Organic Carbon (water)*

TKN *Total Kjeldahl Nitrogen*

*Recovery, lower and upper limits refer to analysis of spiked samples.*

**7.7.5 Sampling and Analysis Plan for Other Pollutants Required by the Regional Water Board**

The Los Angeles Regional Water Board has not specified monitoring for additional pollutants.

**7.7.6 Training of Sampling Personnel**

Sampling personnel shall be trained to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring program (SWAMP) 2008 Quality Assurance Program Plan (QAPrP). Training records of designated contractor sampling personnel are provided in Appendix K.

The stormwater sampler(s) and alternate(s) have received the following stormwater sampling training:

<b>Name</b>	<b>Training</b>
Ron Gentile	He is trained on-job based on thirty years' experience in environment and sampling jobs for other projects and will be periodically trained by the QSD/P for the site.
Bobby Ponce	Trained internally by AECOM on stormwater sampling procedures, including site-specific training for stormwater sampling.
Mitali Goel	Trained internally by AECOM on stormwater sampling procedures, including site-specific training for stormwater sampling. She has also received the training requirements by the state to be a QSP/D.

The stormwater sampler(s) and alternates have the following stormwater sampling experience:

<b>Name</b>	<b>Experience</b>
Ron Gentile	Stormwater sampling on multiple sites for several years.
Bobby Ponce	Stormwater sampling on multiple sites for several years.
Mitali Goel	Stormwater sampling on multiple sites for eight years

**7.7.7 Sample Collection and Handling**

**7.7.7.1 Sample Collection**

Samples shall be collected at the designated sampling locations shown on the Site Maps and listed in the preceding sections. Samples shall be collected, maintained and shipped in accordance with the SWAMP 2008 Quality Assurance Program Plan (QAPrP).

Grab samples shall be collected and preserved in accordance with the methods identified in preceding sections.

To maintain sample integrity and prevent cross-contamination, sample collection personnel shall follow the protocols below.

- Collect samples (for laboratory analysis) only in analytical laboratory-provided sample containers;
- Wear clean, powder-free nitrile gloves when collecting samples;
- Change gloves whenever something not known to be clean has been touched;
- Change gloves between sites;
- Decontaminate all equipment (e.g. bucket, tubing) prior to sample collection using a trisodium phosphate water wash, distilled water rinse, and final rinse with distilled water. (Dispose of wash and rinse water appropriately, i.e., do not discharge to storm drain or receiving water). Do not decontaminate laboratory provided sample containers;
- Do not smoke during sampling events;
- Never sample near a running vehicle;
- Do not park vehicles in the immediate sample collection area (even non-running vehicles);
- Do not eat or drink during sample collection; and
- Do not breathe, sneeze, or cough in the direction of an open sample container.

The most important aspect of grab sampling is to collect a sample that represents the entire runoff stream. Typically, samples are collected by dipping the collection container in the runoff flow paths and streams as noted below.

- i. For small streams and flow paths, simply dip the bottle facing upstream until full.
- ii. For larger stream that can be safely accessed, collect a sample in the middle of the flow stream by directly dipping the mouth of the bottle. Once again making sure that the opening of the bottle is facing upstream as to avoid any contamination by the sampler.
- iii. For larger streams that cannot be safely waded, pole-samplers may be needed to safely access the representative flow.
- iv. Avoid collecting samples from ponded, sluggish or stagnant water.
- v. Avoid collecting samples directly downstream from a bridge as the samples can be affected by the bridge structure or runoff from the road surface.

Note, that depending upon the specific analytical test, some containers may contain preservatives. These containers should **never** be dipped into the stream, but filled indirectly from the collection container.

SSC samples should be taken as a normal grab sample, where the bottle is submerged facing upstream and filled. SSC samples need to be collected in a separate bottle because the analysis requires the entire volume of the bottle. Do not collect in a larger container and partition into the laboratory sample container.

#### 7.7.7.2 *Sample Handling*

Turbidity and pH measurements must be conducted immediately. Do not store turbidity or pH samples for later measurement.

Samples for laboratory analysis must be handled as follows. Immediately following sample collection:

- Cap sample containers;

- Complete sample container labels;
- Sealed containers in a re-sealable storage bag;
- Place sample containers into an ice-chilled cooler;
- Document sample information on the *Effluent Sampling Field Log Sheet*; and
- Complete the CoC.

All samples for laboratory analysis must be maintained between 0-6 degrees Celsius during delivery to the laboratory. Samples must be kept on ice, or refrigerated, from sample collection through delivery to the laboratory. Place samples to be shipped inside coolers with ice. Make sure the sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Ship samples that will be laboratory analyzed to the analytical laboratory right away. Hold times are measured from the time the sample is collected to the time the sample is analyzed. The General Permit requires that samples be received by the analytical laboratory within 48 hours of the physical sampling (unless required sooner by the analytical laboratory).

Laboratory Name: Eurofins Calscience laboratory  
 Address: 7440 Lincoln Way  
 City, State Zip: Garden Grove, CA 92841-1427  
 Telephone Number: 714-895-5494  
 Point of Contact: Vikas Patel

#### 7.7.7.3 *Sample Documentation Procedures*

All original data documented on sample bottle identification labels, *Effluent Sampling Field Log Sheet*, and CoCs shall be recorded using waterproof ink. These shall be considered accountable documents. If an error is made on an accountable document, the individual shall make corrections by lining through the error and entering the correct information. The erroneous information shall not be obliterated. All corrections shall be initialed and dated.

Duplicate samples shall be identified consistent with the numbering system for other samples to prevent the laboratory from identifying duplicate samples. Duplicate samples shall be identified in the *Effluent Sampling Field Log Sheet*.

Sample documentation procedures include the following:

Sample Bottle Identification Labels: Sampling personnel shall attach an identification label to each sample bottle. Sample identification shall uniquely identify each sample location.

Field Log Sheets: Sampling personnel shall complete the *Effluent Sampling Field Log Sheet* and *Receiving Water Sampling Field Log Sheet* for each sampling event, as appropriate.

Chain of Custody: Sampling personnel shall complete the CoC for each sampling event for which samples are collected for laboratory analysis. The sampler will sign the CoC when the sample(s) is turned over to the testing laboratory or courier.

## 7.8 **Active Treatment System Monitoring**

An Active Treatment System (ATS) will be deployed on the site?

Yes

No

### **7.9 Bioassessment Monitoring**

This project is not subject to bioassessment monitoring because it is not a Risk Level 3 project.

### **7.10 Watershed Monitoring Option**

This project is not participating in a watershed monitoring option.

### **7.11 Quality Assurance and Quality Control**

An effective Quality Assurance and Quality Control (QA/QC) plan shall be implemented as part of the CSMP to ensure that analytical data can be used with confidence. QA/QC procedures to be initiated include the following:

- Field logs;
- Clean sampling techniques;
- CoCs;
- QA/QC Samples; and
- Data verification.

Each of these procedures is discussed in more detail in the following sections.

#### **7.11.1 Field Logs**

The purpose of field logs is to record sampling information and field observations during monitoring that may explain any uncharacteristic analytical results. Sampling information to be included in the field log include the date and time of water quality sample collection, sampling personnel, sample container identification numbers, and types of samples that were collected. Field observations should be noted in the field log for any abnormalities at the sampling location (color, odor, BMPs, etc.). Field measurements for pH and turbidity should also be recorded in the field log. A Visual Inspection Field Log, an Effluent Sampling Field Log Sheet, are included in CSMP Attachment 3 “Example Forms”.

#### **7.11.2 Clean Sampling Techniques**

Clean sampling techniques involve the use of certified clean containers for sample collection and clean powder-free nitrile gloves during sample collection and handling. As discussed in Section 7.7.7, adoption of a clean sampling approach will minimize the chance of field contamination and questionable data results.

#### **7.11.3 Chain of Custody**

The sample CoC is an important documentation step that tracks samples from collection through analysis to ensure the validity of the sample. Sample CoC procedures include the following:

- Proper labeling of samples;
- Use of CoC forms for all samples; and

- Prompt sample delivery to the analytical laboratory.

Analytical laboratories usually provide CoC forms to be filled out for sample containers. An example CoC is included in CSMP Attachment 3 “Example Forms”.

#### **7.11.4 QA/QC Samples**

QA/QC samples provide an indication of the accuracy and precision of the sample collection; sample handling; field measurements; and analytical laboratory methods. The following types of QA/QC will be conducted for this project:

Field Duplicates at a frequency of once per year. If there are any issues reported the frequency will be increased.

(Required for all sampling plans with field measurements or laboratory analysis)

Equipment Blanks at a frequency of each QC batch analyzed by lab

(Only needed if equipment used to collect samples could add the pollutants to sample)

Field Blanks at a frequency of one per sampling event

(Only required if sampling method calls for field blanks)

Travel Blanks at a frequency of one per sampling event

(Required for sampling plans that include VOC laboratory analysis)

##### **7.11.4.1 Field Duplicates**

Field duplicates provide verification of laboratory or field analysis and sample collection.

Duplicate samples shall be collected, handled, and analyzed using the same protocols as primary samples. The sample location where field duplicates are collected shall be randomly selected from the discharge locations. Duplicate samples shall be collected immediately after the primary sample has been collected. Duplicate samples must be collected in the same manner and as close in time as possible to the original sample. Duplicate samples shall not influence any evaluations or conclusion.

##### **7.11.4.2 Equipment Blanks**

Equipment blanks will not be required. Equipment blanks provide verification that equipment has not introduced a pollutant into the sample. Equipment blanks are typically collected when:

- New equipment is used;
- Equipment that has been cleaned after use at a contaminated site;
- Equipment that is not dedicated for surface water sampling is used; or
- Whenever a new lot of filters is used when sampling metals.

##### **7.11.4.3 Field Blanks**

Field blanks assess potential sample contamination levels that occur during field sampling activities. De-ionized water field blanks are taken to the field, transferred to the appropriate container, and treated the same as the corresponding sample type during the course of a sampling event.

#### 7.11.4.4 Travel Blanks

Travel blanks assess the potential for cross-contamination of volatile constituents between sample containers during shipment from the field to the laboratory. De-ionized water blanks are taken along for the trip and held unopened in the same cooler with the VOC samples.

#### 7.11.5 Data Verification

After results are received from the analytical laboratory, the QSP shall verify the data to ensure that it is complete, accurate, and the appropriate QA/QC requirements were met. Data must be verified as soon as the data reports are received. Data verification shall include:

- Check the CoC and laboratory reports.  
*Make sure all requested analyses were performed and all samples are accounted for in the reports.*
- Check laboratory reports to make sure hold times were met and that the reporting levels meet or are lower than the reporting levels agreed to in the contract.
- Check data for outlier values and follow up with the laboratory.  
*Occasionally typographical errors, unit reporting errors, or incomplete results are reported and should be easily detected. These errors need to be identified, clarified, and corrected quickly by the laboratory. The QSP should especially note data that is an order of magnitude or more different than similar locations, or is inconsistent with previous data from the same location.*
- Check laboratory QA/QC results.  
*EPA establishes QA/QC checks and acceptable criteria for laboratory analyses. These data are typically reported along with the sample results. The QSP shall evaluate the reported QA/QC data to check for contamination (method, field, and equipment blanks), precision (laboratory matrix spike duplicates), and accuracy (matrix spikes and laboratory control samples). When QA/QC checks are outside acceptable ranges, the laboratory must flag the data, and usually provides an explanation of the potential impact to the sample results.*
- Check the data set for outlier values and, accordingly, confirm results and re-analyze samples where appropriate.  
*Sample re-analysis should only be undertaken when it appears that some part of the QA/QC resulted in a value out of the accepted range. Sample results may not be discounted unless the analytical laboratory identifies the required QA/QC criteria were not met and confirms this in writing.*

Field data including inspections and observations must be verified as soon as the field logs are received, typically at the end of the sampling event. Field data verification shall include:

- Check field logs to make sure all required measurements were completed and appropriately documented;
- Check reported values that appear out of the typical range or inconsistent; Follow-up immediately to identify potential reporting or equipment problems, if appropriate, recalibrate equipment after sampling;
- Verify equipment calibrations;
- Review observations noted on the field logs; and

- Review notations of any errors and actions taken to correct the equipment or recording errors.

## **7.12 Records Retention**

All records of stormwater monitoring information and copies of reports (including Annual Reports) must be retained for a period of at least three years from date of submittal or longer if required by the Regional Water Board.

Results of visual monitoring, field measurements, and laboratory analyses must be kept in the SWPPP along with CoCs, and other documentation related to the monitoring.

Records are to be kept onsite while construction is ongoing. Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or measurements, including precipitation;
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The individual(s) who performed the laboratory analyses;
- A summary of all analytical results, the method detection limits and reporting limits, and the analytical techniques or methods used;
- Rain gauge readings from site inspections;
- QA/QC records and results;
- Calibration records;
- Visual observation and sample collection exemption records;
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections; and
  - NAL Exceedance Reports.

## CSMP Attachment 1: Weather Reports

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Include copies of weather forecasts and rain gauge readings from internet.



## CSMP Attachment 2: Monitoring Records

---

Attach Sampling and analysis results and activity logs and visual observation



CSMP Attachment 3: Monitoring Forms

---





**Risk Level 1, 2, 3  
Visual Inspection Field Log Sheet**

Date and Time of Inspection:	Report Date:
------------------------------	--------------

Inspection Type:	<input type="checkbox"/> Weekly	<input type="checkbox"/> Before predicted rain	<input type="checkbox"/> During rain event	<input type="checkbox"/> Following qualifying rain event	<input type="checkbox"/> Contained stormwater release	<input type="checkbox"/> Quarterly non-stormwater
------------------	---------------------------------	--	--	--	---	---

**Site Information**

Construction Site Name: Former Kast Property

Construction stage and completed activities:	Approximate area of exposed site:
--	-----------------------------------

**Weather and Observations**

Date Rain Predicted to Occur:	Predicted % chance of rain:
-------------------------------	-----------------------------

Estimate storm beginning: _____ (date and time)	Estimate storm duration: _____ (hours)	Estimate time since last storm: _____ (days or hours)	Rain gauge reading: _____ (inches)
--	--	---	------------------------------------

Observations: If yes identify location

Odors	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Floating material	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Suspended Material	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Sheen	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Discolorations	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Turbidity	Yes <input type="checkbox"/>	No <input type="checkbox"/>

**Site Inspections**

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	

Photos Taken:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Photo Reference IDs:
---------------	------------------------------	-----------------------------	----------------------



<b>Grab Samples Collected</b>			
Discharge Location Description	Sample Type		Time
Additional Sampling Notes:			
Time End:			



NAL Exceedance Evaluation Summary Report		Page ___ of ___
Project Name	Former Kast Property	
Project WDID		
Project Location		
Date of Exceedance		
Type of Exceedance	NAL Daily Average <input type="checkbox"/> pH <input type="checkbox"/> Turbidity <input type="checkbox"/> Other (specify) _____	
Measurement or Analytical Method	<input type="checkbox"/> Field meter (Sensitivity: _____) <input type="checkbox"/> Lab method (specify) _____ (Reporting Limit: _____) (MDL: _____)	
Calculated Daily Average	<input type="checkbox"/> pH _____ pH units <input type="checkbox"/> Turbidity _____ NTU	
Rain Gauge Measurement	_____ inches	
Compliance Storm Event	_____ inches (5-year, 24-hour event)	
Visual Observations on Day of Exceedance		

<p><b>Description of BMPs in Place at Time of Event</b></p>	
<p><b>Initial Assessment of Cause</b></p>	
<p><b>Corrective Actions Taken (deployed after exceedance)</b></p>	
<p><b>Additional Corrective Actions Proposed</b></p>	
<p><b>Report Completed By</b></p>	<p>_____</p> <p><b>(Print Name, Title)</b></p>
<p><b>Signature</b></p>	<p>_____</p>

**CHAIN-OF-CUSTODY**

**DATE:**

**Lab ID:**

<b>Eurofins Calscience laboratory</b>							<b>REQUESTED ANALYSIS</b>				<b>Notes:</b>													
<b>DESTINATION LAB:</b> ATTN: 7440 Lincoln Way Garden Grove, CA 92841-1427  <b>ADDRESS:</b>  <b>Office Phone:</b> 714-895-5494 <b>Cell Phone:</b>																								
																	<b>SAMPLED BY:</b>							
																	<b>Contact:</b>							
																	<b>Project Name</b>							
Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container																				
				#	Type	Pres.																		
<b>SENDER COMMENTS:</b>							<b>RELINQUISHED BY</b>																	
							Signature:																	
							Print:																	
							Company:																	
							Date:						TIME:											
<b>LABORATORY COMMENTS:</b>							<b>RECEIVED BY</b>																	
							Signature:																	
							Print:																	
							Company:																	
							Date:						TIME:											



## CSMP Attachment 4: Field Meter Instructions

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Insert field meter instructions manual of the equipment used on-site.



## CSMP Attachment 5: Supplemental Information

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Any supplemental information/notes will be inserted here.



## Section 8    References

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City of Carson, California, Storm Drain Plans, Private Drain no.. 755. Dated: August 1968

Los Angeles County Flood Control District, As-Built, Panama Ave., Dwg no. 364-690-D4.3, Plan and Profile. Dated: December 1969

Shell Oil Products US, Remedial Design and Implementation Plan, October 2015

State Water Resources Control Board (2009). Order 2009-0009-DWQ, NPDES General Permit No. CAS000002 (as amended) : National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml).

CASQA 2009, *Stormwater BMP Handbook Portal: Construction*, November 2009,

[www.casqa.org](http://www.casqa.org)

## *Appendix A: Calculations*

---

**Water: Stormwater**

You are here: [Water](#) » [Pollution Prevention & Control](#) » [Permitting \(NPDES\)](#) » [Stormwater](#) » LEW Results

**LEW Results****Rainfall Erosivity Factor Calculator for Small Construction Sites****Facility Information**

Start Date:	01/01/2016
End Date:	01/01/2022
Latitude:	33.8038
Longitude:	-118.2705

**Erosivity Index Calculator Results**

AN EROSIIVITY INDEX VALUE OF **219.41** HAS BEEN DETERMINED FOR THE CONSTRUCTION PERIOD OF **01/01/2016 - 01/01/2022**.

A rainfall erosivity factor of 5.0 or greater has been calculated for your site and period of construction. **You do NOT qualify for a waiver from NPDES permitting requirements.**

---

Last updated on Monday, July 28, 2014

**Water Boards Storm Water Multiple Application & Report Tracking System** [Help](#) [Logout](#)

You are logged-in as: **Mitali Goel - AECOM**.  
If this account does not belong to you, please log out.

Navigate To:

**Risk**

The application is organized into different tabs. Please complete all applicable tabs before submitting the form. If you want to complete the application at a later time, please click on "Save & Exit".

**WDID:** **Owner/Operator:** Shell Oil Products US **Certified Date:**  
**Application ID:** 462997 **20945 S Wilmington Ave Carson CA 90810** **Processed Date:**  
**Status:** Not Submitted **Site/Facility:** Former Kast Property **NOT Effective Date:**  
**Previous ID:** - **W Lomita Blvd Carson CA 90745** **Permit Type:** Construction - NOI

- [Owner Info](#) [Developer Info](#) [Site Info](#) [Risk](#) [Addtl Site Info](#) [Post Construction](#) [Billing Info](#) [Attachments](#) [Certification](#) [Inspections](#) [Print](#)  
[Status History](#) [Linked Users](#) [NOTs](#) [COIs](#)

<b>SEDIMENT RISK FACTOR WORKSHEET</b> Instructions: Enter R,K and LS factor values. System will calculate watershed erosion estimates and site sediment risk factor <b>A. Sediment Risk</b>	
<b>A) R Factor Value:</b> <a href="#">(What's this?)</a>	<input type="text" value="219.41"/> * <a href="#">Erovisity Calculator</a>
<b>B) K Factor Value (weighted average, by area, for all site soils):</b> <a href="#">(What's this?)</a> ***If not using the SWRCB map(Populate K Factor) upload your analysis on the Attachment Tab prior to submitting to the SWRCB.	<input type="text" value="0.32"/> * <input type="button" value="Populate K Factor"/>
<b>C) LS Factor (weighted average, by area, for all slopes):</b> <a href="#">(What's this?)</a> ***If not using the SWRCB map(Populate LS Factor) upload your analysis on the Attachment Tab prior to submitting to the SWRCB.	<input type="text" value="1.26"/> * <input type="button" value="Populate LS Factor"/>
<b>Watershed Erosion Estimate (=R*K*LS) in tons/acre</b>	
	<input type="text" value="88.66"/>
<b>Site Sediment Risk Factor</b> Low Sediment Risk: < 15 tons/acre Medium Sediment Risk: >= 15 and <75 tons/acre High Sediment Risk: >= 75 tons/acre	
	<input type="text" value="High"/>

**RECEIVING WATER (RW) RISK FACTOR WORKSHEET**

**A. Watershed Characteristics**

<p>A.1.(a) Does the disturbed area discharge directly or indirectly to a 303(d) listed waterbody impaired by sediment?</p> <p style="text-align: center;"><u>OR</u></p> <p>A.1.(b) Is the disturbed area located within a sub-watershed draining to a 303(d) listed waterbody impaired by sediment?</p> <p style="text-align: center;"><u>OR</u></p> <p>A.2. Is the disturbed area located within a planning watershed draining to a waterbody with designated beneficial uses of COLD, SPAWN AND MIGRATORY?</p>	<p>Populate Receiving Water Risk</p> <p><input type="text" value="Low"/></p> <p><input type="button" value="No"/> *</p> <p>Yes = High, No = Low</p> <p><a href="#">Statewide Map of High Receiving Water Risk Watersheds</a></p>	
--	--	--

**C. Combined Risk Level Matrix**

		<b>Sediment Risk</b>		
		Low	Medium	High
<b>Receiving Water Risk</b>	Low	Level1	Level2	
	High	Level2		Level3
<b>Project Sediment Risk:</b>		<input type="text" value="High"/>		
<b>Project Receiving Water Risk:</b>		<input type="text" value="Low"/>		
<b>Project Combined Risk:</b>		<input type="text" value="Level2"/>		

Fields marked with \* are mandatory fields.

## Peak Flow Hydrologic Analysis

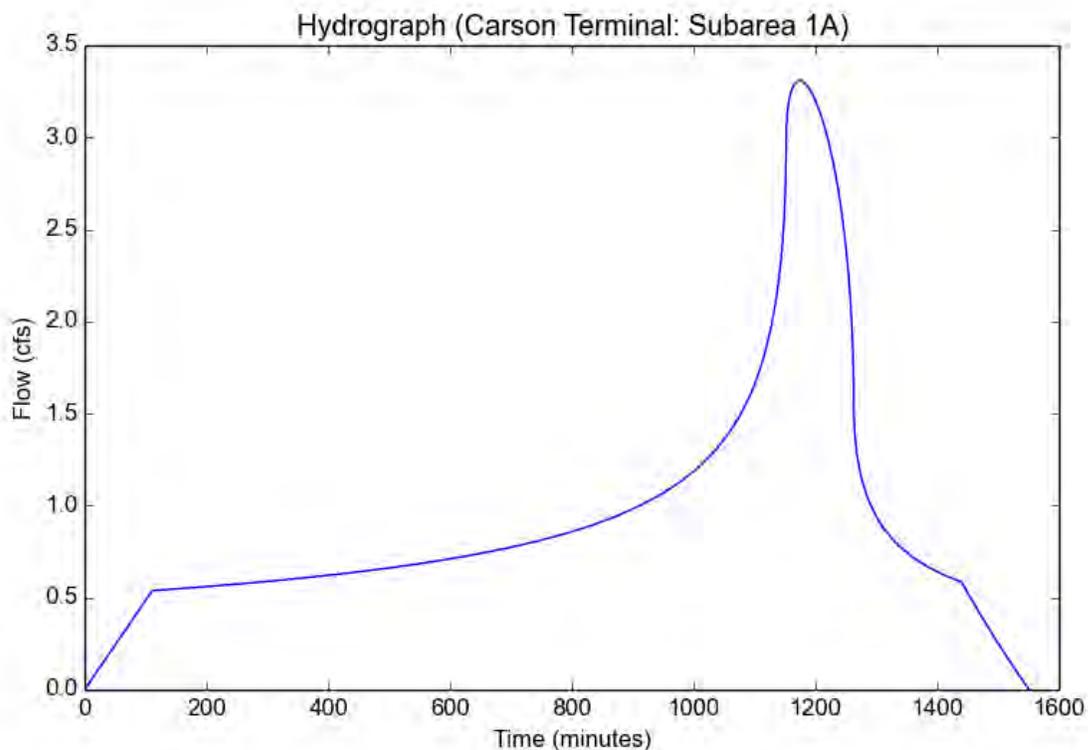
File location: C:/Users/jimmy\_medellin/Desktop/Carson Terminal - Subarea 1A.pdf  
Version: HydroCalc 0.3.1

### Input Parameters

Project Name	Carson Terminal
Subarea ID	Subarea 1A
Area (ac)	44.0
Flow Path Length (ft)	2570.0
Flow Path Slope (vft/hft)	0.004
85th Percentile Rainfall Depth (in)	0.8
Percent Impervious	0.72
Soil Type	14
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

### Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	0.8
Peak Intensity (in/hr)	0.1112
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.676
Time of Concentration (min)	111.0
Clear Peak Flow Rate (cfs)	3.3068
Burned Peak Flow Rate (cfs)	3.3068
24-Hr Clear Runoff Volume (ac-ft)	1.9669
24-Hr Clear Runoff Volume (cu-ft)	85676.9348

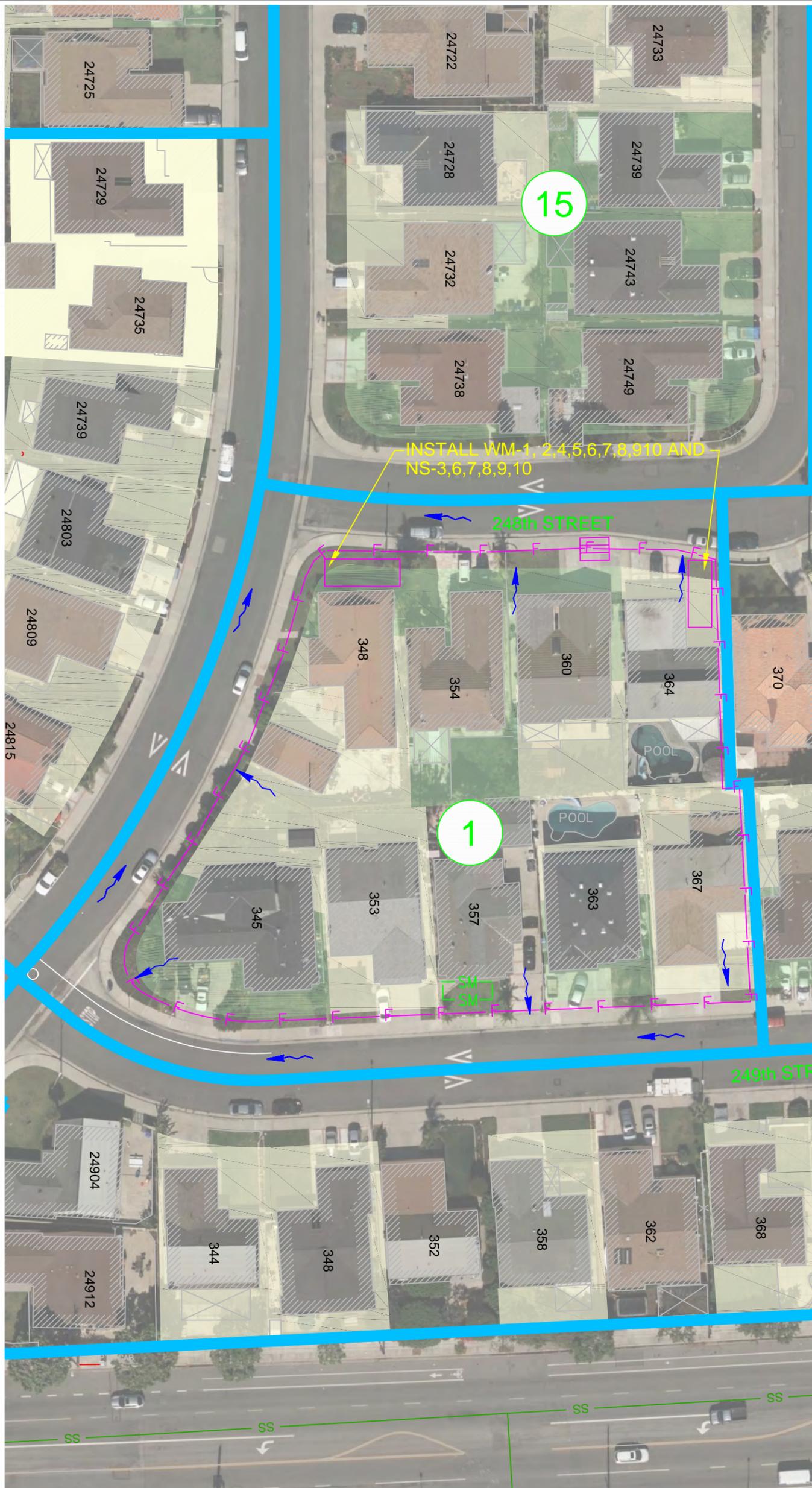




*Appendix B: Site Maps*

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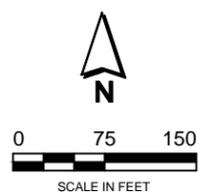
### EXPLANATION

- TRACT BOUNDARY AND RIGHT-OF-WAY
- LOT LINE
- PROPOSED 5' EXCAVATION
- PROPOSED TARGETED 10' EXCAVATION
- 1 CONSTRUCTION SEQUENCE NUMBER/DRAINAGE AREA
- CONSTRUCTION SEQUENCE LIMIT LINE/DRAINAGE AREA BOUNDARY
- F- FIBER ROLLS (SE-5)/GRAVEL BAGS (SE-6)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (TC-1)
- SM- WM3 STOCKPILE MANAGEMENT
- ~> FLOW DIRECTION
- WM OTHER BMPs

### NOTES:

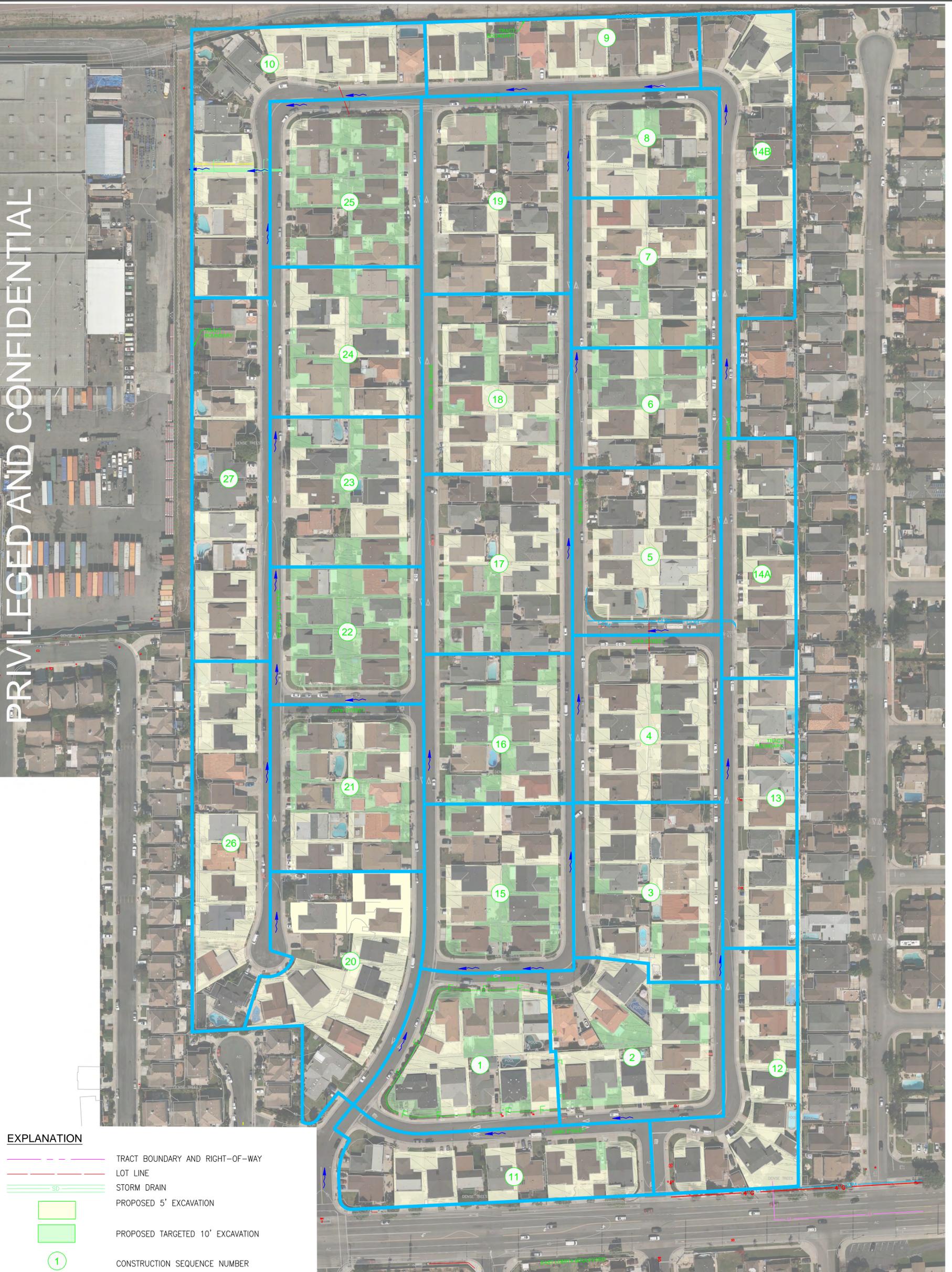
STOCKPILE BMP AND DISCHARGE SAMPLING SPECIFIC LOCATION WILL BE DETERMINED BY THE QSP ON FIELD.

TOTAL NO. OF LOTS = 279  
 TOTAL NO. OF PHASES = 27  
 AVERAGE NO. OF LOTS /PHASE = 10.33



SHELL - FORMER KAST PROPERTY  
 EROSION AND SEDIMENT CONTROL PLAN

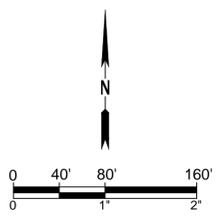
FIGURE  
 7A



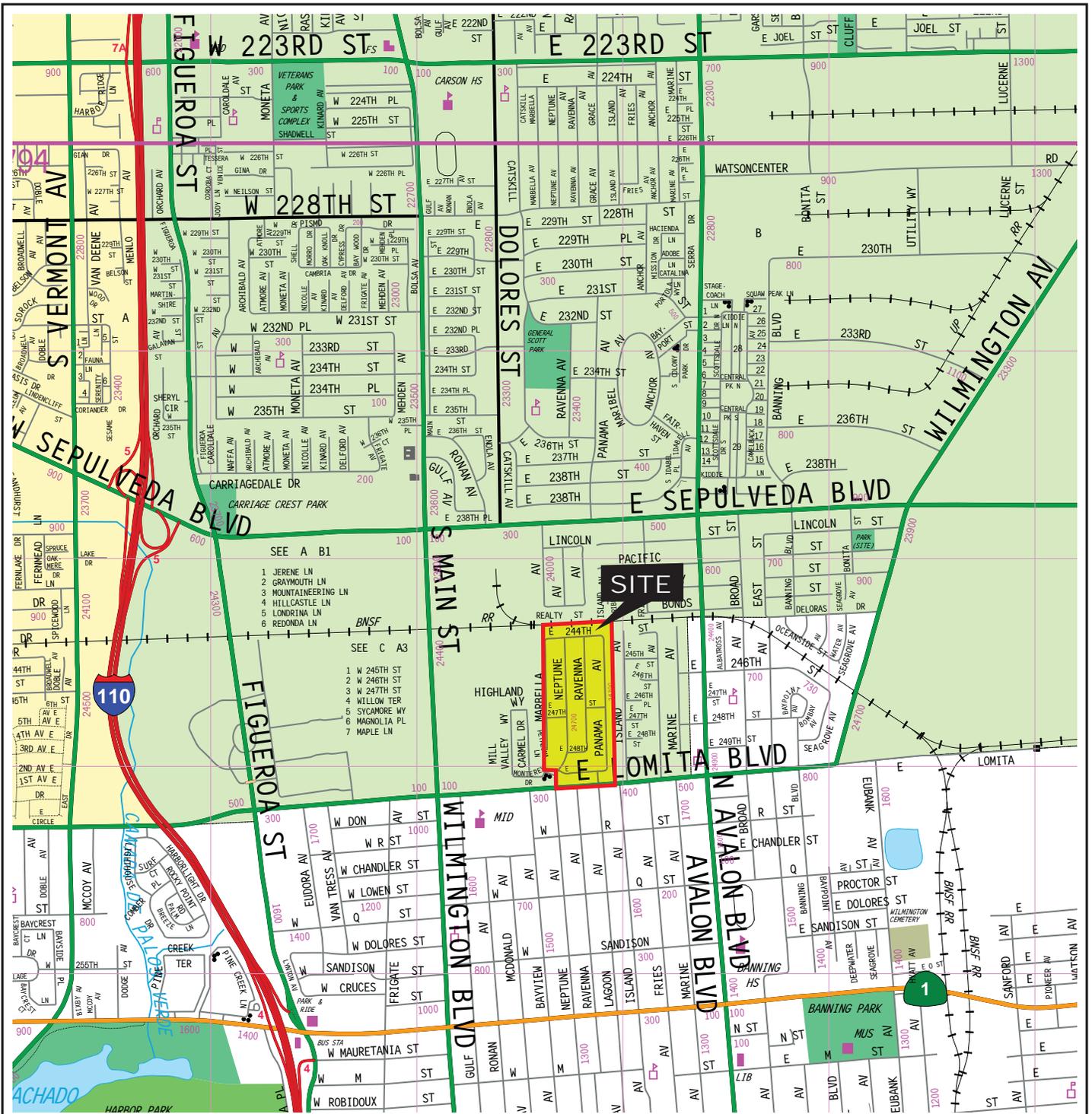
**EXPLANATION**

	TRACT BOUNDARY AND RIGHT-OF-WAY
	LOT LINE
	STORM DRAIN
	PROPOSED 5' EXCAVATION
	PROPOSED TARGETED 10' EXCAVATION
	CONSTRUCTION SEQUENCE NUMBER
	CONSTRUCTION SEQUENCE LIMIT LINE
	FLOW DIRECTION

TOTAL NO. OF LOTS = 279  
 TOTAL NO. OF PHASES = 27  
 AVERAGE NO. OF LOTS EXCAVATED PER PHASE = 10.33  
 (NOTE: NOT ALL LOTS WITHIN EACH PHASE ARE EXCAVATED)







"Reproduction with permission granted by THOMAS BROS. MAPS. This map is copyrighted by THOMAS BROS. MAPS, 2001. It is unlawful to copy or reproduce all or any thereof, whether for personal use or resale, without permission".



**SITE VICINITY MAP**

Project No.: 49194119	Date: June 2014	Project: Former KAST Property	Figure 2-1
-----------------------	-----------------	-------------------------------	------------

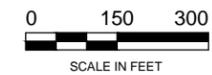




**URS**

LOCATION MAP  
SHOWING SITE AND SURROUNDING  
PROPERTIES AND FEATURES

Proj. No.: 49194119	Date: JUNE 2014
Project: FORMER KAST PROPERTY	Figure: 2-2





*Appendix C: Permit Registration Documents*

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Permit Registration Documents included in this Appendix

Y/N	Permit Registration Document
N	Notice of Intent (will be added when obtained)
Y	Risk Assessment
N	Certification (will be added when available)
N	Post Construction Water Balance (not applicable)
N	Copy of Annual Fee Receipt
N	ATS Design Documents
Y	Site Map, see Appendix B

---

*Appendix D: SWPPP Amendment Certifications*

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**SWPPP Amendment No.**

---

Project Name: Former Kast Property

Project Number: 60422689

**Qualified SWPPP Developer's Certification of the  
Stormwater Pollution Prevention Plan Amendment**

“This Stormwater Pollution Prevention Plan and attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Order No. 2009-009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below.”

---

QSD's Signature

---

Date

---

QSD Name

---

QSD Certificate Number

---

Title and Affiliation

---

Telephone

---

Address

---

Email

---

---

---

*Appendix E: Submitted Changes to PRDs*

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## Log of Updated PRDs

The General Permit allows for the reduction or increase of the total acreage covered under the General Permit when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in permit covered acreage is to be sought. The SWPPP shall be modified appropriately, with revisions and amendments recorded in Appendix C. Updated PRDs submitted electronically via SMARTS can be found in this Appendix.

---

This appendix includes all of the following updated PRDs (check all that apply):

- Revised Notice of Intent (NOI);
  
- Revised Site Map;
  
- Revised Risk Assessment;
  
- New landowner's information (name, address, phone number, email address); and
  
- New signed certification statement.

Douglas Weimer

---

Legally Responsible Person

---

Signature of Legally Responsible Person or  
Approved Signatory

---

Date

---

Name of [Authorized Representative of] Legally  
Responsible Person or Approved Signatory

---

Telephone Number

---

## *Appendix F: Construction Schedule*

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The site sediment risk was determined based on construction activities taking place between January 2016 and January 2022. The construction will take place in phases in sequential order from 1 through 27. This section will be updated with schedule updates obtained from the contractor as construction progresses.



*Appendix G: Construction Activities, Materials Used, and  
Associated Pollutants*

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**Table G.1 Construction Activities and Associated Pollutants**

General Work Activity/Products With Potential Storm Water Pollutants	Specific Work Activity/Products With Potential Storm Water Pollutants	Associated Visible Indicator	Associated Non-Visible Potential Pollutants
<input type="checkbox"/> Asphalt paving/curbs	<input type="checkbox"/> Hot and cold mix asphalt	Oil sheen	Oil, petroleum distillates
<input type="checkbox"/> Concrete / Masonry	<input type="checkbox"/> Cement waste / dust <input type="checkbox"/> Concrete curing compounds <input type="checkbox"/> Surface cleaners	Discoloration / plume from some products	Sediments, acidity, metals, particulates
<input type="checkbox"/> Grading / Earthwork	<input type="checkbox"/> Blasting <input type="checkbox"/> Dewatering <input type="checkbox"/> Grading activities <input type="checkbox"/> Vegetation removal <input type="checkbox"/> Disturbance of contaminated soil	Sediment discharge/plume, non-storm water discharges, vegetation debris	Soil amendments (gypsum, lime), historic soil contaminants (hydrocarbons, lead, benzene)
<input type="checkbox"/> Liquid waste	<input type="checkbox"/> Wash waters <input type="checkbox"/> Utility line testing/flushing	Non-storm water discharges, detergents, sediment, oily sheen, concrete rinse or other plume.	See non-visible pollutants listed in other categories.
<input type="checkbox"/> Planting / Vegetation Management	<input type="checkbox"/> Vegetation removal	Mulch, sediment, vegetation	BOD, fertilizers, pesticides, herbicides, nutrients (nitrogen, phosphorous, and potassium) acidity/ alkalinity, metals, aluminum sulfate, sulfur
<input type="checkbox"/> Removal of existing structures	<input type="checkbox"/> Demolition of asphalt, concrete, masonry, framing, roofing, metal structures.	Sediment, other particulates	Toxics (paint strippers, solvents, adhesives), trace metals (galvanized metal, painted surfaces, preserved wood),
<input type="checkbox"/> Sanitary waste	<input type="checkbox"/> Portable toilets <input type="checkbox"/> Disturbance of existing sewer lines.	Visible sanitary waste	Bacteria, BOD, pathogens
<input type="checkbox"/> Solid waste	<input type="checkbox"/> Litter, trash and debris <input type="checkbox"/> Vegetation	Plastic, paper, cigarettes, wood products, steel, vegetation waste, etc	
<input type="checkbox"/> Vehicle and equipment Use	<input type="checkbox"/> Equipment operation <input type="checkbox"/> Equipment maintenance <input type="checkbox"/> Equipment washing <input type="checkbox"/> Equipment fueling	Oil sheen, sediment	Total petroleum hydrocarbons, coolants, benzene and derivatives

*Appendix H: CASQA Stormwater BMP Handbook Portal:  
Construction Fact Sheets*

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**List of fact sheets:**

Erosion Control: EC-1,2

Sediment Control: SE-4,5,6,7,8,9,10

Tracking Control: TC-1

NonStormwater : NS-1, 2, 3, 6, 7, 8, 9, 10, 12, 13

Waste Management: WM-1 through 10



*Appendix I: BMP Inspection Form*

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## BMP INSPECTION REPORT

Date and Time of Inspection:		Date Report Written:		
Inspection Type: (Circle one)	<i>Weekly Complete Parts I, II, III and VII</i>	<i>Pre-Storm Complete Parts I, II, III, IV and VII</i>	<i>During Rain Event Complete Parts I, II, III, V, and VII</i>	<i>Post-Storm Complete Parts I, II, III, VI and VII</i>
<b>Part I. General Information</b>				
Site Information				
Construction Site Name: Former Kast Property				
Construction stage and completed activities:			Approximate area of site that is exposed:	
Photos Taken: (Circle one)	Yes	No	Photo Reference IDs:	
Weather				
Estimate storm beginning: (date and time)		Estimate storm duration: (hours)		
Estimate time since last storm: (days or hours)		Rain gauge reading and location: (in)		
Is a "Qualifying Event" predicted or did one occur (i.e., 0.5" rain with 48-hrs or greater between events)? (Y/N) If yes, summarize forecast:				
Exemption Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as flooding or electrical storms.				
Inspector Information				
Inspector Name:			Inspector Title:	
Signature:			Date:	

**Part II. BMP Observations. Describe deficiencies in Part III.**

--

Minimum BMPs for Risk Level _____ Sites	Failures or other short comings (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
<b>Good Housekeeping for Construction Materials</b>			
Inventory of products (excluding materials designed to be outdoors)			
Stockpiled construction materials not actively in use are covered and bermed			
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation			
BMPs preventing the off-site tracking of materials are implemented and properly effective			
<b>Good Housekeeping for Waste Management</b>			
Wash/rinse water and materials are prevented from being disposed into the storm drain system			
Portable toilets are contained to prevent discharges of waste			
Sanitation facilities are clean and with no apparent for leaks and spills			
Equipment is in place to cover waste disposal containers at the end of business day and during rain events			
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water			
Stockpiled waste material is securely protected from wind and rain if not actively in use			
Procedures are in place for addressing hazardous and non-hazardous spills			
Appropriate spill response personnel are assigned and trained			
Equipment and materials for cleanup of spills is available onsite			
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil			
<b>Good Housekeeping for Vehicle Storage and Maintenance</b>			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters			
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs			
Vehicle and equipment leaks are cleaned immediately and disposed of properly			

<b>Part II. BMP Observations Continued. Describe deficiencies in Part III.</b>			
Minimum BMPs for Risk Level _____ Sites	Adequately designed, implemented and effective	Action Required (yes/no)	Action Implemented (Date)

	(yes, no, N/A)		
<b>Good Housekeeping for Landscape Materials</b>			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
<b>Good Housekeeping for Air Deposition of Site Materials</b>			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations			
<b>Non-Stormwater Management</b>			
Non-Stormwater discharges are properly controlled			
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems			
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.			
<b>Erosion Controls</b>			
Wind erosion controls are effectively implemented			
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots			
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.			
<b>Sediment Controls</b>			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site			
Entrances and exits are stabilized to control erosion and sediment discharges from the site			
Sediment basins are properly maintained			
Linear sediment control along toe of slope, face of slope and at grade breaks (Risk Level 2 & 3 Only)			
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)			
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits are maintained and protected from activities that reduce their effectiveness (Risk Level 2 & 3 Only)			
Inspect all immediate access roads daily (Risk Level 2 & 3 Only)			
<b>Run-On and Run-Off Controls</b>			
Run-on to the site is effectively managed and directed away			

from all disturbed areas.			
<b>Other</b>			
Are the project SWPPP and BMP plan up to date, available on-site and being properly implemented?			

**Part III. Descriptions of BMP Deficiencies**

Deficiency	Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.	
	Start Date	Action
1.		
2.		
3.		
4.		

**Part IV. Additional Pre-Storm Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).**

	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	



**Part VI. Additional Post-Storm Observations.** Visually observe (inspect) stormwater discharges at all discharge locations within two business days (48 hours) after each qualifying rain event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.

Discharge Location, Storage or Containment Area	Visual Observation

**Part VII. Additional Corrective Actions Required.** Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.

Required Actions	Implementation Date

# Appendix J: Project Specific Rain Event Action Plan Template

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<b>Rain Event Action Plan (REAP)</b>			
<b>Date:</b>		<b>WDID Number:</b>	
<b>Date Rain Predicted to Occur:</b>		<b>Predicted % chance of rain:</b>	
<b>Site Information:</b>			
<p>_____</p> <p>Site Name, City and Zip Code    Project Risk Level:    <input type="checkbox"/> Risk Level 2    <input type="checkbox"/> Risk Level 3</p>			
<b>Site Stormwater Manager Information:</b>			
<p>_____</p> <p>Name, Company, Emergency Phone Number (24/7)</p>			
<b>Erosion and Sediment Control Contractor – Labor Force contracted for the site:</b>			
<p>_____</p> <p>Name, Company, Emergency Phone Number (24/7)</p>			
<b>Stormwater Sampling Agent:</b>			
<p>_____</p> <p>Name, Company, Emergency Phone Number (24/7)</p>			
<b>Current Phase of Construction</b>			
<i>Check ALL the boxes below that apply to your site.</i>			
Grading and Land Development	Vertical Construction	Inactive Site	
Streets and Utilities	Final Landscaping and Site Stabilization	Other:	

**Activities Associated with Current Phase(s)**

Check ALL the boxes below that apply to your site (some apply to all Phases).

**Grading and Land Development:**

Demolition	Vegetation Removal	Vegetation Salvage-Harvest
Rough Grade	Finish Grade	Blasting
Soil Amendment(s):	Excavation (_____ ft)	Soils Testing
Rock Crushing	Erosion and Sediment Control	Surveying
Equip. Maintenance/Fueling	Material Delivery and Storage	Other:

**Streets and Utilities:**

Finish Grade	Utility Install: water-sewer-gas	Paving Operations
Equip. Maintenance/Fueling	Storm Drain Installation	Material Delivery & Storage
Curb and Gutter/Concrete Pour	Masonry	Other:

**Vertical Construction:**

Framing	Carpentry	Concrete/Forms/Foundation
Masonry	Electrical	Painting
Drywall/Interior Walls	Plumbing	Stucco
Equip. Maintenance/Fueling	HVAC	Tile
Exterior Siding	Insulation	Landscaping & Irrigation
Flooring	Roofing	Other:

**Final Landscaping & Site Stabilization:**

Stabilization	Vegetation Establishment	E&S Control BMP Removal
Finish Grade	Storage Yard/ Material Removal	Landscape Installation
Painting and Touch-Up	Irrigation System Testing	Other:
Drainage Inlet Stencils	Inlet Filtration	Perm. Water Quality Ponds
Other:	Other:	Other:

**Inactive Construction Site:**

E & S Control Device Installation	Routine Site Inspection	Trash Removal
E & S Control Device Maintenance	Street Sweeping	Other:

# Rain Event Action Plan (REAP)

<b>Date:</b>		<b>WDID Number:</b>	
--------------	--	---------------------	--

## Trades Active on Site during Current Phase(s)

*Check ALL the boxes below that apply to your site*

Storm Drain Improvement	Grading Contractor	Surveyor- Soil Technician
Street Improvements	Water Pipe Installation	Sanitary Station Provider
Material Delivery	Sewer Pipe Installation	Electrical
Trenching	Gas Pipe Installation	Carpentry
Concrete Pouring	Electrical Installation	Plumbing
Foundation	Communication Installation	Masonry
Demolition	Erosion and Sediment Control	Water, Sewer, Electric Utilities
Material Delivery	Equipment Fueling/Maintenance	Rock Products
Tile Work- Flooring	Utilities, e.g., Sewer, Electric	Painters
Drywall	Roofers	Carpenters
HVAC installers	Stucco	Pest Control: e.g., termite prevention
Exterior Siding	Masons	Water Feature Installation
Insulation	Landscapers	Utility Line Testers
Fireproofing	Riggers	Irrigation System Installation
Steel Systems	Utility Line Testers	Other:

## Trade Contractor Information Provided

*Check ALL the boxes below that apply to your site.*

Educational Material Handout	Tailgate Meetings	Training Workshop
Contractual Language	Fines and Penalties	Signage
Other:	Other:	Other:

**Continued on next page.**

# Rain Event Action Plan (REAP)

<b>Date of REAP</b>		<b>WDID Number:</b>	
<b>Date Rain Predicted to Occur:</b>		<b>Predicted % chance of rain:</b>	

**Predicted Rain Event Triggered Actions**

Below is a list of suggested actions and items to review for this project. Each active Trade should check all material storage areas, stockpiles, waste management areas, vehicle and equipment storage and maintenance, areas of active soil disturbance, and areas of active work to ensure the proper implementation of BMPs. Project-wide BMPs should be checked and cross-referenced to the BMP progress map.

Trade or Activity	Suggested action(s) to perform / item(s) to review prior to rain event
Information & Scheduling	Inform trade supervisors of predicted rain Check scheduled activities and reschedule as needed Alert erosion/sediment control provider Alert sample collection contractor (if applicable) Schedule staff for extended rain inspections Check Erosion and Sediment Control (ESC) material stock Review BMP progress map Other: _____ _____ _____
Material storage areas	Material under cover or in sheds (ex: treated woods and metals) Perimeter control around stockpiles Other: _____ _____ _____
Waste management areas	Dumpsters closed Drain holes plugged Recycling bins covered Sanitary stations bermed and protected from tipping Other: _____ _____ _____
Trade operations	Exterior operations shut down for event (e.g., no concrete pours or paving) Soil treatments (e.g., fertilizer) ceased within 24 hours of event Materials and equipment (ex: tools) properly stored and covered Waste and debris disposed in covered dumpsters or removed from site Trenches and excavations protected Perimeter controls around disturbed areas Fueling and repair areas covered and bermed Other: _____ _____ _____



--	--

**Attach a printout of the weather forecast from the NOAA website to the REAP.**

I certify under penalty of law that this Rain Event Action Plan (REAP) will be performed in accordance with the General Permit by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

\_\_\_\_\_ Date: \_\_\_\_\_

Qualified SWPPP Practitioner (Use ink please)





*Appendix K: Training Reporting Form*

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# Trained Contractor Personnel Log

## Stormwater Management Training Log and Documentation

Project Name: Former Kast Property  
 WDID #: \_\_\_\_\_

Stormwater Management Topic: (check as appropriate)

- |  |   |
|--|---|
| <input type="checkbox"/> Erosion Control           | <input type="checkbox"/> Sediment Control                                 |
| <input type="checkbox"/> Wind Erosion Control      | <input type="checkbox"/> Tracking Control                                 |
| <input type="checkbox"/> Non-Stormwater Management | <input type="checkbox"/> Waste Management and Materials Pollution Control |
| <input type="checkbox"/> Stormwater Sampling       |   |

Specific Training Objective: \_\_\_\_\_

Location: \_\_\_\_\_ Date: \_\_\_\_\_

Instructor: \_\_\_\_\_ Telephone: \_\_\_\_\_

Course Length (hours): \_\_\_\_\_

### Attendee Roster (Attach additional forms if necessary)

Name	Company	Phone

As needed, add proof of external training (e.g., course completion certificates, credentials for QSP, QSD).

## *Appendix L: Responsible Parties*

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***OPTIONAL***

**Authorization of Approved Signatories**

Project Name: Former Kast Property

WDID #: \_\_\_\_\_

Name of Personnel	Project Role	Company	Signature	Date
TBD if needed.				

\_\_\_\_\_  
LRP's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
LRP Name and Title

\_\_\_\_\_  
Telephone Number

## Identification of QSP

Project Name: Former Kast Property

WDID #: \_\_\_\_\_

The following are QSPs associated with this project

Name of Personnel <sup>(1)</sup>	Company	Date
Mitali Goel	AECOM	09/30/2015

(1) If additional QSPs are required on the job site add additional lines and include information here

# Authorization of Data Submitters

Project Name: Former Kast Property

WDID #: \_\_\_\_\_

Name of Personnel	Project Role	Company	Signature	Date
Mitali Goel	Data Submitter/QSD,P	AECOM		09/30/2015

\_\_\_\_\_  
Approved Signatory's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Approved Signatory  
Name and Title

\_\_\_\_\_  
Telephone Number

## *Appendix M: Contractors and Subcontractors*

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Contractor needs to add subs information here. Include minimum information from permit such as:

Name:

Phone:

Work address:

Areas of responsibility:

Emergency contact numbers:

*Appendix N: Construction General Permit*

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**APPENDIX D**

**RELOCATION PLAN AND OPTIONAL REAL ESTATE PROGRAM**

# APPENDIX D

## OVERVIEW OF RAP RELOCATION AND REAL ESTATE PLAN

### I. Introduction

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As part of implementation of the Revised Remedial Action Plan (RAP), Shell Oil Products US (SOPUS or Shell) is offering a Temporary Relocation Program to residents of properties while remedial actions are performed in or immediately adjacent to the yards of their residences. During the remedial excavation, backfill, and hardscape restoration work, residents of the properties where excavation is conducted will be temporarily relocated as described herein. Residents of properties adjacent to locations where excavations are occurring will be offered alternative accommodations if necessary based on the nature of the excavation work, the potential for interruptions of access to the property, or due to disruptions in utility service to the property. Residents will move back into their homes after hardscape restoration and removal of any noise barriers that surround the property.

Langan Engineering and Environmental Services will be coordinating the Temporary Relocation Program. Cartus, a nationwide real estate services company, will administer the Temporary Relocation Program. A representative from Langan is available to meet with each household representative to review the household's individual needs during relocation and present the features and options available under the program.

In addition to the Temporary Relocation Program, Carousel homeowners are also being offered an Optional Real Estate Program. The Optional Real Estate Program is a voluntary program that ensures that participating homeowners who elect to sell their house to independent third party buyers after placing their home on the market will receive fair market value as determined through the appraisal process described in the Program Brochure. To participate in the Program, homeowners must sign up for the Optional Real Estate Program before putting their house on the market. The appraisal process in the Optional Real Estate Program requires that qualified appraisers evaluate the fair market value of the home without regard to the environmental activities in the Carousel neighborhood. If it is determined that the property sells for less than fair market value, the homeowner will receive a payment for the difference between fair market value and the sale price.

### II. Temporary Relocation Program

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The Temporary Relocation Program:

- Offers a per diem payment that can be applied towards temporary living expenses for the members of the household living at the residence;

- Provides assistance, if desired, with making temporary living arrangements billed directly to the Program Administrator;
- Provides an inconvenience allowance as part of the payment.

### **Temporary Relocation Program Eligibility**

Residing owners or tenants of a residential property (Residents) that qualify for temporary living arrangements due to remediation-related excavation activities are eligible for the Program.

It is a requirement of the Program that the Resident sign a “Use of Home and Acknowledgement of Payment to Occupants” form in order to receive program benefits. Please see Attachment A – “Use of Property and Acknowledgement of Payment of Occupants”.

### **Temporary Relocation Program Implementation**

Shell has secured furnished apartments at several locations within 15 miles of the Carousel Neighborhood. A list of the locations will be provided to the Residents in advance of the informational interview.

At least eight weeks prior to the relocation date, a meeting will be held with the residents to provide information about financial assistance to facilitate relocation, the relocation or boarding of pets, and assistance with transportation, if needed. Residents will be asked for general information about persons living in the home, such as the number of adults and children and the ages of the children. During the interview, the Residents will be asked for feedback about preferred relocation address; however, final location will be determined based on availability of apartments that address the Residents’ specific needs. Special needs, such as long-term vehicle storage, special medical needs, or transportation needs will be discussed and accommodations may be made to reduce the amount of disruption for the residents. If a Resident has pets that will not be staying at the temporary housing location, the Resident will be given the option to board the pets at a facility selected and reserved by Cartus, or to make their own arrangements to board pets with an allowance of \$30 per day per pet. Shell will pay for updated shots if a pet is not current on vaccinations required for boarding. Refer to Attachment B for information to be obtained during the interview.

Approximately four weeks prior to the relocation date, the Residents will be notified of the final details regarding the relocation including the temporary housing location, the dates in which the move -in could be performed, the anticipated duration of the relocation, and the financial assistance amount to be provided.

### **Temporary Relocation Program Payment**

The Program Administrator will arrange the apartment reservations which will be billed direct to Shell. Payment for per diem allowance, inconvenience allowance and any other preapproved expense will be loaded onto a debit card at the rates summarized on Table 1. One debit card will be issued per property. All other expenses shall be paid directly by the participating residents. Any damage to the furnished apartment rooms, furnishings or other property during relocation periods will be the responsibility of the relocated residents.

**Table 1: Per Diem and Eligible Expenses**

Item	Reimbursement	Notes
Per Diem – Adult	\$71 per day per adult	
Per Diem –Child	\$36 per day per child	A child is a person 12 years of age or youngest
Pet Boarding	\$30 per day per pet	Amount may be increased to cover approved special needs, such as medication. A special needs to request will need to be submitted for consideration
Inconvenience Payment	To be determined	Inconvenience payment amount to be calculated after completion of home owner questionnaire.

The payment will be made in increments during the relocation. The payment installments will be detailed in the relocation package that will be provided after the interview.

### **Security**

Onsite security will be provided by a combination of off-duty law enforcement officers and non-law enforcement security personnel when residents are relocated during the hours that AECOM or its subcontractor personnel are not present onsite, typically from 5:00 pm to 7:00 am Monday through Thursday and 24 hours per day from 5:00 pm Friday through 7:00 am Monday. Each security team at the Site will include at least one off-duty officer.

A security officer will be stationed on each street where RAP implementation activities are taking place. Two to three officers will be needed, depending on the location of the active work plus an additional officer to relieve the onsite officer(s) for meal and rest breaks. AECOM may add or subtract personnel on an as-needed basis.

In the event of a security-related emergency, including suspicious persons/activities at or near the residence, security officers will immediately contact emergency services by calling 911, followed by the resident or their designated legal representative, and AECOM, who will notify Shell.

### **Access to the Property during Relocation**

During the remediation activities, access to the properties by temporarily relocated Residents will be limited due to disruption of ingress and egress paths during excavations. Access may also be

affected by disconnection of utility services to allow excavation. If a temporarily relocated Resident desires access to their property, an access request can be made. For access requests made with minimum 48 hour notice, AECOM will evaluate if the access request can be accommodated based on site conditions. All access visits will be in the late afternoon active excavation activity has stopped for the day and will be escorted by an AECOM representative for safety purposes. If the visit cannot be accommodated by AECOM due to site logistics, an alternate visit time will be offered.

## V. Optional Real Estate Program

---

In addition to the Temporary Relocation Program described above, current Carousel homeowners will be offered the Optional Real Estate Program.

The Optional Real Estate Program is a voluntary program that ensures that participating homeowners who elect to sell their house will receive fair market value as determined through the appraisal process summarized below. The Optional Real Estate Program is applicable to arm's-length, first-time sales of Carousel homes to independent third party buyers by individual homeowners who owned their homes as of June 30, 2014. It will be active for ten (10) years from the approval of the Revised RAP by the Regional Water Quality Control Board.

Homeowners interested in participating in the Optional Real Estate Program will sign a Real Estate Program Agreement specifying the terms of the program in more detail.

Homeowners participating in the Optional Real Estate Program agree to notify the Program Administrator of their intent to list their property for sale at least thirty (30) days in advance of the listing. The homeowner will then put their property on the market with an approved independent real estate broker and make all reasonable efforts to actively market the home. The homeowner will provide the Program Administrator with a copy of every written offer received on the property.

After receiving what is believed to be the best offer on the property, the homeowner must immediately notify the Program Administrator. The homeowner must also immediately notify the Program Administrator upon entering into a sales contract with an independent third party. The accepted offer and close of escrow must be the result of a *bona fide* arm's length transaction.

If the homeowner believes the home sold for less than fair market value due to the environmental condition of the property and the RAP activities in the Carousel neighborhood, the homeowner must notify the Program Administrator and submit a claim within the specified period after the close of escrow. If the Program Administrator and the homeowner do not agree as to the fair market value for the property, the parties agree to determine the fair market value through the independent appraisal process of the Optional Real Estate Program. If it is determined that the property sold for less than fair market value as agreed to by the parties or determined through the appraisal process, the homeowner will receive a payment for the difference between fair market value and the sale price.

Under the Optional Real Estate Program, approved independent real estate appraiser(s) will determine the fair market value of the property without regard to the environmental conditions and RAP activities that are the subject of environmental investigation and remediation in the Carousel neighborhood. The appraisal process is summarized as follows:

- If the Program Administrator and the homeowner do not agree regarding the fair market value for the property, the parties will take the following steps:
  - a. Within ten (10) days of submission of a claim, the Program Administrator will designate an approved appraiser to determine fair market value;
  - b. Within ten (10) days of the Program Administrator's designation, the homeowner, at their own expense, may designate his or her own approved appraiser to determine fair market value. If the homeowner does not designate an approved appraiser within that time period, the fair market value determination by the

approved appraiser designated by the Program Administrator will be the final fair market value;

- c. If the homeowner timely designates an appraiser, each of the appraisers designated shall independently determine their appraisal of fair market value. If the lower of the two fair market value appraisals is within five (5) percent of the higher fair market value appraisal, then fair market value shall be set at the average of the two appraisals. This fair market value shall be binding upon the parties. Otherwise, unless the Program Administrator and the homeowner reach an agreement as to fair market value, the appraisers designated by each party will have five (5) days to agree upon and appoint a third independent approved appraiser, who shall conduct its own independent appraisal. Once the third fair market value appraisal has been received, the fair market value shall be set at the average of the two **closest** of the three appraisals. This amount shall be binding upon the parties.

# Attachment A

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## USE OF PROPERTY AND ACKNOWLEDGMENT OF PAYMENT TO OCCUPANTS

Company and Responsible Occupants agree as follows:

Agreement: This Use of Property and Acknowledgment of Payment to Occupants

Property Address:

Responsible Occupants (Owner or Tenant):

Company: Shell Oil Company

Activities: Excavation yard of Property including hardscape, and Restoration of Property

Leave Date:

Return Date:

Excavation and Restoration Period:

Number of Days in Excavation and Restoration Period: X days

Number of Nights in Excavation and Restoration Period: X-1 nights

Number of Occupants in Home (including Responsible Occupants) and Number of Pets to be Boarded:

X Occupants 13 years and older, X Occupants 12 years and younger, and X Pets to be boarded.

Payment to Responsible Occupants: \$XXX TOTAL PAYMENT AMOUNT

What Company will do: (a) Have the right to use the Property for Remediation purposes during the Excavation and Restoration Period; (b) Pay to the Responsible Occupants the Total Payment Amount; (c) Repair any damage to the Property caused by Company's use of the Property during the Excavation and Restoration Period.

What Responsible Occupants will do: (a) Have all of the Occupants and pets leave the Home on or before the Leave Date and keep all Occupants and pets away from the Property during the entire Excavation Period until the specified Return Date; (b) Allow Company to use the Property during the Period for Excavation and Restoration; (c) Notify Company of all known hazards or risks in the Property and in the Home; (d) Comply with all Rules of Occupancy at the temporary living facility/hotel during the Occupants' stay.

No Admission of Liability: Company is not admitting to any liability relating to the Property or the Home or any environmental matter relating to the Property or the Home by signing and performing this Agreement or conducting the Excavation and Restoration.

---

Signed as of <Date>.

**RESPONSIBLE OCCUPANTS:**

**COMPANY:**

\_\_\_\_\_  
[Signature]

\_\_\_\_\_  
[Signature]

\_\_\_\_\_  
[Signature]

# Attachment B

## Sample Resident Questionnaire for Determining Temporary Relocation Assistance

Please provide all applicable information.	
Head of Household (Select one adult to represent the family. This is the name of the person that the temporary assistance payment will be made out to or to whose account the payment will be sent):	
Primary Residence Address:	
Occupancy Basis at Primary Address:	<input type="checkbox"/> Owner <input type="checkbox"/> Tenant <input type="checkbox"/> Living with Friend or Family. No rent paid.
Type of Primary Residence	<input type="checkbox"/> House <input type="checkbox"/> Mobile Home <input type="checkbox"/> Apartment <input type="checkbox"/> Other
Name and Address of Landlord/Mortgage Holder at Primary Address:	

### Phone Numbers of Residents

Residence phone	
Cell phone (and name)	
Head of Household work or other #	

### Occupants at Primary Address

Name	Age	Sex	Relationship to Head(s) of Household
1.			
2.			
3.			
4.			
5.			
6.			

**Special Needs?** (e.g., handicap accessible, special provisions for health concerns)

How many cars/trucks do you currently have that will require parking at the temporary address?

**Hotel/Extended Stay Facility Needs** *(Delete if not needed) (The company has ultimate discretion to determine the number of rooms needed.)*

Number of Rooms: \_\_\_\_\_

Adjoining Rooms:  No  Yes

Explain:

Refrigerator:  No  Yes

Explain:

**Apartment Needs** *(Delete if not needed) (The company has ultimate discretion to determine the number of bedrooms needed.)*

Number of bedrooms needed:

Other needs:

**Staying with Friends or Family:**

Name and address of friend or family:

Phone number of friend or family:

**Pet Needs**

Do you have pets that will need to be temporarily relocated?  No  Yes

How many pets and what type:

Are your pets up to date on all required shots?  No  Yes

Do any of your pets have unique needs? (e.g. daily medication, large aquariums, etc.)  
 No  Yes If yes, please explain:

### Transportation Needs

How do your children get to school currently?
What is the name of the school(s) your children attend:
Will your children require transportation to school from the temporary living facility? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, please provide details:
How far away is your workplace from your children's school(s)?
Do you have any other transportation needs?

### Additional Information

Please provide any other information that you feel would be helpful in addressing your temporary living needs.
--

Signature: \_\_\_\_\_

Printed name: \_\_\_\_\_

Date: \_\_\_\_\_

**APPENDIX E**

**CONSTRUCTION TRAFFIC MANAGEMENT PLAN AND HAUL ROUTE PLAN**

# APPENDIX E

## CONSTRUCTION TRAFFIC MANAGEMENT PLAN and HAUL ROUTE PLAN

### PROJECT SUMMARY

**Project Site (Site):** Carousel Tract, Former Kast Property

**Site Location:** The Site is located in the City of Carson in the area inclusive of Marbella Avenue on the west, Panama Avenue on the east, E. 244th Street on the north, and E. 249th Street on the south. The Site is bordered by the Los Angeles County Metropolitan Transportation Authority (MTA) railroad tracks to the north, Lomita Boulevard to the south, residential properties of the Monterey Pines Community and industrial property of the former Turco Products Facility to the west, and residential properties to the east.

**Project Proponent (PP):** Equilon Industries, dba Shell Oil Products US

**Removal Action Contractor (RAC):** American Integrated Services, Inc. (AIS)

**Consultant and Engineer of Record:** AECOM

**Chemicals of Concerns (COCs):** Chemicals related to crude and bunker oil, including total petroleum hydrocarbons (TPH) quantified as gasoline, diesel and motor oil, volatile organic compounds (VOCs, including benzene), polycyclic aromatic hydrocarbons (PAHs) and some metals.

**Site-Specific Cleanup Goals (SSCGs) for Soil:** SSCGs were developed for COCs in soil based on potential human health risk and potential for leaching of COCs to groundwater

- Soil SSCGs for residential exposures are chemical-specific numerical values for COCs assuming a target incremental cancer risk of  $1 \times 10^{-6}$  and a hazard quotient of 1. These numerical SSCGs were calculated for both frequent and infrequent exposure assumptions.
- Soil SSCGs for construction and utility maintenance worker exposures are chemical-specific numerical values for COCs assuming a target incremental cancer risk of  $1 \times 10^{-5}$  and a hazard quotient of 1.
- Soil SSCGs for the leaching to groundwater pathway are chemical-specific numerical values for COCs directed by the Regional Board in their January 23, 2014 letter, as revised in the May 29, 2014 letter.

**EPA ID Number:** CAR000206078

**Estimated Volume of Soil Removal:** The estimated soil volume to be excavated is approximately 155,700 cubic yards, or approximately 264,700 tons, including residential excavations and trenching in City streets for soil vapor extraction system piping installation.

**Distance to a Sensitive Environment:** Surrounding land uses close to the site are shown in EIR Figure 5.4-1, On and Off-Site Receptor Locations, and include the following sensitive land uses:

- **Single-Family Residential Dwellings:** Residential land uses occur within the Site, as the site is the Carousel Housing Tract, and other residential properties located to the south, west and east, adjacent to the Site. Residential land uses are also located to the north of the railroad right-of-way which borders the Site to the north.
- **School:** Wilmington Middle School is located southwest of the site across Lomita Boulevard, approximately 0.1 mile from the entrance to the Carousel Tract.
- **Light Industrial/Commercial:** Light industrial and commercial uses are located to the west and northwest of the site north of Lomita Boulevard and east of Main Street.

## 1.0 INTRODUCTION

AECOM and American Integrated Services, Inc. (AIS) prepared this Construction Traffic Management Plan and Haul Route Plan for the former Kast Property (Site), which is now the Carousel Housing Tract in Carson, California, on behalf of Shell Oil Products US (Shell or SOPUS). This plan includes Site Traffic Control Plans, including but not limited to elements such as the designation of haul routes for construction-related trucks, any driveway turning movement restrictions, temporary traffic control devices, travel time restrictions for construction-related traffic, consolidation of construction truck deliveries, flag control, and designated staging and parking areas for workers and equipment.

Soil excavation and loading will be conducted by AIS.

All excavated soils shall be shipped by a qualified (licensed/registered and insured) waste hauler via sealed or covered end-dump trucks and/or roll off bins under manifests or proper shipping documents to an appropriate permitted recycling or disposal facility. Transportation of fill materials shall be in covered trucks under Bill of Ladings, declaring material type and weight.

All removal, transportation, disposal, and Site restoration activities will be performed in accordance with all applicable federal, state, and local laws, regulations, and ordinances.

## 2.0 WASTE CHARACTERIZATION AND QUANTITY

### Waste Profile

Site-Specific COCs: total petroleum hydrocarbons (TPH) quantified as gasoline, diesel and motor oil, volatile organic compounds (VOCs, including benzene), polycyclic aromatic hydrocarbons (PAHs) and some metals.

Because a limited amount of the soil to be excavated as part of this project potentially may be classified as a hazardous waste due to presence of benzene or soluble lead and arsenic, Shell has secured a U.S. Environmental Protection Agency (USEPA) identification number for the Site (CAR000206078) from the California Department of Toxic Substances Control (DTSC) for proper hazardous waste management. Compliance with DTSC requirements of hazardous waste generation, temporary onsite storage, transportation, and disposal is required.

## **Contaminated Soil Control**

After the delineated areas of impacted soil have been excavated to the appropriate depths, post-excavation confirmatory soil samples will be collected from the bottom and sidewalls of the excavations, as described in Section 6.6 of the RDIP. The site-specific cleanup goals are discussed in Section 2.3.2.1 of the RDIP.

During excavation activities, a properly calibrated PID will be used to screen the soil. Soil registering <50 ppmv on the PID will be temporarily stockpiled separately from soil registering 50 ppmv or above. Upon excavation the soil will be moved by skid steer and/or electric conveyor from the back and or side yards for stockpiling in the front yards. Soil from front yard excavations will be moved to a yet unexcavated front yard; upon completion of front yard excavation the final remaining soil will be direct loaded. Vapor and dust control will be provided by the loading crew utilizing electric pressure washers spraying a fine mist during stockpiling and loading operations. If vapors and or odors should exceed pre-established levels a solution of Biosolve and water will be used, in cases where this solution proves inadequate, RUSMAR long-duration foam will be used to control vapors and odors. Soil unable to be loaded during a working shift will be covered with plastic and secured with sandbags for overnight and/or weekend storage.

## **Waste Quantity**

- Estimated quantity of impacted soils for off-haul: 155,700 cubic yards
- Estimated Number of Impacted Soil Export Trucks: Up to 11,264
- Estimated Number of Soft Scape Export Trucks: Up to 312
- Estimated Number of Hardscape Export Trucks: Up to 642
- Estimated Number of Import (backfill) Trucks: Up to 11,250

## **Import Fill Material**

- Estimated Quantity of Imported Soil Fill Material: 127,100 Cubic Yards
- Estimated Quantity of Imported CLSM Fill Material: 28,600 Cubic Yards
- Total Project Estimated Number of Truckloads per Day: Up to 20 per day

## **3.0 SOIL LOADING OPERATIONS**

Soil will be removed using a variety of equipment, mini-excavators, skid steers and/or by hand or other types of earth moving equipment, as necessary. As soil is excavated, it will be moved to front yards using skid steers and in some instances electric conveyors. Once delivered to the front yards, the soil will be temporarily stockpiled. The soil will be loaded using a small 2.5 yard bucket wheel loader into end dump trucks or covered bins, and in some instances directly loaded using conveyors into end dump trucks. If temporary stockpiling is necessary, the excavated soil will be covered and may be stored in soil staging areas in front yards.

### **3.1 Truck Loading Operations**

**End Dump Truck Loading:** Trucks will be staged for loading within the sound attenuation paneled enclosed areas in the street parked at the curb. In most cases it is anticipated that trucks will be loaded directly and driven to the designated disposal facility. While the soil is being loaded into the trucks, dust suppression will be performed by pressure washer, lightly spraying or misting the soil as it is loaded into the trucks. If dust, vapors, or odors exceed acceptable levels the soil within the truck beds will be covered/capped using Rusmar AC-565 long-duration foam before transportation from the Site.

**Roll-off bin loading:** During the SVE system installation, covered roll-off bins will be utilized for impacted soil containment and transportation to designed facilities. The bins will be staged at curb side and soil from drilling or trenching operations loaded directly into the bins by skip steer. While the soil is being loaded into the bins, dust suppression will be performed by pressure washer, lightly spraying or misting the soil as it is loaded into the bins. If dust, vapors, or odors exceed acceptable levels, the soil within the bins will be covered/capped using Rusmar AC-565 long-duration foam or plastic sheeting prior to closing of lids, and before transportation from the Site

**Truck/Bin Decontamination:** All trucks and bins will be decontaminated prior to leaving loading areas. Each truck or bin will be inspected by AIS loading team and dry brushed to remove any residual impacted soil prior to leaving loading areas for transport to disposal facilities. All truck beds will be covered by tarps and roll-off bins covered by hard plastic lids built into the roll-off bin.

Prior to leaving the loading areas and after decontamination each truck or bin will again be inspected by AIS to ensure that the payloads are adequately covered, the trucks and bins are cleaned of spilled soil, and the shipment is properly manifested.

### **3.2 Working Hours and Duration**

End dump trucks and/or roll-off trucks are restricted from entering residential areas before 8:00 am and must be out of the residential areas before 4:00 pm. Transportation is restricted to Monday through Friday. No transportation is expected during weekends or holidays unless given prior approval. Total project duration is estimated at between 4 to 5 years.

## **4.0 TRANSPORTATION CONTROL**

### **4.1 Dust Control during Transportation**

All materials for offsite disposal will be transported in covered trailers, or roll-off bins to an approved disposal or recycling facility. All trucks and bins will be decontaminated prior to leaving the loading areas. Clean fill materials will be transported in covered trailers/trucks to the Site. All end dump trucks transporting impacted soil will be directed over rock plates prior to entering public streets. A wet street sweeper will readily available for public street cleaning to mitigate any potential residual dust or track out of soils.

## 4.2 Traffic Control

Two flagmen will be positioned at the two streets that allow entrance to the neighborhood on days when neighborhood trucking activities occur; one flagman will be positioned at Neptune Avenue and one flagman at N. Lagoon Avenue. The flagmen will be in direct communication with each truck driver to direct traffic during the work hours of 8:00 am to 4:00 pm. Communications with importing truck drivers will be made by having driver's pull off the road and park in a legal parking area before contacting the flagmen. Export trucks will park at the laydown area. As a loaded truck leaves the neighborhood another truck will be called by the flagmen to enter the neighborhood and directed to the loading area. These flagmen are tasked to keep truck traffic within the neighborhood to a minimum, reminding drivers of the "Right Turn Only" rule and 5 minute idling rule. The flagmen and truck drivers will be provided a route map, rules, a schedule and phone numbers of drivers and flagmen the day before. The truck drivers will be responsible to call the flagmen regarding traffic problems and emergencies that may prevent them from keeping to their appointed schedules. Drivers will also be instructed to contact the flagmen regarding delays and/or breakdowns during transport to disposal facilities.

Signage will be erected for the sound paneled areas as required by the Encroachment Permit issued by City of Carson prior to start. Additional flagmen will be provided at residential excavations as necessary to direct truck traffic into and out of loading/unloading areas during on-site activities.

During partial street closure work for installation of the SVE system in the streets, additional flagmen will be provided as required by the Encroachment Permits issued by the City, and as needed to provide traffic, pedestrian and bicycle safety. Street closures cannot begin set up until 9:00 am and the street must be totally accessible to the public by 3:00 pm.

**End Dump Truck Loading Area:** Trucks will be allowed entrance into the loading area within the sound panel enclosed exclusion zone by opening gates created by equipping sound panels with wheels. Wheeled panels will be closed upon truck's entrance. Truck loading areas for the first block of properties planned to be excavated are shown on Figure E-1. Similar figures will be prepared as part of Traffic Control Plans for other blocks of properties to be excavated and submitted to the City of Carson as part of the Encroachment Permit process.

Prior to loading or unloading at the Site, end dump trucks will be staged within the sound paneled loading area as much as possible to avoid impacts on the local streets. Staging of trucks outside sound paneled areas and/or on residential areas will be strictly prohibited. Careful coordination of trucks will be exercised to help avoid staging offsite and long wait times for trucks.

**Site Access Control:** Trucks to be loaded or unloaded at the Site will only be allowed access to the neighborhood as directed by the two flagmen at Neptune Avenue and N. Lagoon Avenue (Figure E-1).

**Onsite Traffic Flow:** Trucks will be restricted from parking and/or staging anywhere within the neighborhood other than within loading areas. As loaded trucks leave the neighborhood, another truck will be contacted by the on-site loading crew and told to leave the laydown area to enter the neighborhood for loading. Traffic coordinated in this manner should allow for no more than two trucks at any one time from driving on the streets within the neighborhood. Trucks will follow the

“Right Turn Only” rule to the extent practicable within the neighborhood, and will be prohibited from using residential driveways for turning.

**Speed Limit:** While driving within the neighborhood, trucks will be restricted to a 15 mph speed limit. Trucks driving outside the neighborhood on streets or freeways will follow the posted speed limits and defensive driving techniques (over traffic or road conditions) for traffic safety.

### **4.3 Import/Export Soil Transportation Routes**

Transportation of impacted soils or fill materials for the most part will be on arterial streets and/or freeways, approved for truck traffic, to minimize any potential impact on the surrounding neighborhoods. Moving along the proposed transportation routes, all street intersections are controlled by traffic lights or stop signs. Therefore, the number of daily truckloads during the project is not expected to cause a disruption in local traffic.

**Entrance to Neighborhood:** The incoming truck route is Harbor Freeway (110) south, exit at Sepulveda Blvd. Travel 1.9 miles east along Sepulveda Blvd. to Wilmington Avenue. Travel Wilmington Avenue south 0.65 miles to E. Lomita Blvd. Travel E. Lomita Blvd. west 0.58 miles to N. Lagoon Avenue and turn north to enter the neighborhood. An alternate entrance to the neighborhood would be north on Neptune Avenue from E. Lomita Blvd west 0.68 miles from Wilmington Blvd. A Haul Route Map is shown on Figure E-2

**Exiting from Neighborhood:** Trucks will either exit the neighborhood via N. Lagoon Avenue or N. Neptune Avenue. Trucks when then turn west (right turn only) on E. Lomita Blvd. to N. Main Street. Trucks will then travel north on N. Main Street 0.64 miles to Sepulveda Blvd and then travel west on Sepulveda Blvd. 0.72 miles to the onramp to Harbor Freeway (110) north.

There are numerous alternate routes that intersect the Harbor Freeway (110) once the trucks enter the Harbor Freeway northbound that can be taken to potential land disposal or recycling facilities. Proposed Freeway and/or highway routes of transportation for import and export trucks will be updated as necessary in consideration of highway construction activities, permeant and temporary road closures, emergency conditions etc. However, the trucks will be restricted to the routes as described above in the “Entrance to Neighborhood” and “Exit from Neighborhood” for off Freeway travel to and from the neighborhood. These routes were selected as they minimize the trucks’ travel time on surface streets and provides the shortest distance traveled to the neighborhood. Additionally, the routes avoid truck travel on Avalon Blvd., as stipulated in the project EIR.

**Consultation with Local Transportation Department:** A “Haul Route Permit” will be required and obtained from the City of Carson. The Haul Route Permit is appropriate for the trucks hauling soils and fill materials because the loaded weight will be less than 40 tons. The above routes have been designed to follow the City of Carson approved traffic routes.

Mobilization and demobilization of large earthmoving equipment that may require additional permits (green and/or purple) from the State (and local transportation agencies) is not necessary, as this project will be utilizing equipment that does not qualify for these types of permits.

**Street Maintenance:** All street surfaces along the transportation routes will be routinely inspected by City of Carson and, if necessary, maintained or repaired by AIS, during implementation of the RAP. AIS is responsible for cleaning streets of spilled soils and the final cleanup of the Site after

completion of field activities. The number of daily truckloads during the project is not expected to cause damage to surface streets.

## **5.0 OFFSITE LAND DISPOSAL/RECYCLING FACILITIES**

Based on the results of waste profile and classification, excavated RCRA and non-RCRA California hazardous waste, if encountered, will be transported under hazardous waste manifests to a proper offsite disposal facility. Once the facility has provided written acceptance, copies of waste profile reports used to secure disposal permission from the landfill will be provided to AECOM. Compliance with the land disposal restrictions, as necessary, will be documented and provided to AECOM once written acceptance from the landfill is obtained.

All hazardous wastes will be properly managed, manifested, and transported by a registered hazardous waste hauler to a proper waste management facility.

Based on the results of waste profile and classification, the non-hazardous soil will be transported under non-hazardous manifests or proper shipping documents to a proper offsite disposal or recycling facility in California.

### **5.1 RCRA Hazardous Waste Facilities (Class I)**

All RCRA hazardous wastes will be disposed of in a Class I hazardous waste land disposal facility permitted to accept such wastes. The facilities below will be utilized for this project:

Clean Harbors Buttonwillow  
2500 West Lokern Road  
Buttonwillow, California 93206  
USEPA ID No.: CAD980675276  
Phone: (661) 762-6200

A haul route map to the Buttonwillow Landfill is provided on Figure E-3.

### **5.2 Non-RCRA Hazardous Waste Facilities (Class I or II)**

A non-RCRA hazardous waste is a California only hazardous waste. The waste management facilities below will be utilized for this project:

Clean Harbors Buttonwillow  
2500 West Lokern Road  
Buttonwillow, California 93206  
USEPA ID No.: CAD980675276  
Phone: (661) 762-6200

A haul route map to the Buttonwillow Landfill is provided on Figure E-3.

### **5.3 Non-Hazardous Waste Facilities**

The non-hazardous soil will be transported to the following facilities:

Soil Safe	Chiquita Canyon Landfill
12328 Hibiscus Road	29201 Henry Mayo Drive

Adelanto, California  
Phone: (760) 246-8001

Castaic, California 91384  
Phone: (661) 257-3655

Haul route maps to these two facilities are provided on Figures E-4 and E-5.

#### **5.4 Green Waste**

Green waste will be transported to:

Waste Management Transfer Facility  
321 W. Francisco Street  
Carson, CA  
Phone: 310-217-6300

A haul route map to the Waste Management Transfer Facility is provided on Figure E-6.

#### **5.5 Concrete and Asphalt Waste**

Concrete and asphalt wastes to be recycled will be transported to:

Lovco Concrete Plant  
23320 S Alameda St  
Carson, CA  
Phone: (562) 673-6759

A haul route map to the Lovco recycling facility is provided on Figure E-7.

### **6.0 RECORD KEEPING**

AIS will be responsible for maintaining a field logbook during project activities. The field logbook will serve to document observations, onsite personnel, equipment arrival and departure times, and other vital project information. Logbook entries will be complete and accurate enough to permit reconstruction of field activities. Logbooks will be bound with consecutively numbered pages. Each page will be dated and the time of entry noted. All entries will be legible, written in black ink, and signed by the individual making the entries. Language will be factual, objective, and free of personal opinions or other terminology that might prove inappropriate. If an error is made, corrections will be made by crossing a line through the error and entering the correct information. Corrections will be dated and initialed.

The Uniform Hazardous Waste Manifest (hazardous waste manifest) form will be used to track the movement of soil sent offsite as hazardous waste from the point of generation to the point of ultimate disposition. The hazardous waste manifests will include information such as:

- Name and address of the generator, transporter, and the destination facility;
- U.S. Department of Transportation (DOT) description of the waste being transported and any associated hazards;
- Waste quantity;
- Name and phone number of a contact in case of an emergency;
- Shell USEPA Hazardous Waste Generator Number; and

- Other information required either by USEPA, DTSC, AECOM and Shell.

Non-hazardous waste manifests or proper shipping documents will be used to track the movement of soil sent offsite as non-hazardous waste from the point of generation to the point of treatment.

Before transporting the excavated soil offsite, an authorized representative of Shell will sign each waste manifest. The AIS Site manager will maintain one copy of the waste manifest onsite. Copies of the waste manifests, signed by the receiving facilities, will be submitted to AECOM. While at the disposal facility, the truck will be weighed before offloading the payload. Weight tickets or bills of lading will be provided to AIS and AECOM after the material has been shipped offsite.

A log of manifest data will be maintained by the AIS Project Coordinator and made available to the Regional Board for inspection upon request. AIS will submit copies of hazardous waste manifests to DTSC within 30 days of disposal, as required.

## **7.0 HEALTH AND SAFETY**

A site-specific health and safety plan (HSP) has been prepared by AECOM and included in the RDIP. AIS also prepared a HSP for their staff that takes into consideration particular health and safety hazards associated with remedial construction and waste transportation. Prior to the commencement of each day's activities, a tailgate health and safety meeting will be held. Everyone working at the Site will be required to be familiar with the HSP and attend the daily tailgate meetings or health and safety briefings. Everyone working at the Site will be required to sign their company's respective site-specific HSP to demonstrate that they are familiar with the HSP and that they participated in, or were briefed on, the daily tailgate meeting. The AIS Site manager will maintain this signature sheet.

## **8.0 REQUIREMENTS OF FILL MATERIALS**

AIS will make arrangements with the Hansen Aggregate site to stockpile a volume of material to meet 90 day soil backfill requirements. AIS will collect samples in appropriate laboratory provided sampling containers. The samples will be labeled, and placed in ice chest with ice and delivered to the appropriate laboratories under strict chain of custody. The required number of samples will be collected and analyzed as follows:

### **Sample Frequency:**

- Up to 1,000 CY = 1 sample per 250 CY;
- 1,000 to 5,000 CY = 4 samples for 1st 1,000 CY plus 1 sample for each additional 500 CY; and
- Greater than 5,000 CY = 12 samples for 1st 5,000 CY plus 1 sample for each additional 1,000 CY.

### **Laboratory Analysis:**

- TPH (as gasoline, diesel, and motor oil) using EPA Test Method 8015B (M);
- VOCs using EPA Test Method 8260B/5035;

- SVOCs using EPA Test Method 8270C;
- PAHs using EPA Test Method 8270 SIM;
- CCR Title 22, Metals using EPA Test Methods 6010/7471A; and
- pH using EPA Test Method 9045.

Depending on the backfill source, the soil samples may be further analyzed for:

- PCBs using EPA Test Method 8080; and
- Chlorinated pesticides and herbicides using EPA Test Method 8081A and 8151A, respectively.

Geotechnical analysis by a certified geotechnical testing laboratory.

All laboratory analysis will be submitted to the AECOM for approval prior to placement.

## **9.0 REQUIREMENTS OF TRANSPORTERS**

Haul truck operators (drivers) will be required to have the proper training and registration by the State and as applicable to the material they will be hauling. All drivers and trucks involved in the project utilized for the transportation of hazardous and non-hazardous soils (if not owned and operated by AIS) will have drivers licenses reviewed, driving records reviewed, truck related permits and licenses reviewed and insurances verified.

### **9.1 License and Insurance**

All transporters will be fully licensed and insured to transport the excavated soils or fill materials. Hazardous wastes must be shipped by a registered hazardous waste hauler. Prior to use, AIS shall verify the status of registration and insurance policy of any non-company transporters.

### **9.2 Contingency Plan**

Each transporter is required to have a contingency plan prepared to deal with the following conditions:

- If there are emergency situations (vehicle breakdown, accident, waste spill, waste leak, fire, explosion, etc.) during transportation of excavated soils from the Site to the destined disposal facility or during transportation of fill materials from a source to the Site;
- If the volumes of excavated soil change; or
- If waste characteristics change.

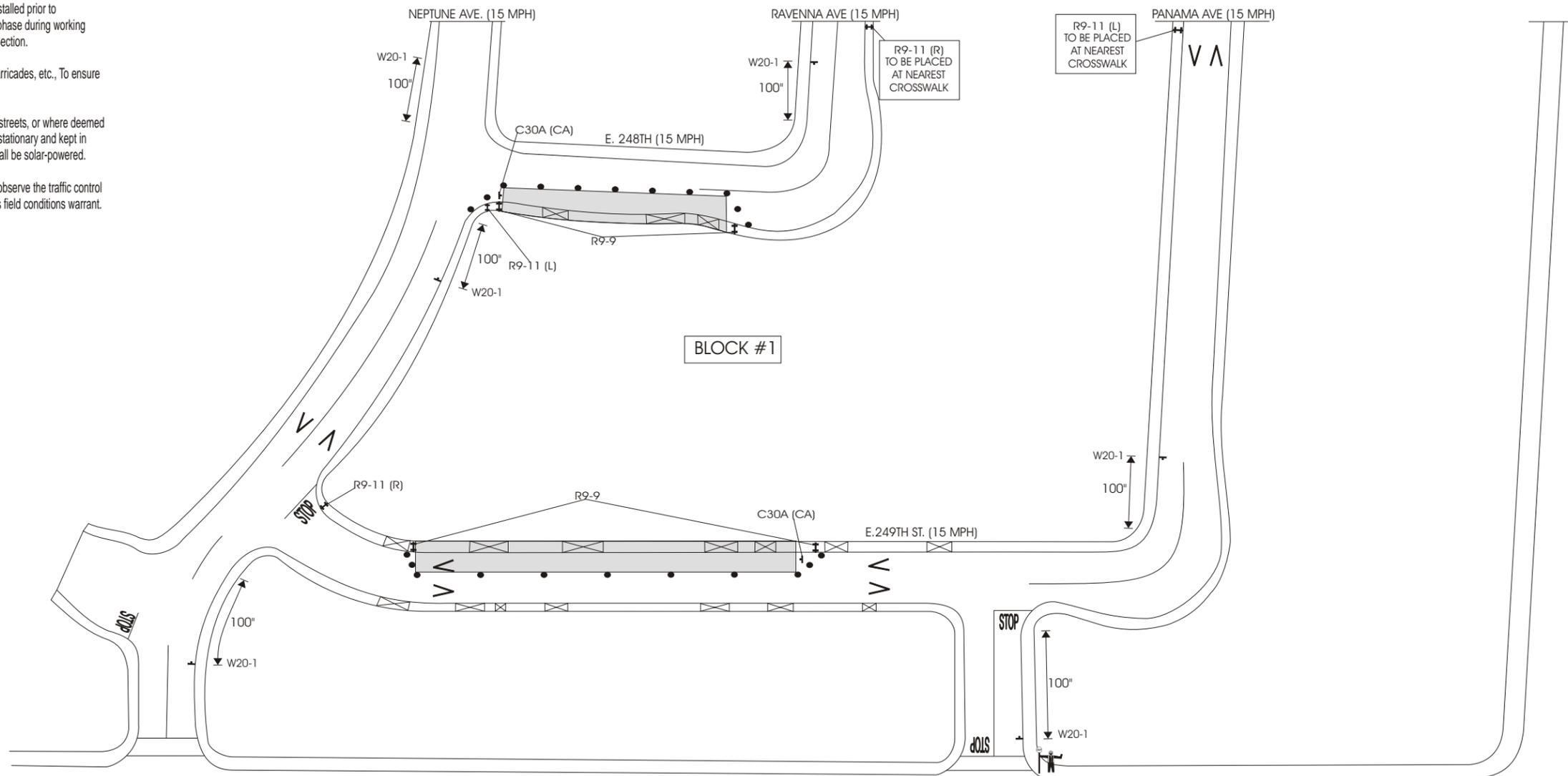
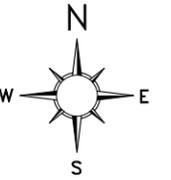
The Contingency Plan will be prepared in accordance with DTSC's guidance for preparing transportation plans for site remediation (DTSC, May 1994). A copy of the AIS transportation Contingency Plan will be made available upon request.

## **FIGURES**

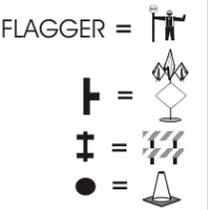
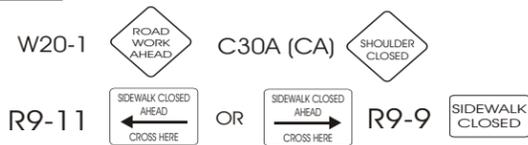
TRAFFIC CONTROL GENERAL NOTES:

1. All work shall be done in accordance with the latest Work Area Traffic Control Handbook (WATCH), latest California MUTCD.
2. The 85th percentile speed shall be used if available to determine detour taper lengths and sign/delineator spacing. This information will be supplied by the City Traffic Engineering Section upon request.
3. Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners and commuters.
4. The Contractor shall have all signs, delineators, barricades, etc properly installed prior to commencing construction and shall not attempt to switch to a subsequent phase during working hours. All traffic detours shall be approved by the City Traffic Engineering Section.
5. The Contractor shall maintain, on a 24-hour basis, all signs, delineators, barricades, etc., To ensure proper flow and traffic safety.
6. Flashing Arrow Boards shall be used on all primary and secondary arterial streets, or where deemed necessary by the City Traffic Engineer. The Flashing Arrow Board shall be stationary and kept in place at all times. In or near residential areas, the Flashing Arrow Board shall be solar-powered.
7. The City Traffic Engineering Section and the Inspector reserve the right to observe the traffic control plans in use and require the Contractor to make any necessary changes as field conditions warrant.

# Figure E-1a



LEGEND:

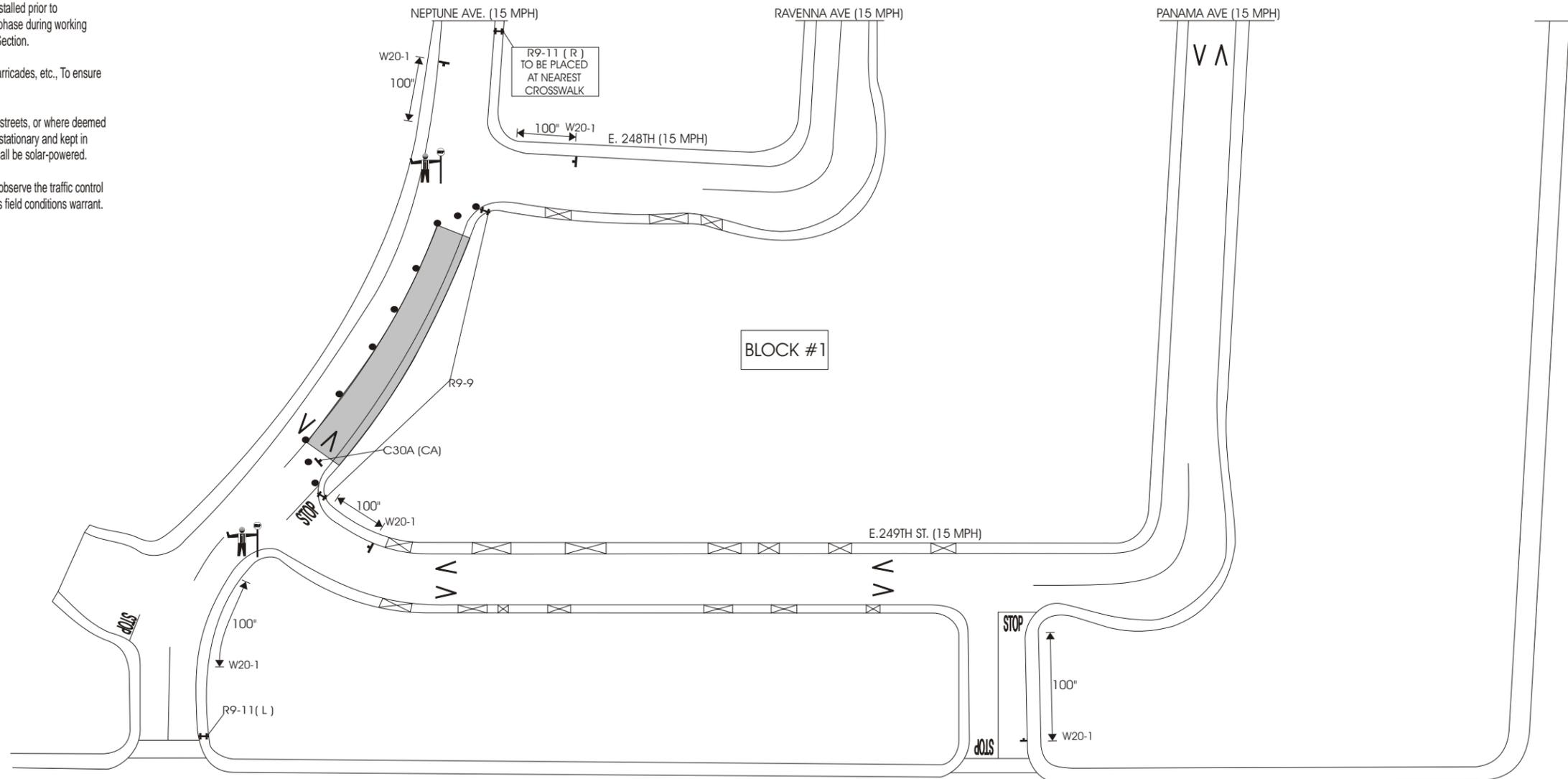
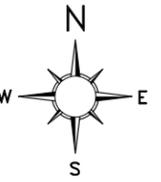


<p>1550 East Saint Gertrude Place Santa Ana, CA 92705 (800)327-8844 California State Contractors License #785733- C31</p>	<p>DESIGNED: HARVEY O. VAEA</p> <p>REVIEWED: <i>DAVID TANGITAU</i> DAVID TANGITAU</p>	<p>Prime Contractor American Integrated Services</p> <p>Project Name Former Kast Property Tank Farm Site Remediation</p> <p>Address Lomita Blvd. &amp; Neptune Ave. Carson CA. 90745</p>	<p>Date REV. 9/21/2015</p> <p>Map Page</p>	<p>TRAFFIC CONTROL CLOSURE TYPE:</p> <p>SHOULDER CLOSURE/ SIDEWALK CLOSURE/ FLAGGING OPERATION</p>	<p>1 OF 2</p>

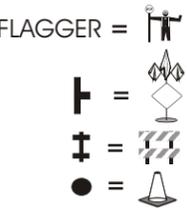
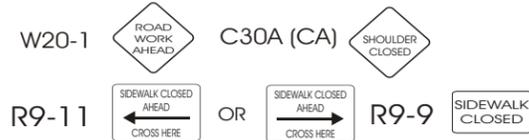
TRAFFIC CONTROL GENERAL NOTES:

1. All work shall be done in accordance with the latest Work Area Traffic Control Handbook (WATCH), latest California MUTCD.
2. The 85th percentile speed shall be used if available to determine detour taper lengths and sign/delineator spacing. This information will be supplied by the City Traffic Engineering Section upon request.
3. Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners and commuters.
4. The Contractor shall have all signs, delineators, barricades, etc properly installed prior to commencing construction and shall not attempt to switch to a subsequent phase during working hours. All traffic detours shall be approved by the City Traffic Engineering Section.
5. The Contractor shall maintain, on a 24-hour basis, all signs, delineators, barricades, etc., To ensure proper flow and traffic safety.
6. Flashing Arrow Boards shall be used on all primary and secondary arterial streets, or where deemed necessary by the City Traffic Engineer. The Flashing Arrow Board shall be stationary and kept in place at all times. In or near residential areas, the Flashing Arrow Board shall be solar-powered.
7. The City Traffic Engineering Section and the Inspector reserve the right to observe the traffic control plans in use and require the Contractor to make any necessary changes as field conditions warrant.

**Figure E-1b**



LEGEND:



**CALIFORNIA BARRICADE**  
 1550 East Saint Gertrude Place  
 Santa Ana, CA 92705  
 (800)327-8844  
 California State Contractors License #785733- C31

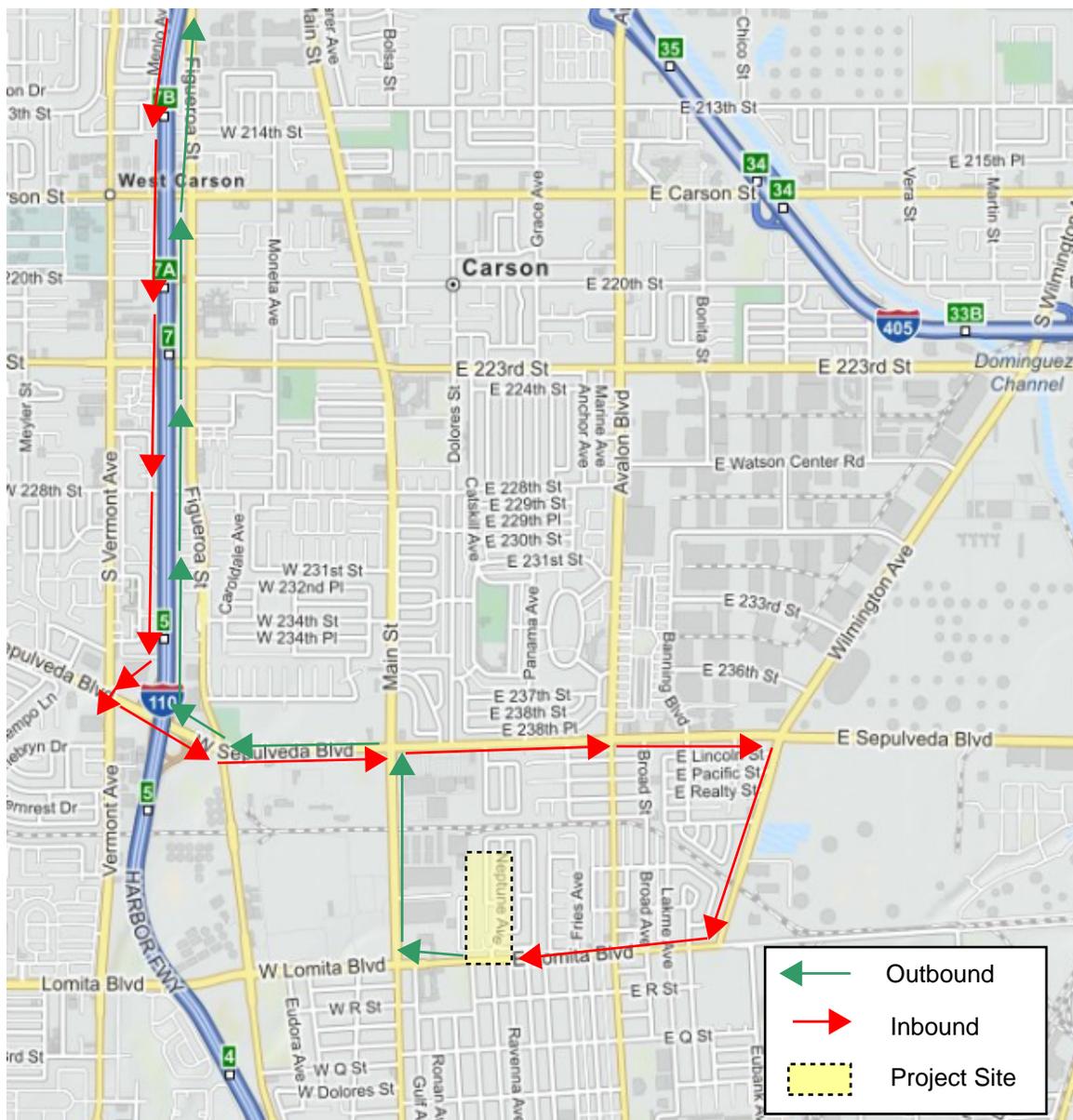
DESIGNED: HARVEY O. VAEA  
 REVIEWED: DAVID TANGITAU  
*David Tangitau*

Prime Contractor  
 American Integrated Services  
 Project Name  
 Former Kast Property Tank Farm Site Remediation  
 Address  
 Lomita Blvd. & Neptune Ave Carson CA. 90745

REV. 9/21/2015  
 Date  
 Map Page

TRAFFIC CONTROL CLOSURE TYPE:  
 SHOULDER CLOSURE/ SIDEWALK CLOSURE/ FLAGGING OPERATION

**Figure E-2**



**Entrance to Neighborhood**

- Harbor Freeway (110) South
- Exit Sepulveda Blvd
- Right on Wilmington Ave (1.9 Miles)
- Right on Lomita Blvd (.65 Miles)
- Right on Lagoon Ave (.58 Miles)

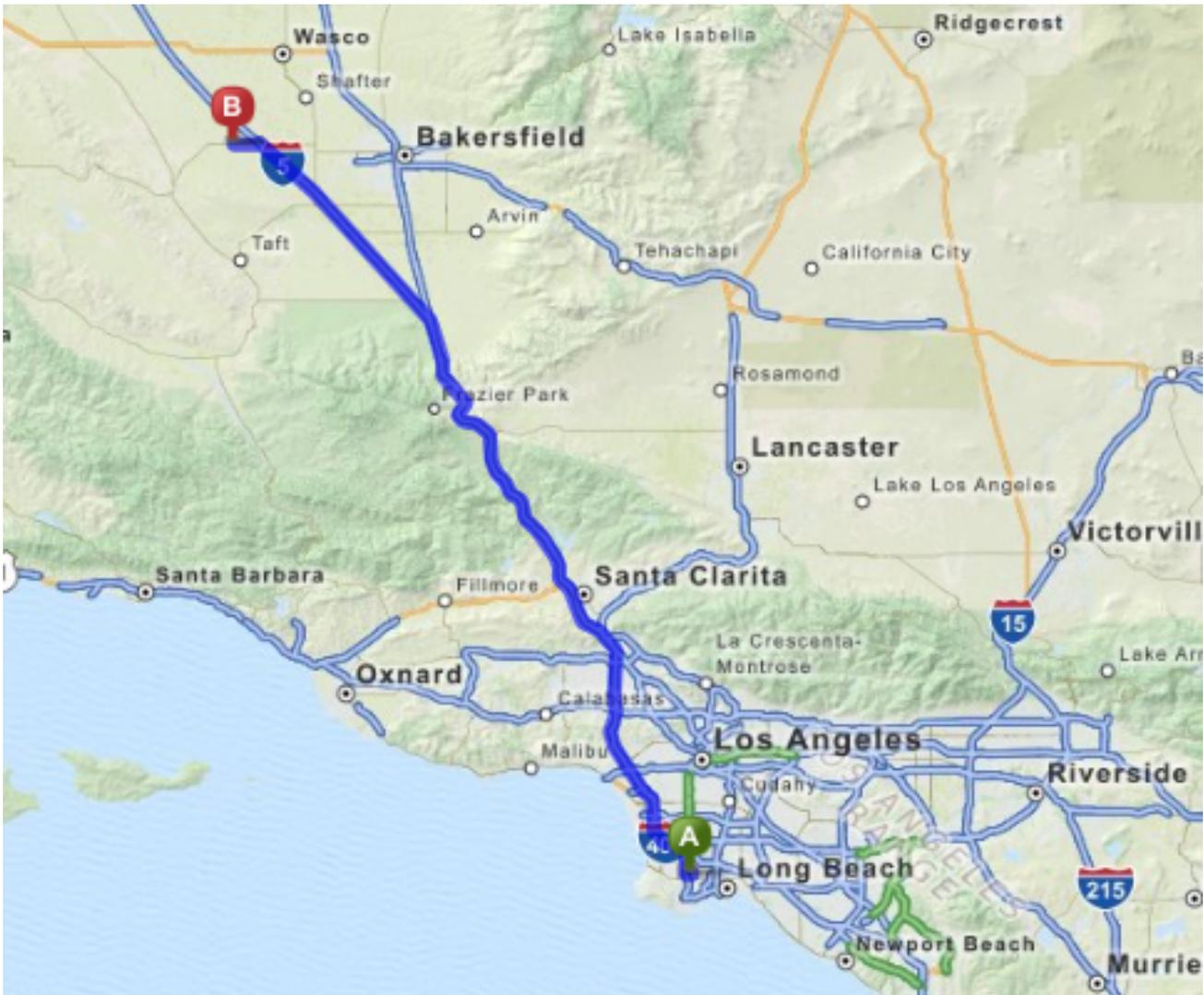
**Alternate Entrance (Off of Lomita)**

- Right on Neptune (.68 Miles)

**Exit From Neighborhood**

- Exit off of either Neptune or Lagoon
- Right on Lomita blvd
- Right on Main St. (.15 Miles)
- Left on Sepulveda Blvd (.64 Miles)
- Enter Harbor Fwy (110 North) (.72 Miles)

**Figure E-3**



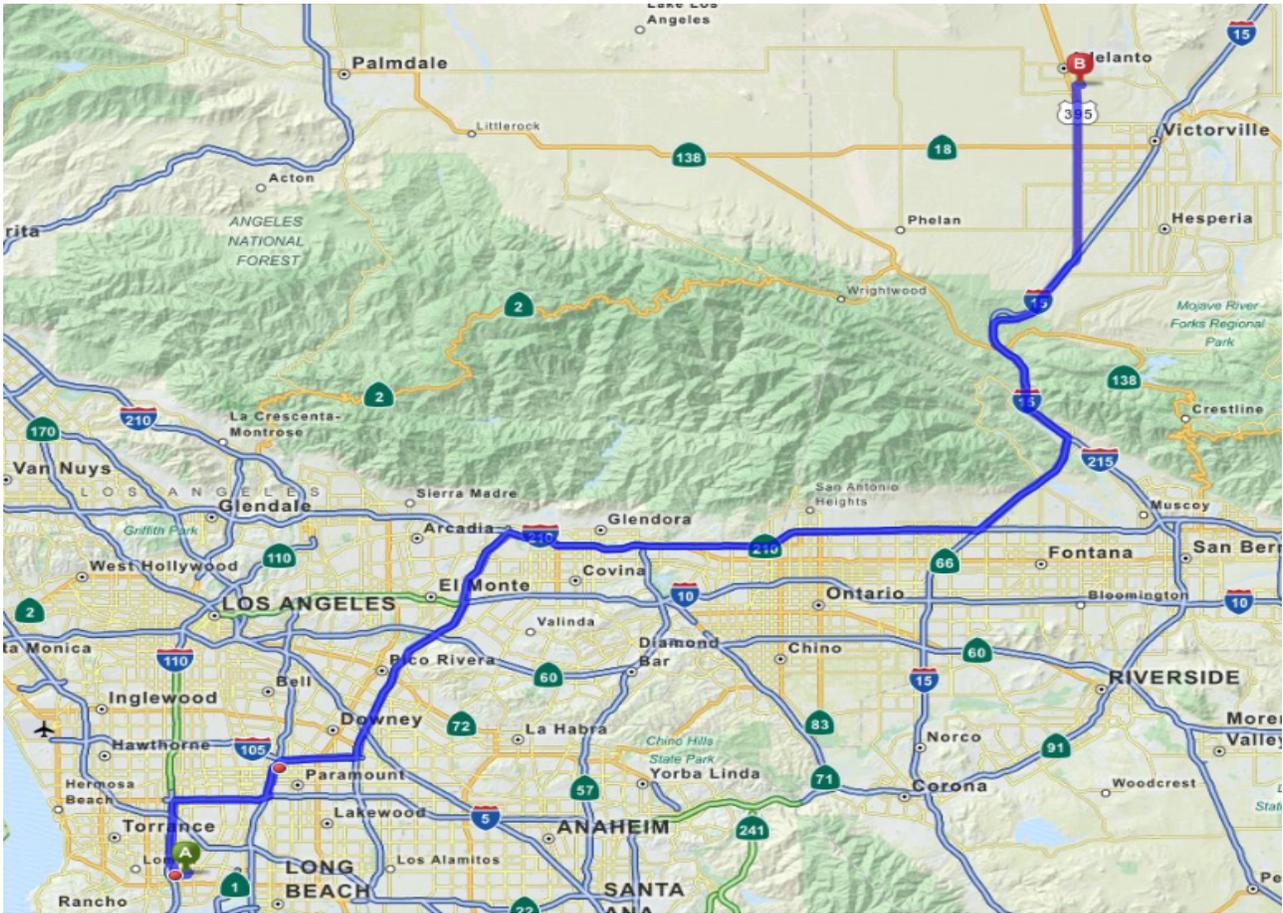
**Kast Property to Buttonwillow**

- Right on Lomita Blvd
- Right on Figueroa St (.7 Mi)
- Left on Sepulveda Blvd (.7 Mi)
- Merge onto I-110 North (.2 Mi)
- Merge onto I-405 North (2.8 Mi)
- Merge onto I-5 N (36.8 Mi)
- Exit 257/Buttonwillow (97.2 Mi)
- Right on Tracy Ave (.2 Mi)
- Right on Hwy 58 (4.1 Mi)

**Buttonwillow to Kast Property**

- Head East on Hwy 58 (3.8 Mi)
- Merge onto I-5 South (96.7 Mi)
- Merge onto I-405 South (35.6 Mi)
- Merge onto I-110 South (2.8 Mi)
- Exit Sepulveda Blvd (2.7 Mi)
- Right on Wilmington Ave (1.9 Mi)
- Right on Lomita Blvd (.65 Mi)
- Right on Lagoon Ave (.58 Mi)

# Figure E-4



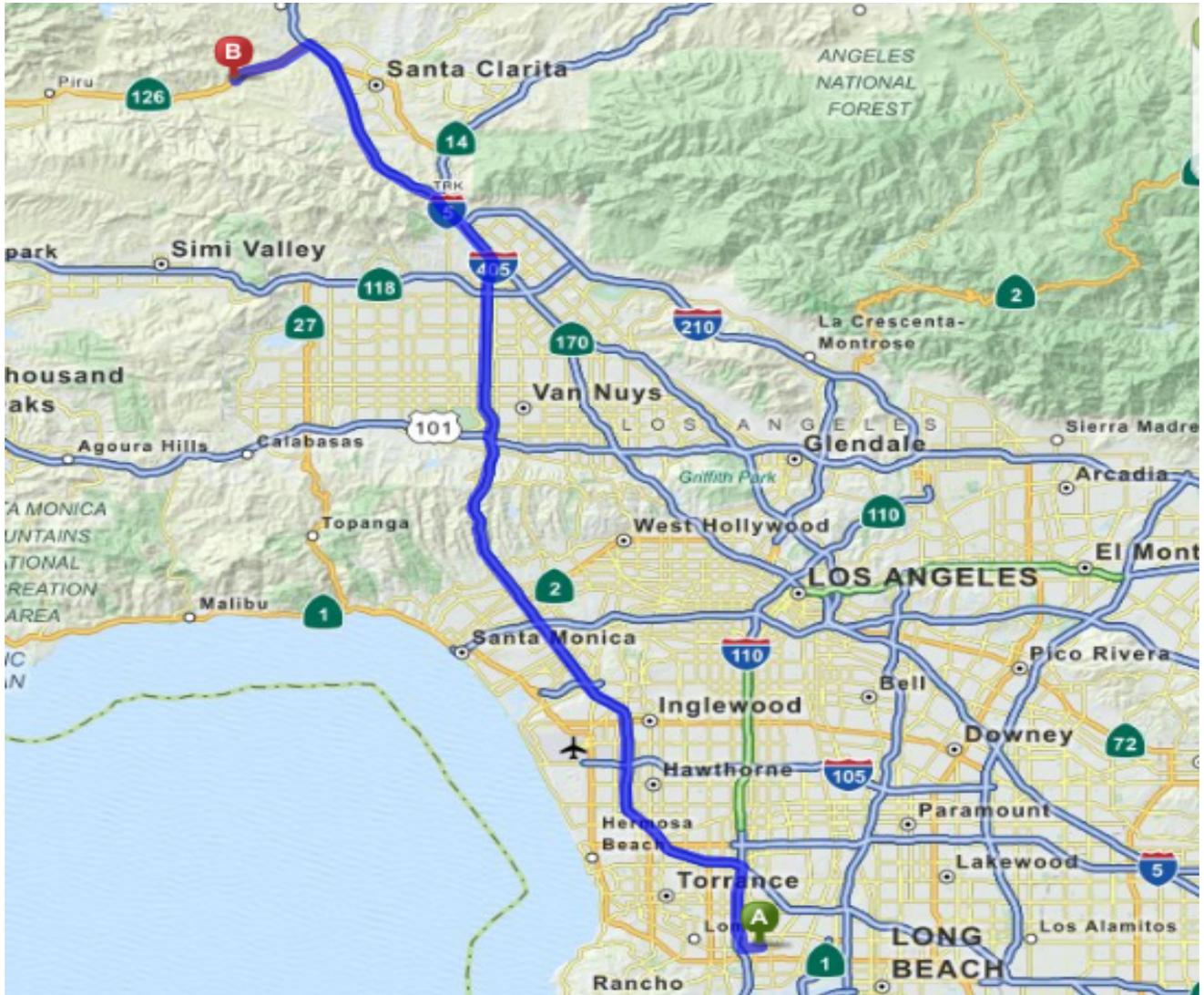
## Kast Property to Soil Safe

- Right on Lomita Blvd
- Right on Figueroa St (.7 Mi)
- Left onto Sepulveda Blvd (.2 Mi)
- Merge onto I-110 North (4.2 Mi)
- Merge onto I-91 East ( 5.3 Mi)
- Merge onto I- 710 North (4.3 Mi)
- Merge onto I-105 East (2.8 Mi)
- Merge onto I-605 North (18.1 Mi)
- Merge onto I-210 East (8.7 Mi)
- Merge onto I-15 North (24.6 Mi)
- Merge onto US-395 North (10.5 Mi)
- Right on Adelanto Rd (1.7 Mi)
- Right on Hibiscus Rd (.3 Mi)
- Destination is on the left

## Soil Safe to Kast Property

- Left onto Adelanto Rd (1.6 Mi)
- Right onto Holly Rd (.03 Mi)
- Left onto US-395 South (10.1 Mi)
- Merge onto I-15 South (23.9 Mi)
- Merge onto I-210 West (19 Mi)
- Merge onto I-605 South (17.8 Mi)
- Merge onto I-105 West (4.2 Mi)
- Merge onto I-710 South (9.3 Mi)
- Exit CA-1 (4.1 Mi)
- Right on Wilmington Ave (.6 Mi)
- Right on Lomita Blvd (.3 Mi)
- Kast is on the Right (.2 Mi)

**Figure E-5**



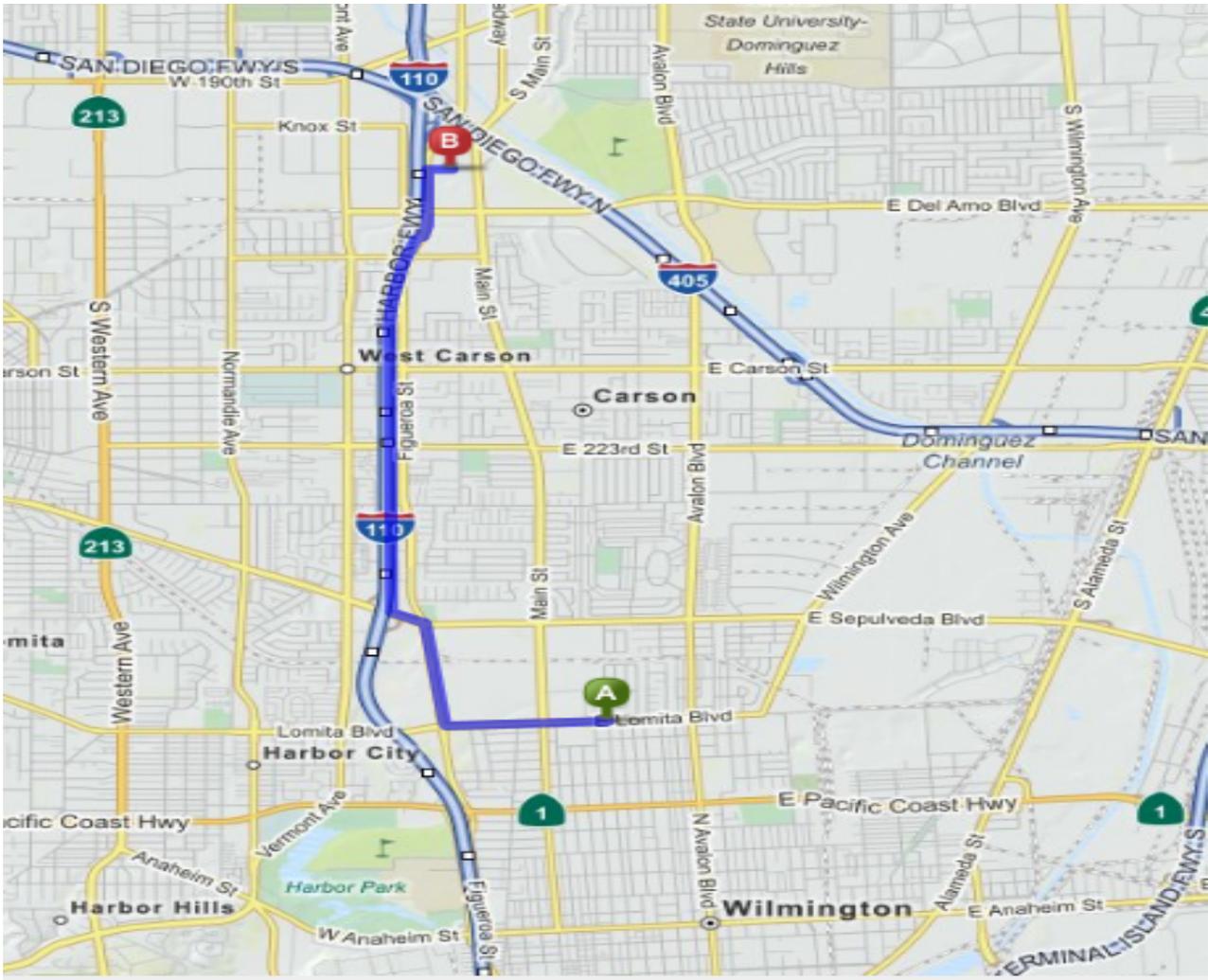
**Kast Property to Chiquita**

- Right on Lomita Blvd
- Right on Figueroa St (.7 Mi)
- Left on Sepulveda Blvd (.7 Mi)
- Merge onto I-110 North (.2 Mi)
- Merge onto I-405 North (2.8 Mi)
- Merge onto I-5 N (12.8 Mi)
- Exit CA-126/Newhall Rd (.3 Mi)
- Left on CA-126/Newhall Rd (3.8 Mi)

**Chiquita to Kast Property**

- Right on Henry Mayo Dr (.8 Mi)
- U-turn at San Martinez Rd (4.2 Mi)
- Merge onto I-5 South (13.7 Mi)
- Merge onto I-405 South (35.6 Mi)
- Merge onto I-110 South (2.8 Mi)
- Exit Sepulveda Blvd (2.7 Mi)
- Right on Wilmington Ave (1.9 Mi)
- Right on Lomita Blvd (.65 Mi)
- Right on Lagoon Ave (.58 Mi)

**Figure E-6**



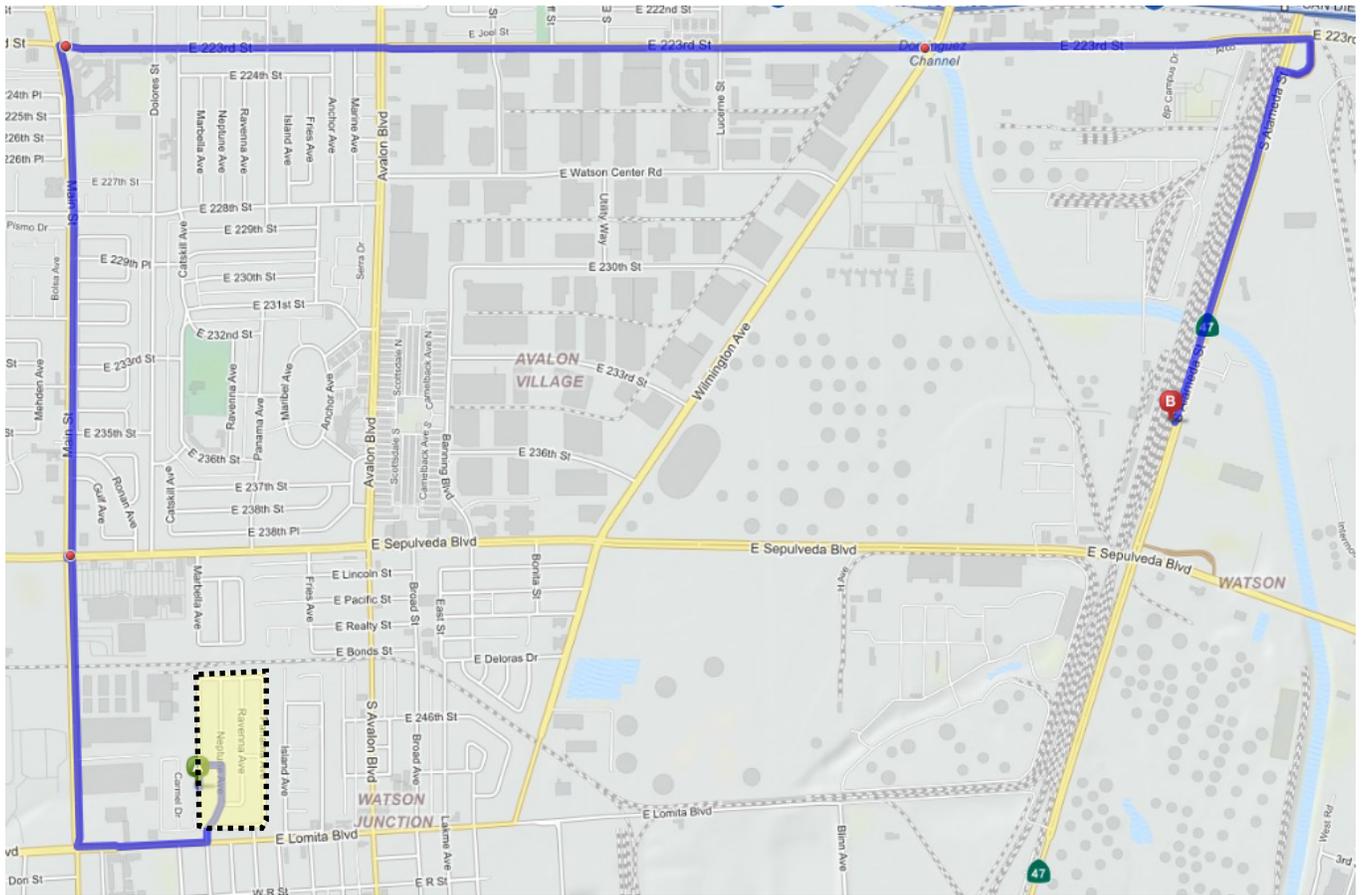
**Kast Property to WM Carson**

- Right on Lomita Blvd
- Right on Figueroa St (.7 Mi)
- Left on Sepulveda Blvd (.7 Mi)
- Merge onto I-110 North (.2 Mi)
- Exit Torrance Blvd (2.3 Mi)
- Left on Figueroa St (.4 Mi)
- Right on Francisco St (.1 Mi)

**WM Carson to Kast Property**

- Head South on Francisco St (.1 Mi)
- Left on Figueroa St (.3 Mi)
- Right on Del Amo Blvd (.1 Mi)
- Left on Hamilton St (.1 Mi)
- Merge onto I-110 S (1.8 Mi)
- Exit Sepulveda Blvd (2.7 Mi)
- Right on Wilmington Ave (1.9 Mi)
- Right on Lomita Blvd (.65 Mi)
- Right on Lagoon Ave (.58 Mi)

# Figure E-7



## Kast Property to Lovco

- Left onto Lomita Blvd
- Right onto Main St (.3 Mi)
- Right onto E 223rd St (1.8 Mi)
- Right onto Ramp (.1 Mi)
- Left onto Alameda St (.8 Mi)
- Lovco is on the Left

## Kast Property to Lovco

- Left onto Alameda St/CA-47
- Left onto O St. (1.4 Mi)
- Right onto CA-1 (2.1 Mi)
- Right onto Wilmington Blvd (.6 Mi)
- Right onto Lomita Blvd (.3 Mi)
- Kast is on the Right

**APPENDIX F**  
**EMERGENCY RESPONSE PLAN**

**APPENDIX F**

**CAROUSEL TRACT  
REMEDIAL ACTION PLAN IMPLEMENTATION  
EMERGENCY RESPONSE PLAN**

**PURPOSE**

AECOM prepared this Emergency Response Plan (Plan) on behalf of Shell Oil Products US (Shell or SOPUS) to provide specific information on potential hazards that may arise during implementation of the Remedial Action Plan (RAP) for the former Kast Property that may potentially affect the Carousel Tract community and to describe the risk mitigation and emergency response procedures that will be instituted during RAP implementation. On July 10, 2015, the California Regional Water Quality Control Board (RWQCB or Regional Board) certified the Final Environmental Impact Report (EIR) for Implementation of the Revised RAP dated June 30, 2014, as modified by the Addendum to Revised RAP dated October 15, 2014, and issued Amended Cleanup and Abatement Order (CAO) R4-2011-0046 to Shell and Barclay Hollander Corporation (BHC), a wholly owned subsidiary of Dole Food Company Inc., directing Shell and BHC to implement the approved RAP.

This Emergency Response Plan outlines roles, responsibilities, and authorities of the above entities as well as public agencies who are or may be involved in emergency preparedness, mitigation, and response activities to address potential hazards associated with soil remediation activities at the Carousel Tract. The Plan outlines existing and potential hazards associated with soil, soil vapors, and remedial activities that will be conducted, and also describes procedures, communications, and coordination processes for initiating emergency response to safeguard the community in the event of an emergency. The Plan also provides information on emergency notification services, based on existing public resources. Finally, the Plan provides a list of important public agency contacts and emergency preparedness resources.

**BACKGROUND**

The former Kast Property is a former petroleum storage facility that was operated by a Shell Oil Company predecessor from the mid-1920s to the mid-1960s. The property was sold to real estate developers who demolished the reservoirs and redeveloped the Site into the Carousel Community residential housing tract in the late 1960s and early 1970s. Today the Site consists of approximately 44 acres occupied by 285 single and two-story single-family residential properties and City streets collectively referred to as the Carousel Tract. The Site is located in the City of Carson in the area inclusive of Marbella Avenue on the west, Panama Avenue on the east, E. 244th Street on the north, and E. 249th Street on the south (Figure 2-1). The Site is bordered by the Los Angeles County Metropolitan Transportation Authority (MTA) railroad tracks to the north (formerly owned by the BNSF Railway Company), Lomita Boulevard to the south, residential properties of the Monterey Pines Community and industrial property of the former Turco Products Facility to the west, and residential properties to the east (Figure 2-2).

In March 2011 the Regional Board issued CAO R4-2011-0046 to SOPUS based on the determination that petroleum hydrocarbons and other contaminants of concern were discharged to soil and groundwater at the Former Kast Property. In response to that Order, and to prior Section 13267 and 13304 Orders issued by the Regional Board, AECOM (formerly URS) and Geosyntec Consultants Inc. (Geosyntec) conducted a series of comprehensive site-wide investigations and pilot tests to evaluate environmental conditions at the Site, assess potential health risks posed by contaminants present, evaluate potential remedies, and to developed the RAP to address contaminants identified in soil, soil vapor, and groundwater.

Investigations conducted at the Carousel Tract by AECOM, Geosyntec, and subcontractors include site-wide assessment of impacts to soil, soil vapor, and groundwater in roadways and the MTA rail right-of-way; as well soil, soil vapor, and indoor air investigations at individual Carousel Tract residential properties. As part of these investigations, screening is conducted for methane gas in soil vapor, utility vaults, and indoor air. AECOM has conducted soil sampling and testing along with sub-slab vapor probe installation and sampling at 276 of the 285 of the residences and indoor air testing at approximately 261 of the homes in the Carousel Community. Investigations of residential properties within the Carousel Tract are continuing as access is granted by individual homeowners or the owners' legal representatives.

Site investigations have detected soil impacts by a number of petroleum-related and non-petroleum-related chemical compounds. In addition, methane gas, a byproduct of the decomposition of crude oil, is present at depth in the soil beneath the Carousel Tract. Testing has shown that methane in soil vapor generally is not under pressure and methane concentrations decrease toward the soil surface. In the extensive methane screening conducted within the Carousel residences and utility vaults, storm drains and sewer manholes at the former Kast Site to date, hazardous exceedances of methane screening standards have not been found, except in cases associated with confirmed natural gas leaks at the properties. Sub-slab methane testing has only identified one sub-slab soil vapor exceedance of screening standards due to degradation of petroleum hydrocarbons, and AECOM installed a methane mitigation system under the garage of that residence.

In addition to methane, a number of chemical compounds associated with petroleum hydrocarbons may also be present, including but not limited to the volatile organic compounds (VOCs) benzene, toluene, ethylbenzene, xylenes and other substituted ethenes; naphthalene and other polycyclic aromatic hydrocarbons, as well as lead and arsenic. These chemicals have been identified in varying concentrations and are referred to as chemicals of concern. Technical details on the concentrations detected, as well as specific chemical compounds present, are available in the RAP.

## **PLANNED REMEDIAL ACTIONS**

The RWQCB-approved Revised RAP (URS and Geosyntec, 2014), as amended, recommended the following multi-media remedial actions:

- Excavation of shallow soils to a depth of 5 feet below ground surface (bgs) from both landscaped and hardscaped areas of residential yards at approximately 208 properties where Remedial Action Objectives (RAOs) are not met under existing conditions. Excavation will be conducted throughout the accessible areas of front and back yards identified based on Site

characterization data, soil concentration contour maps, results of the Revised Human Health Risk Assessment (HHRA, Geosyntec, 2014b), and where groundwater protection site-specific cleanup goals (SSCGs) are exceeded, subject to setbacks to protect structures and sensitive utilities. Residual concrete reservoir slabs will also be removed, to the extent practicable, if encountered within the depth excavated.

- Targeted deeper excavation of soils between 5 and approximately 10 feet bgs of approximately 115 residential yards at approximately 85 properties where significant hydrocarbon mass can be reduced based on the distribution and concentration of hydrocarbons detected. This targeted deeper excavation will be conducted where equipment access is feasible and excavation can be achieved safely, subject to allowable setbacks from structures and sensitive utilities.
- Following excavation, a combination of soil vapor extraction (SVE) and bioventing will be used to address residual petroleum hydrocarbons and VOCs in soils below the depth of excavation and areas not excavated. Soil vapor, including methane, will be addressed by active extraction using SVE and subsequent treatment by promoting degradation of residual hydrocarbons via bioventing. SVE wells will be installed in City streets and on approximately 224 residential properties, as appropriate.
- Bioventing will be conducted via cyclical operation of SVE wells to increase oxygen levels in subsurface soils and promote microbial activity and degradation of longer-chain petroleum hydrocarbons. The same wells will be used for SVE and bioventing through cyclical operation of SVE, which will enhance oxygen flow to the subsurface to promote biodegradation of hydrocarbons during periods when SVE is not active.
- Sub-slab mitigation will be implemented at 29 properties where RAOs are not met and calculated vapor intrusion risk is greater than one-in-a-million ( $1 \times 10^{-6}$ ) or methane concentrations in sub-slab soil vapor exceed the upper RAO for methane of 0.5%. In addition, while the data do not indicate that vapor intrusion is an issue at any of the residences, Shell will offer installation of a sub-slab mitigation system to any of the homeowners in the Carousel neighborhood who request one to alleviate concerns about potential impacts to their indoor air from the Site.
- Light non-aqueous phase liquids (LNAPL), consisting of crude oil, will be recovered where LNAPL has accumulated in monitoring wells MW-3 and MW-12 and in additional wells if it accumulates at a measurable thickness to the extent technologically and economically feasible, and where a significant reduction in current and future risk to groundwater will result. The goal for LNAPL recovery will be an end point of no measurable LNAPL accumulation in monitoring wells at the Site.
- COCs in groundwater will be reduced to the extent technologically and economically feasible via source reduction and monitored natural attenuation (MNA). MNA could be paired with contingency groundwater remediation of oxidant injection in areas where Site-related COCs exceed 100 times Maximum Contaminant Levels (100x MCLs) if, after a five-year review following start of SVE/bioventing operations, the groundwater plume is not stable or decreasing. Upgradient sources would need to be addressed by the overseeing agencies.
- The recommended remedy includes a comprehensive long-term monitoring plan that will include monitoring of:

- Sub-slab soil vapor probes at properties scheduled for remedial excavation until the SVE/bioventing system becomes operational and periodically thereafter;
- Select soil vapor probe locations in City streets until the SVE/bioventing system becomes operational; thereafter, monitoring will be conducted at newly installed shallow and multi-depth soil vapor probes;
- Utility boxes and other Site features previously monitored until the SVE/bioventing system becomes operational and Site conditions demonstrate it is no longer necessary, as approved by the Regional Board; and
- SVE/bioventing system operations and maintenance (O&M) and system effectiveness sampling will be conducted periodically.

## **Excavation**

Soil excavation will be conducted in a series of blocks of approximately eight properties at a time (actual number of properties may range from approximately 3 to 10). In total, approximately 161,700 cubic yards of soil will be excavated from residential properties. Residents of properties being remediated will be relocated for the duration of remedial construction. Excavation will be accomplished using a variety of earthmoving equipment to excavate and load soils for transport and offsite treatment and/or disposal and to import clean backfill for site restoration. Different types of excavation equipment may be used depending on the size and depth of excavation and may include medium-sized and mini track-mounted excavators, backhoes, front-end loaders and/or Bobcat skid-steer mini-loaders, and by hand, where necessary. Contractors will utilize the smallest, quietest equipment capable of effectively and safely completing planned excavation tasks.

Soils will be loaded into trucks staged at curbside using a loading cage. The loading cage will be located within a sound attenuation barrier that will encircle the block of homes currently under remedial construction. This sound attenuation enclosure will provide a physical and visual barrier that will keep local residents and passersby out of the work area.

## **Soil Vapor Extraction**

SVE will be implemented using a combination of multi-depth vapor extraction wells installed in City streets and shallow wells installed on residential properties. The SVE wells in City streets will be installed using a truck-mounted drill rig. The drill rig will be situated behind the sound attenuation barriers, and the wells will be installed as excavation activities are completed. The SVE wells will be connected to piping that will be installed in trenches excavated in the streets. The SVE piping will run to a piping manifold that will be located near the northwest corner of the tract.

The SVE treatment system will be installed offsite on the former Turco Products site located directly adjacent to the northwest corner of the tract. The treatment system will be enclosed by a concrete block building that will have acoustical insulation capable of reducing exterior noise levels to meet City of Carson night time long term noise levels.

All work affecting access to City sidewalks and in city streets will be done under a Traffic Management Plan and Encroachment Permit issued by the City. Work will be conducted within a well demarcated

exclusion zone, and only appropriately qualified and trained personnel will be allowed to enter the exclusion zone.

### **Sub-Slab Depressurization**

The sub-slab depressurization systems will be installed by coring holes in the footing of the house below the floor slab, removing a quantity of soil from beneath the slab to create suction pit, and placing suction pipes into the holes. The suction pipes are directed to above the roof and a fan connected to the system to create a sub-slab vacuum.

### **Groundwater Monitoring**

Groundwater monitoring and sampling of existing shallow zone and Gage wells located in City streets will continue to be conducted semi-annually through the RAP implementation process. Groundwater monitoring and sampling activities are conducted under a Traffic Management Plan and Encroachment Permit obtained from the City of Carson.

### **LNAPL Recovery**

LNAPL will be recovered periodically from groundwater monitoring wells where it has accumulated at a measurable thickness. LNAPL will be recovered using a dedicated downhole pneumatic pump from wells where it accumulates at a thickness of 0.5 foot or greater to reduce potential for spillage and vapor emissions.

## **POTENTIAL HAZARDS**

### **Excavation Hazards**

Soil excavation (including drilling, excavating, and trenching activities) is necessary for remedial excavation of residential properties as well as installing SVE/bioventing wells and associated piping. Hazards associated with mechanized drilling (i.e., using a drill rig) are physical in nature and potentially affect the onsite drilling crews and geologists/engineers supervising the work. These physical hazards are not expected to affect personnel outside the immediate work area that is cordoned off as an “exclusion zone” in which only properly trained and qualified personnel are admitted.

There are also physical hazards associated with excavating, whether using hand equipment or mechanized excavators, loaders, and similar equipment. Whenever excavations are conducted, there is a risk of sidewall slope instability and cave-ins if soil conditions are not properly assessed and appropriate engineering designs developed and precautions taken. Excavations will be designed by a California-licensed Professional Civil Engineer in accordance with recommendations developed regarding soil stability, required setbacks from structures, and, if necessary, shoring requirements developed by a California-licensed Professional Civil Engineer with certification as a Geotechnical Engineer. Excavations will be conducted by an appropriately licensed contractor under a current Cal/OSHA trenching/excavation permit and a Grading Plan and Permit approved by the Los Angeles County Department of Public Works and issued by the City of Carson. Hazards associated with excavation include those related to movement of heavy equipment and trucks, loading and unloading of

soil, potential for soil instability and sloughing/cave-ins, and damage to underground utilities and structures.

## **Vapor Emissions**

Soil excavation also presents the potential risk of releasing soil vapors or dust into the air and temporarily increasing the presence of potentially hazardous gases, vapors, and odors in the air. Excavation of VOC-impacted soils will be conducted under a Rule 1166 Mitigation Plan and Permit issued by the South Coast Air Quality Management District (SCAQMD) that specifically addresses control of vapors during soil excavation and management of VOC-impacted soils. As described in the Revised RAP, a number of vapor and odor suppression measures, including use of vapor suppressing foam, will be used to control and mitigate vapors and odors in accordance with Regional Board and SCAQMD requirements. Vapor and odor monitoring will be conducted during excavation work using hand-held equipment that will provide real-time results. Approved vapor and dust control measures will be implemented in a step-wise manner to control release of vapors during active excavation activities, and exposed soils will be covered during non-working hours to prevent possible vapor migration to the neighborhood.

## **Underground Utilities**

Soil excavation could potentially result in damage to underground utilities. Improper attention to underground utilities or carelessness could result in fire, flooding, or utility outages. Underground utilities in the areas being excavated include water, sewer, natural gas, and telecommunications lines. All natural gas mains are located underneath roads, although distribution gas and water lines to individual homes are present on properties where excavation will occur. Underground water and gas supply laterals, sewer, and telecommunications lines (including cable TV), will be cut and terminated by the remediation contractor at the start of excavation work at each property. These utilities will be restored under proper permits by qualified personnel upon completion of excavation and backfill. Trenching in roadways has the potential to encounter utility lines.

Water mains in the community consist of 6-inch transite pipelines that are present approximately 3 to 3.5 feet from the back of sidewalks in residential yards on the west side of north-south streets and south side of east-west streets. These pipelines are at a depth of approximately 3 feet and are within the depth of planned residential excavations. AECOM and AIS, the remediation contractor, have coordinated with California Water Service Company (Cal-Water), the local water purveyor, to develop a plan to avoid and protect these utility lines.

AECOM and its subcontractors will comply with state law and their own internal policies and procedures to contact Underground Services Alert to mark utility locations in areas of planned excavations and will conduct geophysical utility surveys, as necessary, to locate utilities and protect them from damage. The contractor will conduct potholing as appropriate to confirm location of utilities so that they may be avoided and protected in place.

## **ROLES AND RESPONSIBILITIES**

### **Shell Oil Products US**

SOPUS is responsible for assessment, monitoring, cleanup, and abatement of the effects of petroleum compounds and other contaminants of concern that have been discharged to soil and groundwater at the Former Kast Property. As such, SOPUS is ultimately responsible for the performance of environmental investigation and remediation work by its contractors, including AECOM and AIS, and for ensuring the safety of the testing and remediation work performed.

### **AECOM**

AECOM is responsible for performing environmental investigation, pilot testing, and remediation work at the direction of SOPUS, and in doing so will conduct their work in a manner that safeguards the safety of its employees and the public as its foremost priority. AECOM also employs various subcontractors, and is responsible for directing and assuring that they conduct their work in a manner that protects the safety of their respective employees and the public. AECOM and its subcontractors will periodically monitor the worksite for hazards that could impact both onsite employees and the public, and will conduct standard procedures to mitigate or eliminate potential hazards. Together with SOPUS and Langan, SOPUS' contractor responsible for resident relocation during remediation work, AECOM is also responsible for providing information in advance to homeowners concerning the location and schedule of work to be performed at their property.

In the event of an emergency related to the environmental testing and/or remediation work at the Former Kast Property, AECOM will immediately notify the proper authorities as outlined in this plan and will remain on standby to provide services requested by professional emergency responders.

### **Regional Water Quality Control Board, Los Angeles Region (Regional Board)**

The Regional Board is the lead oversight agency for assessment, monitoring, cleanup, and abatement of the effects of petroleum compounds and other contaminants of concern that have been discharged to soil and groundwater at the Former Kast Property. The Regional Board, with support from the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA), has oversight responsibility to ensure that soil testing and remediation activities are in compliance with laws and regulations relating to public health. The Regional Board, through CAO R4-2011-0046, as amended July 10, 2015, directed Shell and Barclay Hollander Corporation (BHC) to implement the Revised RAP as modified by the Addendum, and will provide oversight of remediation activities performed at the Site.

### **City of Carson, Emergency Services Division**

The City of Carson, Emergency Services Division serves as a liaison between the City of Carson and its contracted emergency response agencies, and provides information concerning emergency preparedness to residents of Carson via the City's website. The Emergency Services Division also operates the Reverse 911 emergency notification system for Carson residents. Additional information regarding Reverse 911 and signup procedures are provided in Appendix A.

In the event of an emergency hazardous material(s) condition or release, the Emergency Services Division will provide notification to residents via Reverse 911, and will coordinate aid with the various agencies of the City of Carson.

### **Los Angeles County Fire Department**

The Los Angeles County Fire Department (LACoFD) provides fire protection services to include firefighting, rescue, emergency medical services, and hazardous materials prevention and response to unincorporated areas of Los Angeles County and to certain incorporated cities to which the department provides contracted services. LACoFD provides these services on a contracted basis to the City of Carson. LACoFD has also established mutual aid agreements with neighboring fire service jurisdictions, including the City of Los Angeles Fire Department. Ambulance services within Carson are provided by private ambulance providers.

In the event of an emergency hazardous material(s) condition or release, LACoFD is responsible for the protection of life safety, property, and the environment.

### **Los Angeles County Sheriff's Department**

The Los Angeles County Sheriff's Department (LASD) provides law enforcement services to unincorporated areas of Los Angeles County, as well as to certain incorporated cities to which the Department provides contracted services. LASD provides contracted law enforcement services within the City of Carson.

In the event of an emergency hazardous material(s) condition or release, LASD is responsible for evacuating residents and may be supported by LACoFD, other law enforcement agencies, and/or other personnel.

## **EMERGENCY CONCEPT OF OPERATIONS**

### **Safety Procedures**

AECOM maintains a Site-specific Health and Safety Plan (HSP) for its work at the Carousel Tract. The Site Health and Safety Plan, in conjunction with the Revised RAP and Remedial Design and Implementation Plan (RDIP), outlines AECOM procedures to ensure safe working conditions as well as actions that must be taken by AECOM and subcontractor employees to protect the safety of the public. All pilot testing and bioventing activities are performed under the direction of California-registered professional civil engineers and professional geologists.

### **Oversight**

The Regional Board is the lead oversight agency for the environmental investigations, pilot testing, monitoring, and cleanup and abatement of environmental impacts at the Site. In this role, the Regional Board has overall regulatory authority and is responsible for setting regulatory policy and enforcement. OEHHA provides support to the Regional Board in matters related to environmental health risk. They, however, will not be directly involved in emergency response actions.

The Los Angeles County Fire Department provides oversight regarding possible exposure concerns with regard to methane.

### **Site Safety Officer**

During soil remediation work, AECOM and its excavation subcontractor, AIS, will have a designated Site Safety Officer who will be responsible for monitoring safety conditions and suspending work in the event of known or possible hazardous situations. The Site Safety Officer will have the ultimate authority over AECOM and AIS personnel and those of its subcontractors in order to ensure that the work is performed safely. In addition, all onsite AECOM and AIS employees involved in the project have “Stop Work Authority” and may temporarily suspend operations in the event a known or potential hazardous situation is present.

### **Excavation**

AECOM maintains policies and procedures to locate underground utilities in advance of any excavation activity. AECOM has developed an understanding of utility locations through more than six years of Site investigations at the Carousel Tract. Prior to conducting excavations, AECOM will contact Underground Service Alert of Southern California, an organization which works with utility companies to ensure the identification of any underground utilities at a given work site. AECOM also performs geophysical surveys using special instruments to test for underground utilities and obstacles. In the event that unanticipated utilities are encountered during excavation, work will stop and the nature of the utility line will be assessed.

### **Meteorological Monitoring**

AECOM and its subcontractors will monitor the weather in advance of and during remedial action implementation, including during excavation and SVE/bioventing well installation. The purpose of this monitoring will be to minimize potential risk to public health associated with windborne vapors and odors from excavated soils if wind speeds exceed approved levels. A meteorological station capable of continuously monitoring the weather will be set up in the vicinity of each block of excavations for this purpose. Excavation and loading operations will cease if the wind speed is greater than 15 miles per hour (mph) averaged over a 15-minute period or instantaneous wind speeds exceed 25 mph.

### **Air Quality Monitoring**

AECOM and its subcontractors will utilize various instruments to measure the concentration of total volatile organic vapors and methane gas in the air during remedial action implementation. While AECOM is performing onsite excavation work, including trenching for SVE piping installation, these measuring devices will be used at the site of excavation to sample the air approximately every five to ten minutes initially and not exceeding once every fifteen minutes once work progresses. Monitoring will be conducted in the operator breathing zone for health and safety purposes in accordance with the HSP. In the event that concentrations of organic vapors or methane gas reach thresholds established in the HSP, AECOM and its subcontractors will take corrective measures as outlined in the HSP.

Monitoring for VOCs will also be conducted at the excavation face or excavator bucket in accordance with Rule 1166 requirements. These 1166 monitoring data will be maintained by AIS and reported to the SCAQMD in accordance with the 1166 Mitigation Plan and Permit.

In addition to utilizing field instruments to conduct monitoring, AECOM will conduct odor monitoring at the downwind exclusion zone boundary as described in the RDIP. If distinctly noticeable odors are detected, AIS will be instructed to take appropriate odor control measures.

### **Vapor Suppression**

Dust particulate, vapor, and odor control measures will be implemented as necessary to minimize vapors and odors during site excavation activities. These measures will proceed in the following sequential steps:

- Application of water spray to the working area and excavated soils;
- Spraying the excavation surface and excavated soils with Biosolve™ using a pump sprayer or other application method;
- Application of commercial vapor and odor suppressant chemicals; and
- Application of vapor/odor suppressant foam, as required.

### **Traffic Management**

Traffic Management Plans will be prepared for affected work areas within the Carousel Tract and implemented that will include traffic control measures to maintain traffic safety and access for residents and emergency vehicles to the community. The Traffic Management Plans will be reviewed and approved by the City of Carson before Encroachment Permits are issued. This will ensure that emergency responders can expediently access locations within the Carousel Tract, if necessary, while remedial action work is being performed.

### **Notification of Public Safety Authorities**

In the event of an upset or emergency condition, it is AECOM' policy to evacuate personnel from areas involved in hazardous material emergencies and to summon outside assistance from agencies with personnel trained to respond to the specific emergency.

In the event that conditions are detected that may present a hazardous materials emergency condition to onsite workers or the public, AECOM will contact the LACoFD and Sheriff's Department by dialing 911. These emergency services personnel will take measures they deem appropriate to notify residents and identify if additional actions for the community are warranted. AECOM will promptly report any such events to the Regional Board and City of Carson staff after emergency services have been contacted.

If hazardous materials conditions occur that require notification of federal and state authorities, AECOM will notify the National Response Center, and the California Emergency Management Agency (Cal EMA) Warning Center. These entities coordinate federal and state response activities to hazardous materials releases.

## **Community Emergency Response Actions**

The following section provides guidance to members of the Carousel Tract community on what to do in the event of suspected hazardous conditions as a result of remedial excavation work being performed at the Carousel Tract.

### **Emergency and Non-Emergency Phone Numbers**

In the event that a resident observes a hazardous condition that presents a health and safety risk, the resident is advised to call 911.

In the event of a hazardous condition, residents should stay or remain indoors and tune into local emergency notification sources (described in Section 6.3.2 below) and await instructions from authorities. In addition, residents should be familiar with shelter-in-place procedures which are provided on the City of Carson, Public Safety Department website, listed in Appendix A.

### **Emergency Notification**

The City of Carson, the County of Los Angeles, and local media have established the following means to provide information to Carson residents in the event of any serious emergency in which it is necessary for authorities to provide special instructions to the public, such as those concerning shelter-in-place or evacuation. These emergency notification methods can be activated at the discretion of the City of Carson or the County of Los Angeles.

#### ***Alert LA County***

Alert LA County is operated by the Los Angeles County Office of Emergency Management and provides emergency notification service to residents by landline telephone, as well as to registered cell phones, email addresses, and voice over IP addresses.

#### ***Reverse 911***

The City of Carson operates a Reverse 911 system to provide emergency notification service to Carson residents by AT&T landline telephones, as well to registered cell phones and voice over IP addresses.

#### ***KFBW 980 AM***

In the event of an emergency, KFBW 980 AM is the designated radio station for emergency information for the City of Carson and surrounding communities.

#### ***Broadcast and Cable Television***

Federal, state, and local government may use broadcast, cable, and satellite television to provide emergency information via the Emergency Alert System (EAS).

#### ***Specific Needs Disaster Voluntary Registry***

The Specific Needs Disaster Voluntary Registry (SNAP) is operated by the Los Angeles County Office of Emergency Management in partnership with cities and agencies. For the benefit of individuals with access and functional needs, SNAP provides a means for first responders and other emergency personnel to identify those who may need special assistance during an emergency or disaster.

## Appendix A - Community Resources

Below is a list of relevant emergency preparedness resources, as well as information sources concerning the Former Kast Property environmental remediation work being performed by AECOM.

### EMERGENCY PREPAREDNESS RESOURCES

City of Carson, Public Safety Department, Emergency Services Division

Ky Truong, Public Safety and Community Services Manager: (310) 952-1700 ext. 1606 Public Safety Division Resources are available online at:

[http://ci.carson.ca.us/content/department/pub\\_service/publicsafety.asp](http://ci.carson.ca.us/content/department/pub_service/publicsafety.asp)

These include:

Reverse 911, information and sign up Home safety emergency planning information Shelter-in-place procedures

Los Angeles County Department of Public Health

Information is available online at: <http://publichealth.lacounty.gov/>

Los Angeles County Fire Department

Health Hazardous Materials Division information is available online at:

<http://fire.lacounty.gov/HealthHazMat/HealthHazMat.asp>

Safety Preparedness information is available online at:

<http://fire.lacounty.gov/SafetyPreparedness/SafetyPreparedness.asp>

Los Angeles County Sheriff's Department

Information is available online at: <http://sheriff.lacounty.gov/wps/portal/lasd>

Los Angeles County Office of Emergency Management

Alert LA County emergency notification program information is available online at:

<http://portal.lacounty.gov/wps/portal/alertla>

(Note that landlines are pre-registered and therefore no action is necessary in order to receive emergency alerts; however, you must register via the website above in order to receive emergency notification by cell phone, email, or voice over IP.)

In addition, the County of Los Angeles provides a registry, known as the Specific Needs Disaster Voluntary Registry, for individuals with access and functional needs who might require special assistance during an emergency or disaster. Specific information is available online at: <http://snap.lacounty.gov/>.

## ENVIRONMENTAL REMEDIATION RESOURCES

City of Carson, Planning Department

Resources concerning the Former Kast Property are available online at:  
[http://carson.ca.us/content/department/eco\\_dev\\_service/carouseltract.asp](http://carson.ca.us/content/department/eco_dev_service/carouseltract.asp)

These include:

Former Kast Property Revised Remedial Action Plan

Listing of residential sampling activity Outreach communications and media

Los Angeles Regional Water Quality Control Board:

Information on the environmental investigation at the Former Kast Property:

General information: (213) 576-6600

Information for specific properties: (213) 576-6739

Regional Board Project Manager:

Teklewold Ayalew, PhD., PG (213) 576-6739

Shell Oil Products US:

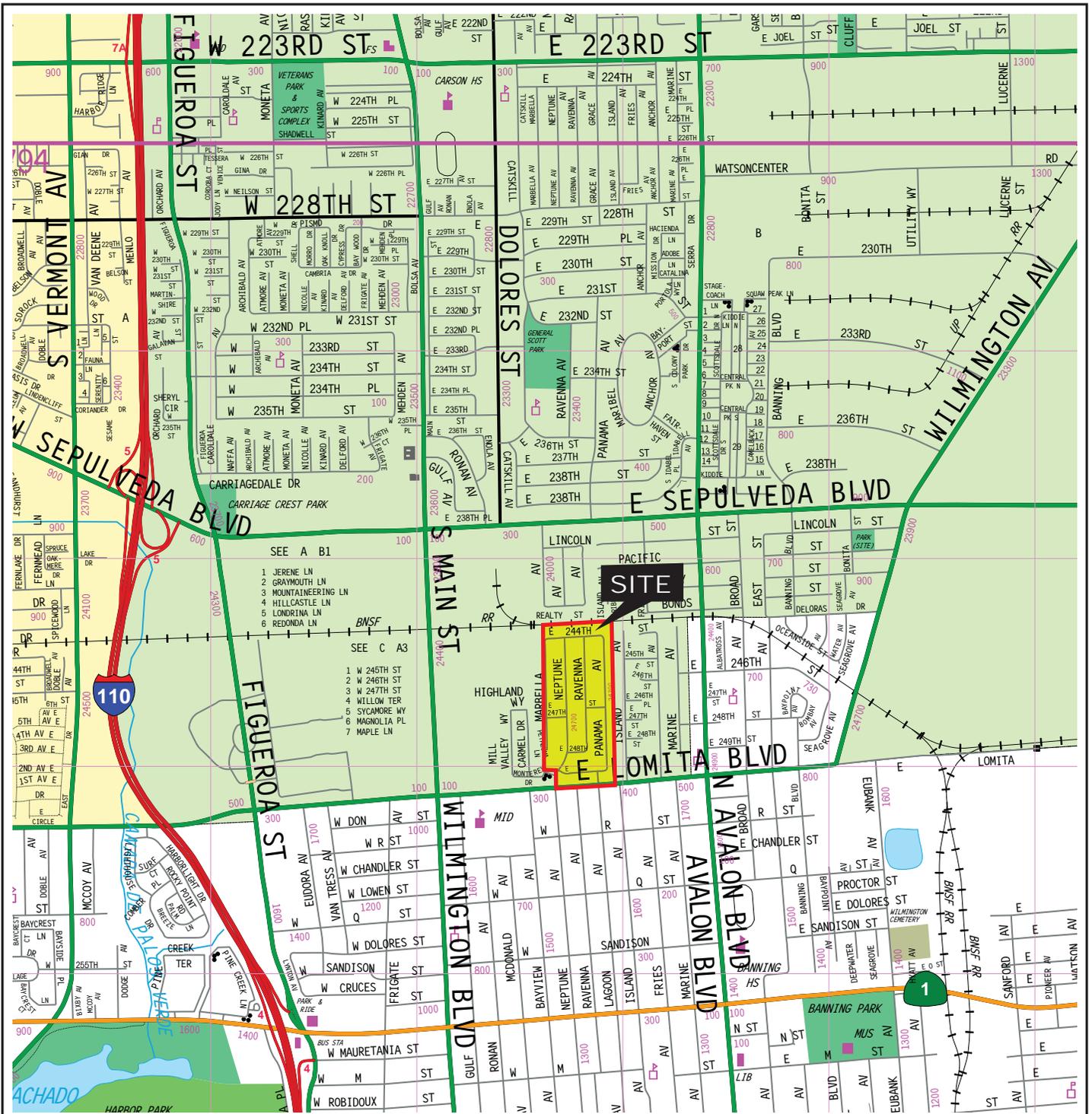
Doug Weimer, Senior Principal Program Manager (703) 403-6790

AECOM

Roy H. Patterson, PG, Senior Principal Geologist and Technical Manager: (714) 689-7275

## **APPENDIX B – ACRONYMS AND ABBREVIATIONS**

CAO	Cleanup and Abatement Order
EAS	Emergency Alert System
LACoFD	Los Angeles County Fire Department
LASD	Los Angeles County Sheriff's Department
MTA	Los Angeles County Metropolitan Transportation Authority
SNAP	Specific Needs Disaster Voluntary Registry
SOPUS	Shell Oil Products US
AECOM	AECOM Corporation
Revised RAP	Revised Remedial Action Plan



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**SITE VICINITY MAP**

Project No.: 49194119	Date: June 2014	Project: Former KAST Property	Figure 2-1
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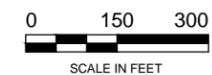
K:\2008\KAST\figure 1 Vic Map.ai



**AECOM**

LOCATION MAP  
SHOWING SITE AND SURROUNDING  
PROPERTIES AND FEATURES

Proj. No.: 49194119	Date: JUNE 2014
Project: FORMER KAST PROPERTY	Figure: 2-2



**APPENDIX G**

**POST-EXCAVATION DOCUMENTARY SAMPLING AND POST-CONSTRUCTION  
LONG-TERM**

## **APPENDIX G**

# **POST-EXCAVATION DOCUMENTARY SAMPLING AND POST-CONSTRUCTION LONG-TERM SAMPLING AND MONITORING PLAN**

This Appendix provides the details of Shell's post-excavation documentary sampling program for the former Kast Property (Site), which is now the Carousel housing tract in Carson, California, as well as the recommended long-term monitoring and sampling program for the Site. An Operations and Maintenance (O&M) Plan for the soil vapor extraction/bioventing (SVE/bioventing) system is included in a separate appendix.

### **POST-EXCAVATION DOCUMENTARY SAMPLING**

Post-excavation soil samples will be collected to document concentrations of certain constituents of concern (COCs) remaining on properties following excavation. This sampling will supplement more than 10,000 soil samples that have previously been collected from the residential properties.

Post-excavation soil samples will be collected only as can be performed safely and efficiently due to physical constraints based on the types and locations of excavation being performed. Post-excavation soil samples will be collected from excavation walls adjacent to residential structures. Samples will be collected from two to three depths at two sidewall locations along each side of the excavated residences (up to 8 locations, with up to 20 samples total) and from two locations at the bottom of each excavation in the back and front yards (4 samples), yielding a total of up to 24 samples per property. Samples also will be collected from two locations along property lines in the front and back yards of properties where the adjacent property will not be excavated, or where the adjoining yard will be/has been excavated to a shallower depth.

The post-excavation documentary samples will be analyzed for COCs with the potential to partition to soil vapor and/or migrate to groundwater, including total petroleum hydrocarbons (TPH) as gasoline (TPHg), diesel (TPHd), motor oil (TPHmo), and volatile organic compounds (VOCs). Samples for TPHg and VOC analyses will be collected into EnCore or TerraCore samplers for extraction by U.S. Environmental Protection Agency (EPA) Method 5035. Because of their very low solubility and migration potential, post-excavation samples will generally not be analyzed for semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), or metals. For the properties where excavation is proposed due to antimony, arsenic, or thallium concentrations exceeding background, the post-excavation samples collected from depths of 0.5, 2, and 5 feet bgs will be analyzed for these metals only.

Post-excavation documentary sidewall soil samples will be collected, subject to operational and safety constraints, as follows:

- At locations where excavations are conducted using slot trenching, shallow sidewall samples (0.5 and 2 feet below ground surface [bgs]) may be collected by personnel located within the trench or at ground surface adjacent to the trench using appropriate safety precautions and hand auger or other sampling equipment. Deeper sidewall samples will be collected by

personnel working from the ground surface adjacent to the trench using appropriate safety precautions and hand auger or other sampling equipment. Personnel will not enter trenches deeper than 4 feet bgs for sample collection purposes.

- Sidewall samples will be collected from excavation walls at two lateral locations adjacent to each side of residential structures at depths of 2 and 5 feet bgs. If feasible within operational and safety constraints, samples will be collected at 10 feet bgs from properties where targeted deeper excavation is conducted. A sample will not be collected from 0.5 feet bgs adjacent to residences, as the foundation of the residence and its concrete footings will extend below this depth.
- Sidewall samples will be collected from excavations adjacent to property lines only from walls of excavations where the adjacent property is not scheduled to be excavated, or where the adjoining yard will be/has been excavated to a shallower depth. Samples will be collected from two lateral locations in each yard at depths of 0.5, 2 and 5 feet bgs. If feasible within operational and safety constraints, a sample will be collected at 10 feet bgs at properties where targeted deeper excavation extends to 10 feet bgs and the adjoining property is not targeted for the same depth.
- At properties where targeted deeper excavation to 10 feet bgs is conducted for a partial yard, sidewall samples will be collected from one or two lateral locations along the excavation wall remaining on the property at a depth 10 feet bgs, if feasible within operational and safety constraints. (Samples will not be collected at 0.5, 2 and 5 feet bgs because the remainder of the yard will be or already have been excavated to 5 feet bgs.)
- Sidewall samples will be collected from the excavation adjacent to the City sidewalk, subject to operational and safety constraints, including protection of utilities. Samples will be collected from two lateral locations in each front yard at depths of 2 and 5 feet bgs. If feasible within operational and safety constraints, a sample will be collected at 10 feet bgs at properties where excavations extend to this depth.
- Sidewall samples will be taken from the excavation wall along the back of the property line for those properties bordering on the outer edge of the tract and that back up to homes along Carmel Drive in the Monterey Pines community and the storm drain easement west of the Site, the MTA Railroad right-of-way north of the Site, homes along Island Avenue east of the Site, and Lomita Boulevard south of the Site. Samples will be collected from two lateral locations in each yard at depths of 0.5, 2 and 5 feet bgs. If feasible within operational and safety constraints, a sample will be collected at 10 feet bgs where excavations extend to this depth.

Post-excavation documentary bottom soil samples will be collected, subject to operational and safety constraints, as follows:

- Two samples each will be collected from the excavation bottom from the front and back yards of the residence at either 5 or approximately 10 feet bgs (four samples total).
- Samples will be collected at the intersection of the sidewall and the base of the excavation as discussed above, and as follows:

- Two samples from the excavation bottom from each front yard and back yard adjacent to the residence (four samples total);
- Two samples from the excavation bottom from each front part and back part of the side yards adjacent to the residence (four samples total);
- Two additional samples from the excavation adjacent to City sidewalks in front yards (two samples total); and
- Additional samples may be collected from the excavation bottom at sidewalls along property lines at locations where the adjacent property is not scheduled for or has not been excavated, or along the tract perimeter as described above.
- In combination, this will result in a minimum of 14 excavation bottom samples per property for a typical rectangular-shaped approximately 50- by 100-foot lot.
- Additional base of excavation samples will be collected from larger irregularly shaped lots so that there will be a minimum of one sample collected for approximately every 400 square feet of excavated area.

Post-excavation samples will be collected using reusable, decontaminated sampling equipment or disposable sampling devices, placed in laboratory-provided glassware, and submitted under chain-of-custody documentation to the designated California and/or National Environmental Laboratory Accreditation Program (NELAP)-certified laboratory for analysis using EPA-approved methods including EPA Method 8015B(M) for TPHg and TPHmo, EPA Method 8015B for TPHd, EPA Method 8260B for VOCs, and EPA Method 6010B for select metals at properties being excavated based on metals concentrations exceeding background values.

Given the depth of the proposed excavations, sampling may be conducted using stainless-steel hand augers or coring devices, or disposable sampling scoops affixed to an extendable arm. Alternatively, samples may be taken from soil collected from the excavation sidewalls or bottoms using the bucket of the excavator only after the bucket has been placed on the ground and immobilized. At no time will samples be collected by riding the bucket of the excavator.

## **POST-CONSTRUCTION LONG-TERM SAMPLING AND MONITORING**

### **Sampling of Existing Soil Vapor Probes in Streets and Utility Vaults**

Quarterly monitoring of existing soil vapor probes at 1, 1.5, and 5 feet bgs at nine onsite probe locations and one offsite location in the streets will continue until the probes are decommissioned during trenching in the street for SVE conveyance pipe installation or until Site conditions demonstrate it is no longer necessary, but no later than the time the SVE/bioventing system becomes operational. If sampling results indicate generally stable concentrations in the 5-foot probes for four consecutive quarters, a request will be sent to the Los Angeles Regional Water Quality Control Board (RWQCB or Regional Board) requesting a change to semi-annual sampling.

Street soil vapor probes will be sampled following the procedures outlined in the Site Characterization Work Plan and Addendum (URS, 2008a and b), which are consistent with the Advisory – Active Soil Gas Investigations (Soil Gas Advisory; California Environmental Protection Agency [CalEPA] Department of Toxic Substances Control [DTSC] and RWQCB; 2003, 2012, and

2015). Prior to soil vapor sample collection, soil vapor field measurements, including initial probe pressure readings, will be collected prior to purging, and field screening measurements will be collected using handheld instruments during purging. Helium will be applied during all sample collection at a minimum shroud concentration of 20 percent (%) as tracer gas for leak detection. Barometric pressure data are recorded in the field at the time of sample collection.

Soil vapor samples will be submitted under chain-of-custody to ALS Environmental, a NELAP-certified laboratory, located in Simi Valley, California. Reports will be submitted by the end of the month following the end of each quarter (i.e., by the end of April, July, October, and January). Data obtained from monitoring of these probes will be reviewed, and a recommendation may be made to adjust the monitoring schedule, as appropriate. Any recommendation for changes in the sampling frequency will be provided in separate communications to the Regional Board.

Quarterly monitoring of 69 onsite and offsite utility vaults will continue until Site conditions demonstrate it is no longer necessary via four consecutive quarters with methane detected at no greater than 0.1%, or at the latest after the SVE/bioventing system becomes operational. These locations are monitored using a Landtec GEM-2000 for methane, carbon dioxide, and oxygen in the percent range, an Extech barometer for barometric pressure in inches of mercury (in-Hg), and a Photovac MicroFID flame ionization detector (FID) for total organic vapors, including methane, in the parts per million by volume (ppmv) range. Readings will be taken from utility boxes and vaults using direct-reading hand-held instruments by slightly lifting the lid and inserting the monitoring probe into the feature; sewer manholes will be monitored through the tool hole in the top of the manhole; and storm drains will be monitored by inserting the probe tip into the drain opening. Methane screening of accessible utility boxes, vaults, storm drains, and sewer manholes at the Site will continue to be conducted quarterly with reports submitted by the end of the month following the end of each quarter (i.e., by the end of April, July, October and January). Data obtained from monitoring of these probes will be reviewed and submitted to the Regional Board. Any recommendation for changes in the sampling frequency will be provided in separate communications to the Regional Board.

### **Monitoring of SVE/Bioventing System Effectiveness**

To monitor SVE/bioventing effectiveness, soil vapor and soil samples will be collected at 16 representative locations throughout the Site prior to start of SVE/bioventing system operation to establish baseline conditions. Soil vapor sampling is discussed in the O&M Plan for the SVE system in Appendix O of the Remedial Design and Implementation Plan (RDIP).

Soil samples will be collected from 16 soil boring locations in the streets at representative locations throughout the Site using a Geoprobe rig. The soil boring locations are identified on Figure 10-1 of the RDIP. The boring locations will be co-located with the soil vapor sampling locations and situated in between the SVE/bioventing wells so that results are not strongly influenced by close proximity to the extraction wells. Soil samples will be collected at depths of 7.5, 20, and 35 feet bgs (midpoint of SVE well screen intervals) and analyzed for TPHg, TPHd, and TPHmo by EPA Method 8015B(M), and VOCs by EPA Method 8260B/5035. Samples will also be extracted using the Synthetic Precipitation Leaching Procedure (SPLP) to evaluate leachability of COCs in soil and reductions in leachability over time. After 5 years of SVE/bioventing system operation and at 5-year intervals thereafter, Geoprobe borings will be advanced and sampled at the same depths at locations

adjacent to the previous borings and samples will be collected for comparative analysis with prior samples from the same locations. The Geoprobe soil sampling at individual probe locations will be terminated if all soil SSCGs are achieved or if Site conditions demonstrate it is no longer necessary.

Along with the soil vapor data gathered from the SVE system O&M, results of the baseline and periodic soil sampling will be used to evaluate overall system effectiveness as well as optimize system operation and will be reported in an initial 5-year review report and subsequent reports submitted on a 5-year basis.

## **Residential Sampling**

### **Sub-Slab Soil Vapor Probe Monitoring**

At the properties identified for soil excavation from 0 to 5 feet bgs, except for those identified for excavation due solely to arsenic, sub-slab soil vapor probes will be monitored and sampled every other year for VOCs and fixed gases until remedial excavation is completed and the SVE/bioventing system becomes operational for that property, as follows:

- For properties that will not have a sub-slab depressurization (SSD) system installed, after the SVE/bioventing system is operational, sub-slab soil vapor probes will be monitored and sampled every 5 years until Site conditions demonstrate it is no longer necessary. Sampling of sub-slab soil vapor probes will be terminated at a given property if detected COC concentrations are below soil vapor site-specific cleanup goals (SSCGs; Table 3-1 of the RDIP) for two consecutive sampling events.
- Methane screening will be conducted using direct-reading hand-held instruments inside the homes at the time of the sub-slab soil vapor probe sampling.
- Sub-slab soil vapor samples will be screened in the field with portable field instruments and analyzed for VOCs using EPA Method TO-15, and fixed gases (methane, oxygen, and carbon dioxide) using ASTM International (ASTM) Method D-1946.
- Because outside sub-slab soil vapor probes in front and back yards will be removed along with residential hardscape, replacement probes will be installed in the garage (if one does not exist) so that two probes can be sampled per property.
- If results of sub-slab soil vapor analysis indicate that potential vapor intrusion risk exceeds an estimated cancer risk of  $1 \times 10^{-6}$  and RAOs for potential vapor intrusion are exceeded, a SSD system will be installed.
- To minimize impact on the community, sub-slab sampling will be conducted over a 6- to 8-week period each year and scheduled to accommodate homeowners to the extent possible.

### **Sub-Slab Depressurization (SSD) Systems**

The SSD system monitoring program will consist of sub-slab soil vapor probe sampling at the properties where SSD systems are installed as follows:

- One sampling event per year for years 1 through 5 following system installation;
- One sampling event every other year for years 5 through 15; and

- One sampling event every five years for years 15 through 30, or until Site conditions demonstrate it is no longer necessary. Sampling of sub-slab soil vapor probes will be terminated at a given property if COC concentrations detected are below soil vapor SSCGs (Table 3-1 of the RDIP) for two consecutive sampling events.

Each sampling event would consist of checking sub-slab soil vapor probes for pressure/vacuum, and sampling two or three sub-slab soil vapor probes, depending on timing relative to hardscape removal and garage probe installation, for analysis for VOCs and fixed gases (including methane) as discussed above.

The SSD system will include a manometer or in-line pressure gauge to provide a simple measure that the system is operating as designed. Clear instructions (including the name and contact information for the appropriate Shell contractor) will be placed in a visible location to address problems with the SSD system operation.

Annual inspections will be done to verify that the SSD systems are operating as designed and vacuum and flow rate of the SSD fan will be monitored.

### **Groundwater Sampling**

Semi-annual groundwater monitoring will continue during RAP implementation; the semi-annual monitored natural attenuation (MNA) evaluation program will commence following the startup phase of the SVE system. If after five years of semi-annual MNA monitoring the concentrations of Site-related COCs exhibit an increasing trend based on statistical analysis, contingency in-situ groundwater remediation will be considered at localized areas (i.e., where Site-related COCs exceed 100 times the California Maximum Contaminant Levels [MCLs] for drinking water). If concentrations of Site-related COCs are stable or decreasing, the MNA program will continue and will be re-assessed after five additional years of annual groundwater monitoring.

Semi-annual monitoring of both shallow zone and Gage wells will be conducted for a 5-year period following implementation of SVE/bioventing. Semi-annual monitoring will be conducted in April (second quarter) and October (fourth quarter) of each year. Groundwater samples will be analyzed for the following COCs and select MNA parameters: VOCs, TPHg, TPHd, TPHmo, metals, oxidation-reduction potential (ORP), dissolved oxygen (DO), pH, nitrate, iron, sulfate, and methane.

**APPENDIX H**

**SCAQMD SITE-SPECIFIC RULE 1166 MITIGATION PLAN AND PERMIT**



## COMPLIANCE PLAN

This plan must be renewed annually and is subject to annual renewal fees pursuant to Rule 306 (h).

**Plan Issue Date:** 9/1/2015

ID 180622

**Company:** SHELL OIL PROD US/FORMER KAST TANK FARM  
24414 S MAIN ST, SUITE 212  
CARSON, CA 90745

**Site Location:** CAROUSEL TRACT/FORMER KAST TNK CARSON, CA 90745

### Conditions:

The operation under this Rule 1166 has been conditionally approved and is subject to the following conditions:

#### SECTION I - GENERAL REQUIREMENTS

1. This excavation plan shall expire August 24, 2017.
2. A signed copy of this plan shall be present at the excavation site at all times and shall be made available to SCAQMD personnel upon request.
3. This plan is not valid for the excavation of VOC contaminated soils at landfills or sites used for disposal or refuse or other types of waste.
4. This plan shall not be used in conjunction with any onsite treatment process, without additional evaluation by the SCAQMD. This plan does not allow the treatment of VOC contaminated soil by thermal, chemical, or mechanical processes. Any of the above treatment processes requires a Permit to Operate from the SCAQMD.
5. The total quantity of VOC contaminated soil excavated under this plan shall not exceed approximately 178,000 cubic yards. At no time shall the total quantity of VOC contaminated soil stockpiled at this site exceed 5000 cubic yards.
6. For the purposes of Rule 1166 and this plan, soil measured pursuant to Rule 1166 as VOC contaminated soil, is considered as VOC contaminated soil from the time of measurement onward, until the soil is treated pursuant to an approved SCAQMD treatment process.
7. During each step of the process up to and including the removal and disposal process, all precautions and measures shall be taken to minimize the release of VOC, odor, and dust. This includes, but is not limited to:
  - A. The use of additional plastic sheeting or suppressants on exposed soil surfaces and work areas,
  - B. Maintaining paved public streets free of soil deposits, and
  - C. Operating such that VOC soil shall not be spread on-site or off-site; and not performing any unnecessary movement or agitation of soil, including the reshaping or relocation of stockpiles, that may cause the uncontrolled evaporation of VOCs into the atmosphere.
8. The SCAQMD shall be immediately notified of any complaints received as a result of activities conducted under this plan. Such notification shall include the nature of the complaint, number of complaints, complainant name, address, phone number, etc., and the action taken by the plan holder to mitigate the source of the complaint.

**ORIGINAL**



**SECTION II - PRIOR TO EXCAVATION**

9. At least 24 hours prior to commencing excavation or grading of soil at the site, the Executive Officer or designee shall be notified of the excavation by fax using a form approved by the Executive Officer, which is fully completed and includes the name of the company performing the excavation and the application number listed on this mitigation plan. The notification shall be made by faxing the notification form at (909) 396-3342. Fax notifications will receive a reference number by return fax or can be obtained referencing the fax notification by phone, Tuesday through Friday during business hours, at (909) 396-2326. The reference number shall be retained as proof of compliance with this requirement.

Reference Number: \_\_\_\_\_ Notification Date: \_\_\_\_\_

At least 24 hours prior to commencing excavation or grading of soil at the site, all sensitive receptors within 1,000 feet from the site shall be notified of the excavation by letter using a format approved by the Executive Officer, which includes the name, address, and phone number of the company performing the excavation, the duration of the excavation, and the SCAQMD complaint hotline number (909) 288-7664.

10. Complete the verification information in there Attachment section and obtain required signatures, prior to commencing excavation.

**SECTION III - MONITORING**

11. All monitoring shall be conducted by trained personnel who are proficient in the use of the hydrocarbon monitor selected for use at this site.
12. During the excavation process, an organic vapor analyzer (OVA) shall be on site at all times. The OVA shall be maintained in good working order at all times and shall be calibrated by the manufacturer at least once every three months. The calibration of the OVA shall be verified using certified calibration gas at the beginning of each working day with the procedures specified by the manufacturer. If a calibration gas other than hexane is used, each measured reading shall be correlated to and expressed as hexane, using equivalency factors provided by the manufacturer. In the event that inconsistent or erratic readings are experienced, or the OVA becomes otherwise inoperable, all excavation activities will cease until the OVA is repaired or replaced.
13. All monitoring shall be conducted at a distance no more than 3 inches above the soil surface using an OVA described in Condition No. 12 above. Monitoring shall be initially conducted at a minimum frequency of one reading every fifteen minutes. Upon detection of VOC contamination, monitoring shall be conducted at a minimum rate of one reading for every five cubic yards excavated. All readings shall be taken no later than three minutes after each load of soil is excavated.
14. Written records of OVA monitoring and calibrations required above shall be kept in a format approved by the SCAQMD. The approved format is included in the Attachment section (total 6 pages). The certification on all records shall be signed and dated on the day the measurements are observed.

**ORIGINAL**



15. Upon detection of VOC contaminated soil (readings 50 PPMV or greater), the Executive Officer or designee shall be notified within 24 hours of the first detection of VOC contamination. The notification shall be made by faxing the notification form to (909) 396-3342 or calling (909) 396-2326. A reference number will be faxed back or will be issued when the phone notification is received. All phone notifications shall be followed by mailing the notification form to the District postmarked within 48 hours. The reference number will be retained as proof of compliance with this requirement.

Reference Number: \_\_\_\_\_ Notification Date: \_\_\_\_\_

#### SECTION IV - HANDLING

16. If the OVA measurement is greater than 50 PPMV, but less than 1000 PPMV
- A. The affected work area and load of soil shall be sprayed with water and/or approved vapor suppressant.
  - B. Contaminated soil in stockpiles shall be covered with plastic sheeting which overlap a minimum of 24 inches and are secured so that no portion of the contaminated soil is exposed to the atmosphere. In the course of handling the stockpile, only the working face of the stockpile may be uncovered.
17. All VOC contaminated soil below 1000 PPMV shall be stockpiled, covered with plastic sheeting, and stored separately from non-VOC contaminated soil, or immediately transported to a treatment facility. Contaminated soil once excavated and stockpiled will be considered contaminated at all times and cannot be backfilled unless treated to less than 50 PPMV levels with prior SCAQMD approval and SCAQMD permitted equipment.
18. If the soil OVA measurement equals or is greater than 1000 PPMV, notify the District immediately or within one hour of detection, and
- A. The affected soil and working area shall be immediately sprayed with water or an approved vapor suppressant, and either:
    - i. The contaminated soil excavated shall be immediately placed in SCAQMD approved sealed containers equipped with vapor tight lids, or
    - ii. The soil shall be directly loaded in trucks, sprayed with additional water or approved vapor suppressants, covered, and transported immediately off site to an approved treatment facility, or
  - B. Handled by alternative storage methods with prior written approval from the SCAQMD.

#### SECTION V - STORAGE

19. A stockpile shall not contain more than 500 cubic yards of soil of VOC contaminated soil.

ORIGINAL



20. During excavation, the only exposed VOC contaminated soil shall be restricted to the immediate working area of the site or stockpile. All other portions of the stockpile shall be covered with plastic sheeting, with seams, which overlap a minimum of 24 inches and are secured with duct tape. Any exposed VOC contaminated soil surfaces (work face) shall be kept moist with water or other approved suppressants at all times, and shall be re-covered during periods of inactivity longer than one (1) hour. At the end of each working day, all stockpiles shall be completely covered and securely anchored to prevent any exposure of soil to the atmosphere.
21. Once covered with plastic sheeting, stockpiles shall remain undisturbed until removed from site.
22. Daily inspections shall be conducted of all covered VOC contaminated stockpiles to ensure the integrity of the plastic cover. Such inspections shall include a visual inspection of all seams and plastic cover surfaces. Any holes, tears, or any other potential sources of fugitive VOC emissions shall be repaired immediately. Daily records shall be maintained to ensure compliance with this condition.

#### SECTION VI - SOIL REMOVAL AND DISPOSAL

23. All excavated VOC contaminated soil shall be removed from the site within thirty (30) days of its excavation.
24. All VOC contaminated soil removed from the site shall comply with the following:
  - A. Be transported to an approved treatment/disposal facility. It shall be the responsibility of the plan holder to ensure that the receiving treatment/disposal facility has received approval from the appropriate environmental oversight agencies to handle and treat VOC contaminated soils.
  - B. Prior to covering/tarping, loaded contaminated soil shall be treated by spraying with water or dust suppressants.
  - C. The truck or trailer shall be completely covered/tarped prior to leaving the site to prevent particulate emissions to the atmosphere.
  - D. When loading is completed and during transportation, no excavated material shall extend above the sides or rear of the truck or trailer.
  - E. The exterior of the trucks (including the tires) shall be cleaned off prior to the trucks leaving the excavation site, when soil is shipped via trucks.

#### SECTION VII - RECORDS AND REPORTING

25. A written report shall be generated and maintained, which includes the following information:
  - A. The facility selected to treat the VOC contaminated soil, quantity of soil removed from the site, status of the excavation pit, and any VOC contaminated soil remaining on site.
  - B. A brief summary indicating if additional clean up efforts are necessary, the additional quantity of VOC contaminated soils to be excavated and the projected schedule of the excavation.

**ORIGINAL**



26. Records of treatment/disposal shall be maintained for all VOC contaminated soil removed from this site. Such records shall be clearly labeled "SCAQMD RULE 1166-VOC CONTAMINATED SOIL" and shall include the identification and the location of 1) the generator, 2) transporter, and 3) receiving facility. In addition, such records shall be signed and dated by each of the above parties indicating receipt or relinquishment of the VOC contaminated soil at the time custody is transferred.
27. Records of disposal of VOC contaminated soil shall be maintained on site during the excavation and later maintained for a period of two (2) years after the completion of the excavation project. The records shall be made available to SCAQMD personnel upon request.
28. Within forty (40) days of initial detection of VOC contamination, the written records under Condition nos. 25 and within thirty (30) days after the excavation at the site is completed, the written records under conditions no. 14, 22, and 26 shall be submitted to the SCAQMD at the following address:

South Coast Air Quality Management District

Engineering & Compliance Division

Toxics & Waste Management Unit

(Rule 1166 Compliance)

21865 Copley Drive

Diamond Bar, CA 91765-4182

29. Once issued, this plan is subject to further review by the SCAQMD and may be revoked if excavation activities are found in violation of plan conditions or SCAQMD's Rules and Regulations. Failure to comply with one or more of the conditions contained within this plan constitutes a violation of Rules 221 and 1166.

#### SECTION VIII - SPECIAL CONDITIONS

30. Logs of water purchase or usage and suppressant application (including brand/manufacturer, date of application, area treated and amount applied) shall be maintained and made available to the SCAQMD for inspection upon request.
31. Dust monitoring shall be conducted for all excavations. If visible dust is encountered, periodic watering of the active excavation areas shall be conducted throughout the excavation and backfill activities. Watering shall be monitored to prevent off-site runoffs.

**ORIGINAL**



**NOTICE**

This plan does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the applicable Rules and Regulations of the South Coast Air Quality Management District (SCAQMD). This plan cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

A copy of this plan shall be displayed in the vicinity of the equipment subject to this plan.

Executive Officer

A handwritten signature in blue ink that reads "Dorris M. Bailey".

By Dorris M. Bailey/AM01  
9/1/2015

**ORIGINAL**

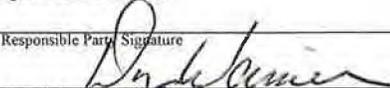
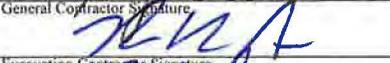
**ATTACHMENT SECTION**

**VERIFICATION AND SIGNATURE**

THIS PLAN IS NOT VALID UNTIL ALL PARTIES HAVE REVIEWED AND SIGNED THE VERIFICATION STATEMENT BELOW.

Site Name <b>FORMER KAST PROPERTY</b>		Type of Business <b>FORMER OIL STORAGE FACILITY</b>	
Address <b>NEPTUNE &amp; LOMITA</b>		City <b>CARSON</b>	Zip
Responsible Party (Owner/Operator) <b>SHELL OIL PRODUCTS US</b>		Phone <b>703-403-6790</b>	
Address <b>20945 S. WILMINGTON</b>		City <b>CARSON</b>	Zip <b>90745</b>

I CERTIFY THAT I HAVE REVIEWED AND UNDERSTAND THE CONDITIONS CONTAINED WITHIN THIS PLAN. IN SIGNING BELOW, I ACKNOWLEDGE THAT UNDER THE PROVISIONS OF RULE 1166, I CAN BE HELD RESPONSIBLE FOR THE REQUIREMENTS SET FORTH IN THIS PLAN.

Responsible Party <b>DOUG WEINER</b>	Responsible Party Signature 	Date Signed <b>10/5/15</b>
General Contractor <b>Nathan Stanley - AIS</b>	General Contractor Signature 	Date Signed <b>10/5/15</b>
Excavation Contractor <b>Nathan Stanley - AIS</b>	Excavation Contractor Signature 	Date Signed <b>10/5/15</b>
Environmental Consultant <b>Glen Davis</b>	Environmental Consultant Signature 	Date Signed <b>10-5-15</b>

**DEFINITIONS**

- Excavation Is the process of digging out and removing materials including any material necessary to that process such as the digging out and removal of asphalt or concrete necessary to expose, dig out and remove known VOC contaminated soil.
- Organic Vapor Analyzer (OVA) For the purposes of this plan, an OVA is an hydrocarbon monitor utilizing flame ionization, photo ionization or other analytical methods complying with 40 CFR PART 60 APPENDIX A, EPA METHOD 21 SECTION 3, "DETERMINATION OF VOLATILE ORGANIC COMPOUND LEAKS, MONITORING INSTRUMENT SPECIFICATIONS. The monitor shall be capable of being calibrated using hexane at a range of 0 parts per million by volume (PPMV) to 50 PPMV, and at a detection range of at least 30 PPMV to 1100 PPMV
- Responsible Party For the purposes of this plan, Responsible Party is the party financially responsible for initiating the excavation. This may include the property owner or the tank operator. This excludes contractors working for the property owner or operator, and any other party that lacks the direct authority to immediately treat all VOC contaminated soils generated at the excavation site.
- VOC Contaminated Soil Is soil that registers a concentration of 50 PPM or greater of volatile organic compounds as measured before suppression materials have been applied and at a distance of no more than three inches from the surface of the excavated soil with an organic vapor analyzer calibrated with hexane.
- Volatile Organic Compound (VOC) Is any volatile compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds. Exempt compounds areas defined in Rule 102 – Definitions of Terms.

Once issued, this plan is subject to further review by the SCAQMD and may be revoked if excavation activities are found in violation of plan conditions or SCAQMD's Rules and Regulations. Failure to comply with one or more of the conditions contained within this plan constitutes a violation of Rules 221 and 1166.

Other governmental agencies may require approval before any excavation begins. It shall be the responsibility of the applicant to obtain that approval. The South Coast Air Quality Management District shall not be responsible or liable for any losses because of measures required or taken pursuant to the requirements of this approved Rule 1166 Contaminated Soil Mitigation Plan.

Questions regarding this plan should be directed to Larry Israel at (909) 396-2370.

### Rule 1166 Soil Monitoring Records

<b>Company Name</b> Shell Oil Products US/Former Kast Tank Farm 24414 South Main Street, Suite 212 Carson, CA 90745	<b>Facility/Site Information</b> Carousel Tract/Former Kast Tank Farm Carson, CA 90745
Reference No(s).	

**Plan #: 577559                      I.D.#: 180622**

Monitor Information	Calibration Data	Monitoring Personnel	Excavation Summary <small>(Upon completion of each page)</small>
Brand:	Gas:	Name:	Total Cubic Yds (This page)
Model:	Date	Company:	Total Cubic Yds (To date)
Type	By	Phone:	Removed from Site (To date)

Time	VOC Concentration (PPMV) @ Excavated Load			Comment	Time	VOC Concentration (PPMV)@ Excavated Load			Comment
	Reading	Hexane Factor	Adjusted Reading			Every 15 min.	Reading	Hexane Factor	
Every 15 min.					Every 15 min.				

I certify that the information contained in the above document is true and correct. I further certify that the above listed hydrocarbon monitor was operated in a manner consistent with the manufacturer's specifications and the conditions specified within this plan. In addition, I certify that the above readings represent the actual measurements I observed and recorded during the excavation process.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765

1-800-CUT-SMOG www.aqmd.gov

## IMPORTANT NOTICE Rules 203, 1149 and 1166 Fees

TO COMPANIES AND CONTRACTORS THAT:

- Operate portable soil/vapor extraction units at a location for 5 days or more (Rule 203)*
- Degas storage tanks known/suspected to contain Volatile Organic Compounds (VOC) (Rule 1149)*
- Remove tanks or transfer piping known/suspected to contain VOC (Rule 1166)*
- Handle, excavate, grade, monitor or treat soil known/suspected to contain VOC (Rule 1166)*

SCAQMD Regulation III - Fee amendments for the Fiscal Years notification fee are as shown below. All required notifications for soil vapor extraction projects, tank degassing projects, and excavation of VOC soil projects, are subject to the new fee per Rule 301(x). See fee schedule below:

Fiscal Year	Notification Fee*
2015-2016	\$57.98

The fee is per notification and an additional service charge fee of \$25.00 may apply for any returned check per Rule 313(i).

Initial notifications must be faxed to 909-396-3342 and the original notification and fee must be postmarked within 48 hours of the fax time.

SCAQMD recommends mailing your notification to save time, money, reduce traffic, conserve energy use and avoid air pollution. ***For your convenience please mail all notifications and fees to the following mailing address:***

*SCAQMD R203/1149/1166 Notifications,  
FILE # 55641,  
Los Angeles, CA 90074-5641*

Notifications should be completed, signed, mailed and the fee paid by the contractor performing the project. Notifications submitted without a fee are deemed incomplete and they will be returned to sender and referred to the Air Toxics Compliance Unit.

Rules 203, 1149 and 1166 notification forms, instructions, and information can be obtained from the SCAQMD web site at <http://www.aqmd.gov>

The forms are located at our home page, click on **Business / Compliance Program / Recordkeeping and Reporting Forms** or the **Rule** link below.

- 203** Soil Vapor Extraction (SVE) [Notification Form](#)
- 1166** VOC Emissions From Soil Excavation [Notification Form](#)
- 1149** Storage Tank Degassing [Notification Form](#)

For any Rule 203/1149/1166 questions call the above Rules Hot Line at (909) 396-2326.

\*NOTE: [Rule 304\(e\)](#) requires an owner operator to pay for analysis of SCAQMD field samples showing non compliance. Please consult the current Rule 301 for the correct Notification Fee prior to sending the payment.



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
SVE Operation (R203) or Rule 1166 NOTIFICATION FORM**

Use this form to notify of operation of a Soil Vapor Extraction unit (SVE); or prior to Excavating, Handling, Monitoring, Treating known or suspect Volatile Organic Compounds (VOC) contaminated soil per R1166. See instructions on the back of this form. For questions check our website at [www.aqmd.gov](http://www.aqmd.gov) or call the Hotline at (909) 396-2326.

FAX this form to 909-396-3342 and within 48 hours of the fax, MAIL the original form and fee to:

SCAQMD - 1166/203 Notifications, File # 55641, Los Angeles, CA 90074-5641

This form will be faxed back to you with a REFERENCE number if you provide a FAXBACK # here: \_\_\_\_\_

AQMD USE ONLY		RECEIVED BY	POSTMARK		REFERENCE #	
COMPLETED BY		Company			Phone #	
Date	Check #	Amount		Project #		
NOTIFICATION TYPE (check one only)	Original (Initial) <input type="checkbox"/>	Revision (prior reference #) <input type="checkbox"/>		Cancellation (prior reference #) <input type="checkbox"/>		
PROJECT TYPE (check one only)	<sup>1</sup> Soil Vapor Extraction (SVE) <input type="checkbox"/>	<sup>2</sup> R1166 Treating Contaminated Soil <input type="checkbox"/>	<sup>2</sup> R1166 Excavation of VOC Soil/Tank <input type="checkbox"/>	<sup>2</sup> R1166 Reporting > 50 ppm VOC Soil <input type="checkbox"/>	<sup>2</sup> R1166 Reporting > 1000 ppm VOC Soil <input type="checkbox"/>	
<sup>1</sup> SVE Permit issued to (name):			<sup>1</sup> SVE Permit Number:			
<sup>1</sup> SVE Distance to nearest sensitive receptor in feet (see your permit condition requirements):						
<sup>2</sup> R1166 Mitigation Plan issued to (name):			<sup>2</sup> R1166 Plan Number:			
<sup>2</sup> R1166 - Date & time of VOC > 50 or 1000 ppm exceedance:				Highest VOC reading in ppm:		
PROJECT DATES	START	EHD	WORK SHIFT	day <input type="checkbox"/>	swing <input type="checkbox"/>	night <input type="checkbox"/>
SITE CONTRACTOR INFORMATION		AQMD ID #	CSLB License #		Phone #	
Name		Address				
City	Zip	Site supv name & phone #				
SITE INFORMATION		Site Name	Site AQMD ID #			
Site Address			Cross Street			
Site City	Zip	Site contact name & phone #				
TANK INFORMATION	# OF TANKS	EACH	CAPACITY (gal)	MATERIAL STORED IN TANK	ABOVE GROUND? (Y/N)	
		@				
		@				
<i>Example</i>	<i>3 tanks</i>	<i>@</i>	<i>10,000</i>	<i>Gasoline</i>	<i>no</i>	
INFORMATION CERTIFICATION		I certify that the above information is complete and accurate				
Company Name		Print Name	Signature	Date		
COMMENTS						

**Print**

**Reset**

## Rule 203 and Rule 1166 Form Notification Instructions

Use this form to notify of operation of a Soil Vapor Extraction unit (SVE) at any site for more than 5 days per permit condition (R203); or for notifying about R1166 projects prior to excavating soil that is known or suspected to contain Volatile Organic Compounds (VOC), VOC tank excavation, discovering the presence of > 50 ppm and 1000 ppm VOC contaminated soil during soil excavation, or to notify of onsite VOC contaminated soil mitigation or treating. For questions check our website at [www.aqmd.gov](http://www.aqmd.gov) or call the Hotline at (909) 396-2326

**NOTIFICATION FEES:** Per Rule 301(x) any person required to submit a notification per Rule 1166 projects or Rule 203 - Soil Vapor Extraction projects must pay a notification fee per notification.

**FAX** all notifications to (909) 396-3342 and then **MAIL** the form and fee within 48 hours of fax to:

SCAQMD Rule 1166 / 203 Notifications, File # 55641, Los Angeles, CA 90074-5641

Notifications must include the following **MANDATORY** information:

**Faxback #** - Provide your fax # at the top of the Notification Form if you want a **Reference #** faxed back to you.

**Notification Type** - **CIRCLE** the type of Notification. **Original** is for new or initial Notifications. **Revisions** are for updating information on notifications in which the project End Date has not expired. Provide the most recent prior Reference # issued for Revisions or Cancellations.

**Project Type** - **CIRCLE** the type of work you are submitting a notification for. A separate notification and fee is required for each type of work selected.

**Mitigation Plan/Permit** - Each Project Type requires a valid R1166 Mitigation Plan or SVE Permit # (important).

**Site Contractor Information** - Provide the information for the actual contractor *doing the work*. The AQMD ID #, also known as Company or Facility ID #, can be found on the contractor's AQMD Mitigation Plan, Permits or invoices.

**Site Information** - Provide the site name and complete address. Include the street number and name, city, zip code, and nearest cross street. Give more detailed directions for site(s) difficult to locate.

**Project Dates** - Provide the project Start and End Dates. Any changes will require a Revision notification.

**Tank Information** - For R1166 tank excavation specify the tank capacity, the VOC material stored in the tank, and if the tank is above ground (a/g) or underground (u/g).

**Information Certification** - The notification must be signed and dated by the contractor doing the work or authorized representative to confirm that the information provided is complete and accurate.

**SOIL/TANK EXCAVATION NOTIFICATION** Rule 1166(c)(1)(B) **Notify 24 hours prior of intent to Excavate** known or suspected VOC storage and/or transfer equipment (includes diesel and waste oil tanks); or **handling** known or suspected VOC contaminated soil. **NOTE:** Soil excavation > 5,000 cubic yards may require a R403 Fugitive Dust Plan.

**DETECTING/FINDING VOC SOIL NOTIFICATION** - Rule 1166(c)(1)(D)(ii) **Notify of finding VOC contaminated soil**

- within 1 hour of detecting VOC greater than 1000 ppm\*
- within 24 hours of detecting VOC greater than 50 ppm
- within 1 hour of an excavation due to a breakdown requiring a Rule 430 notification to SCAQMD

**EMERGENCY NOTIFICATION** Rule 1166(c)(1)(B) **Notify prior to start work of any incident declared an emergency** by an authorized agency requiring immediate tank removal/repairs or excavating/handling known or suspected VOC soil:

- Call 1-800-CUT-SMOG prior to excavating or fax the emergency notification to 909-396-3342 and
- Mail the notification within 48 hours after the excavation including the agency Order or Declaration.

**SOIL VAPOR EXTRACTION NOTIFICATION (SVE - Rule 203 \*)** **Notify upon the 5<sup>th</sup> day after operating at a new site:** Notifying of **start-up or testing** of operation of portable Soil Vapor Extraction equipment lasting 5 days or more. Provide the distance in feet to the nearest sensitive receptor *if* the site is located less than ¼ mile from any Long-Term Health Care Facility, Rehabilitation Center, Convalescent Center, Retirement Home, Residence, School, Playground, Child Care Center or Athletic Facility (\* See your SVE permit condition requirements).

**MITIGATION/TREATING VOC SOIL NOTIFICATION (Rule 203 \*)** **Notify per Permit condition requirements when:** Notifying of on-site *mitigation or treating* of VOC contaminated soil (\* See your Permit condition requirements).