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Alameda County  
Environmental Health

**Quarterly Summary Report - Second Quarter 2010  
Former 76 Service Station No. 7124  
10151 International Boulevard  
Oakland, California**

**Stantec Project No.:  
211302511**

**Submitted to:  
Ms. Barbara Jakub  
Alameda County Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Oakland, California 94502**

*(Sent Via Electronic Upload to Alameda ftp)*

**Submitted by:  
Stantec Consulting Corporation  
290 Conejo Ridge Avenue  
Thousand Oaks, CA 91361  
805-230-1266**

**Prepared on behalf of:  
ConocoPhillips Company  
Mr. Terry Grayson  
Site Manager  
76 Broadway  
Sacramento, California 95818**

**June 16, 2010**

## **Quarterly Summary Report – Second Quarter 2010**

June 16, 2010

### **INTRODUCTION**

On behalf of ConocoPhillips, Stantec Consulting Corporation (Stantec), has prepared this quarterly summary report for the former 76 Service Station No. 7124, located at 10151 International Boulevard, in Oakland, California. Currently the site is monitored and sampled semi-annually during the first and third quarter of each year. Accordingly, the site was not monitored and sampled during the second quarter of 2010.

### **SITE DESCRIPTION**

The site is located on the northwest corner of the intersection of International Boulevard and 102nd Avenue in Oakland, California (Figure 1). Since the semi-annual monitoring and sampling event performed on July 16, 2009, TRC staff have observed the site (currently a Royal Gasoline-branded station) to be closed and fenced off. Site facilities include three underground storage tanks (USTs) and associated piping and fuel dispensers. A detailed site plan is included as Figure 2.

### **SITE GEOLOGY AND HYDROGEOLOGY**

As shown in the United States Geological Survey *Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California*, prepared in 2000, the site is underlain by Holocene-aged alluvial fan and fluvial deposits. Based on assessment activities performed by Stantec in September 2008, the subsurface generally consists of silty sands to depths of 5 to 7 feet below ground surface (bgs), underlain by a clay layer generally to depths of 12 to 15 feet bgs. Below this clay layer, interbedded silt and clay with occasional sand lenses with thicknesses of up to three feet have been logged.

As outlined in the California Department of Water Resources 2003 *California Groundwater: Bulletin 118*, the site lies within the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin. The East Bay Plain Subbasin is a northwest trending alluvial plain of Quaternary Age, bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Complex rocks, and on the south by the Niles Cone Groundwater Basin. The East Bay Plain Subbasin extends beneath San Francisco Bay to the west.

### **PREVIOUS ASSESSMENT**

On March 22, 2000, SECOR International Incorporated (SECOR [now Stantec]) supervised the removal and replacement of product lines and dispensers by Balch Petroleum of Milpitas, California. Soil samples collected from beneath the dispensers and product lines revealed the presence of total petroleum hydrocarbons as gasoline (TPHg) at a maximum concentration of 6,200 milligrams per kilogram (mg/kg), methyl tertiary butyl ether (MTBE) up to 120 mg/kg, and benzene up to 7.4 mg/kg. Excavation and sampling activities were observed and approved by Inspector Gomez of the City of Oakland Fire Services Agency.

On March 27, 2000, SECOR observed the over-excavation of approximately 60 cubic yards of soil from the beneath those portions of the dispensers and product lines where soil samples with elevated concentrations of petroleum hydrocarbons were located. Areas measuring approximately 8 to 10 feet long by 8 to 10 feet wide were over-excavated to an approximate

depth of 8 feet bgs in each of these areas. Additional over-excavation in these areas was not possible due to their proximity to the footings of the service station canopy. TPHg was detected in two of the three samples at a concentration of 108 mg/kg; benzene was detected in one of the three samples at 0.162 mg/kg; and MTBE was detected in all three samples at maximum concentrations of up to 43.8 mg/kg. Lead was not detected at or above laboratory reporting limits in any samples.

During February 2002, SECOR supervised the installation of four on-site groundwater monitoring wells (MW-1 through MW-4). Prior to well installation, all borings were advanced to 26.5 feet bgs, and subsurface soil samples were collected every five feet. Soil samples were analyzed for gasoline range organics (GRO), benzene, toluene, ethylbenzene, total xylenes (BTEX), and fuel oxygenates via EPA Method 8260B. The maximum reported concentrations were 42 mg/kg GRO, 0.36 mg/kg ethylbenzene, 0.26 mg/kg xylenes, and 1.2 mg/kg MTBE.

In September 2008, Stantec oversaw the advancement of two on-site and five off-site direct push soil borings. Soil and grab groundwater samples were collected and analyzed for total purgeable petroleum hydrocarbons (TPPH [aka gasoline]), BTEX, and fuel oxygenates tert-butyl alcohol (TBA), MTBE, di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), and ethanol, as well as, ethylene di-bromide (EDB) and 1,2-dichloroethane (1,2-DCA) via EPA Method 8260B. Maximum concentrations of TPPH and MTBE in groundwater were observed in off-site boring SB-4 (north of monitoring well MW-3), at concentrations of 45,000 micrograms per liter ( $\mu\text{g/L}$ ), and 62  $\mu\text{g/L}$ , respectively.

## **SENSITIVE RECEPTORS**

During the third quarter of 2004, SECOR completed a ½-mile radius agency receptor survey and obtained an Environmental Data Resources Incorporated (EDR) radius map for the site. The agency survey identified two industrial supply wells, three cathodic protection wells, and two wells of unknown type within the search radius. The survey also identified twelve wells of unknown type that could not be precisely located because the records on file with DWR did not include this information. These wells may or may not be located within the search radius. The EDR radius map did not identify any water supply wells within the search radius, but did identify two water supply wells within one mile of the site.

During the third quarter of 2008, Stantec contacted the DWR to obtain copies of all well completion reports for wells located within 0.25-mile of the site. Stantec reviewed these well completion reports and determined that monitoring and vapor extraction wells associated with two sites are located within 0.25-mile of the site. One monitoring well is located approximately 650 feet south-southeast of the site (cross-gradient), while six monitoring wells and two vapor extraction wells are located approximately 1,150 feet north-northwest of the site (cross-gradient). No domestic or industrial supply wells or irrigation wells were located within 0.25-mile of the site.

Stantec also performed a utility survey at the site. The survey was conducted by having Underground Services Alert (USA) mark the site for utilities. Stantec staff subsequently hired a private utility locator to confirm utility locations and attempt to locate any potential utilities not marked by USA. Based on depth to groundwater (generally 15 to 20 feet bgs) and observed

dissolved-phase hydrocarbon distribution, Stantec felt the utility trenches do not represent likely preferential pathways, and accordingly, did not determine the actual depths of the utility trenches.

### **MONITORING AND SAMPLING**

The site has been monitored and sampled since the third quarter 2002. Currently, four wells (MW-1 through MW-4) are monitored and sampled semi-annually during the first and third quarter of each year. Samples are analyzed for TPPH, BTEX, fuel oxygenates TBA, MTBE, DIPE, ETBE, TAME, and ethanol, and lead scavengers EDB and 1,2-DCA by EPA Method 8260B. The site was not monitored or sampled during the second quarter 2010; a discussion pertaining to the previous quarter's monitoring and sampling event is presented below.

During the first quarter 2010, depth to groundwater ranged between 16.35 and 18.28 feet below top of casing (toc). Historical groundwater depths have previously been reported between 15.11 and 19.25 feet below toc. The direction of groundwater flow was toward the northwest at a gradient of 0.01 foot/foot, with the historically dominant groundwater flow direction being towards the west.

During the first quarter 2010, the maximum concentrations of TPPH and MTBE were reported in well MW-3 at 2,200 µg/L, and 1,300 µg/L, respectively. TPPH and MTBE concentrations across the site were generally consistent with those observed over the past several quarters (other than MTBE in well MW-3, which was observed to increase by greater than one order-of-magnitude since the previous event), and over time, have shown a declining trend.

### **CHARACTERIZATION STATUS**

The highest concentrations of residual TPHg and/or MTBE contamination are localized in the northeastern area of the site in the vicinity of MW-3. The down-gradient/cross-gradient extent of the dissolved plume remains undefined by the existing monitoring well network. The variable TBA levels in MW-4 may indicate active biodegradation of MTBE is occurring beneath portions of the site. Additional down-gradient delineation is warranted.

### **REMEDIATION STATUS**

Currently, there is no active remediation being performed at the site.

### **CURRENT ASSESSMENT ACTIVITIES**

No assessment activities were performed during the second quarter 2010.

### **RECENT SUBMITTALS/CORRESPONDENCE**

Submitted – *Quarterly Summary and Monitoring Report – First Quarter 2010*, dated April 12, 2010.

## WASTE DISPOSAL SUMMARY

No waste was generated during the second quarter 2010.

## CONCLUSIONS

Since initiation of groundwater monitoring and sampling, observed hydrocarbon concentrations have decreased significantly. Stantec prepared and submitted a *Work Plan for Additional Assessment and Remediation Pilot Testing*, dated July 20, 2009. **Stantec is currently awaiting a response from the Alameda County Environmental Health Services, regarding the proposed scope of work. If a response is not received within 60 days of this report, Stantec will proceed with the proposed scope of work**

## THIS QUARTER ACTIVITIES (Second Quarter 2010)

1. Stantec prepared and submitted a quarterly summary report.

## NEXT QUARTER ACTIVITIES (Third Quarter 2010)

1. Stantec to prepare and submit a quarterly summary report.
2. TRC to perform semi-annual groundwater monitoring and sampling event.
3. Stantec to initiate additional site assessment and remediation feasibility testing, **pending regulatory approval.**

## LIMITATIONS

This report presents our understanding of existing conditions at the subject site located at 10151 International Boulevard, Oakland, California. Evaluations of the geologic conditions at the site for the purposes of this investigation are inherently limited due to the number of observation points. There are no representations, warranties, or guarantees that the points selected for sampling are representative of the entire site. Data from this report reflects the conditions at specific locations at a specific point in time. Stantec assumes no responsibility for work reported or performed by other consultants or contractors. No other interpretation, representations, warranties, guarantees, express or implied, are included or intended in the report findings.

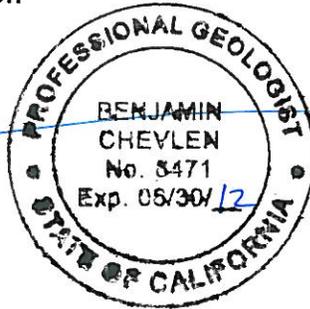
If you have any questions regarding the contents of this report, please contact Benjamin Chevlen at (805) 230-1266 extension 293.

Sincerely,

**Stantec Consulting Corporation**



Benjamin Chevlen, P.G.  
Senior Geologist

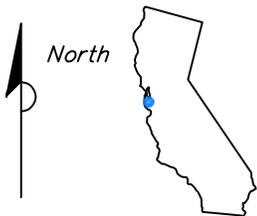
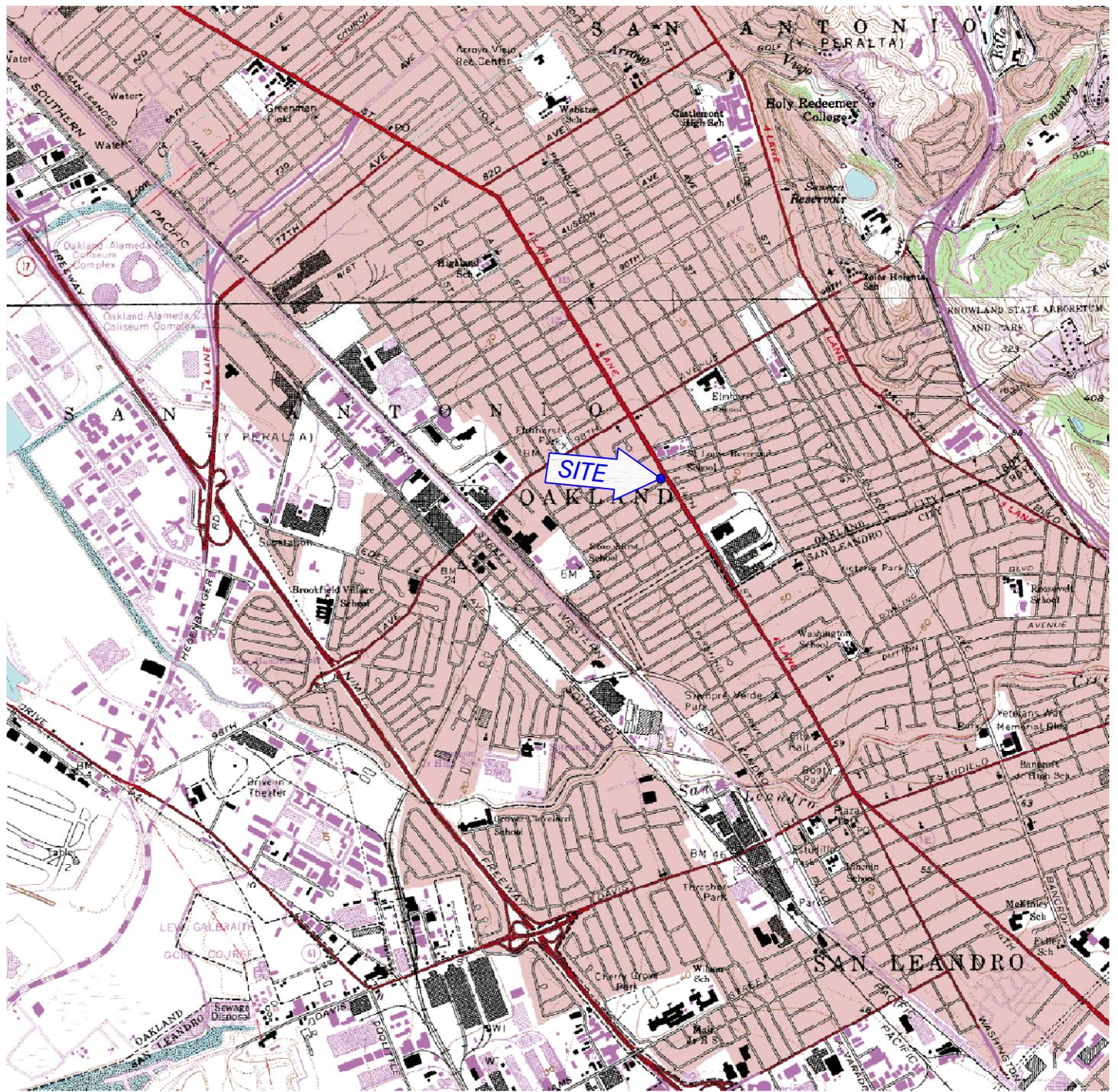


## Attachments:

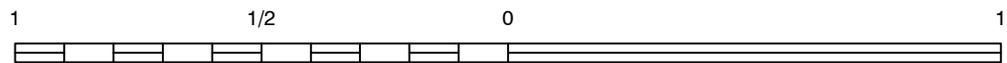
- Figure 1 – Site Location
- Figure 2 – Site Plan

cc: Mr. Terry Grayson, ConocoPhillips (via electronic upload to Livelink only)

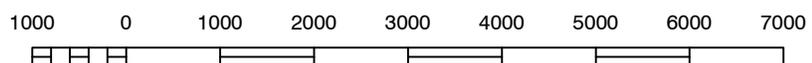
## **FIGURES**



CALIFORNIA



SCALE (MILES)



SCALE (FEET)

REFERENCE: USGS 7.5 MINUTE QUADRANGLE, OAKLAND, CALIFORNIA



**Startec**

FOR:  
 FORMER 76  
 STATION NO. 7124  
 10151 INTERNATIONAL BLVD.  
 OAKLAND, CALIFORNIA

**SITE LOCATION**

FIGURE:

**1**

JOB NUMBER:  
77CP.01634.41

DRAWN BY:  
STA/DWR

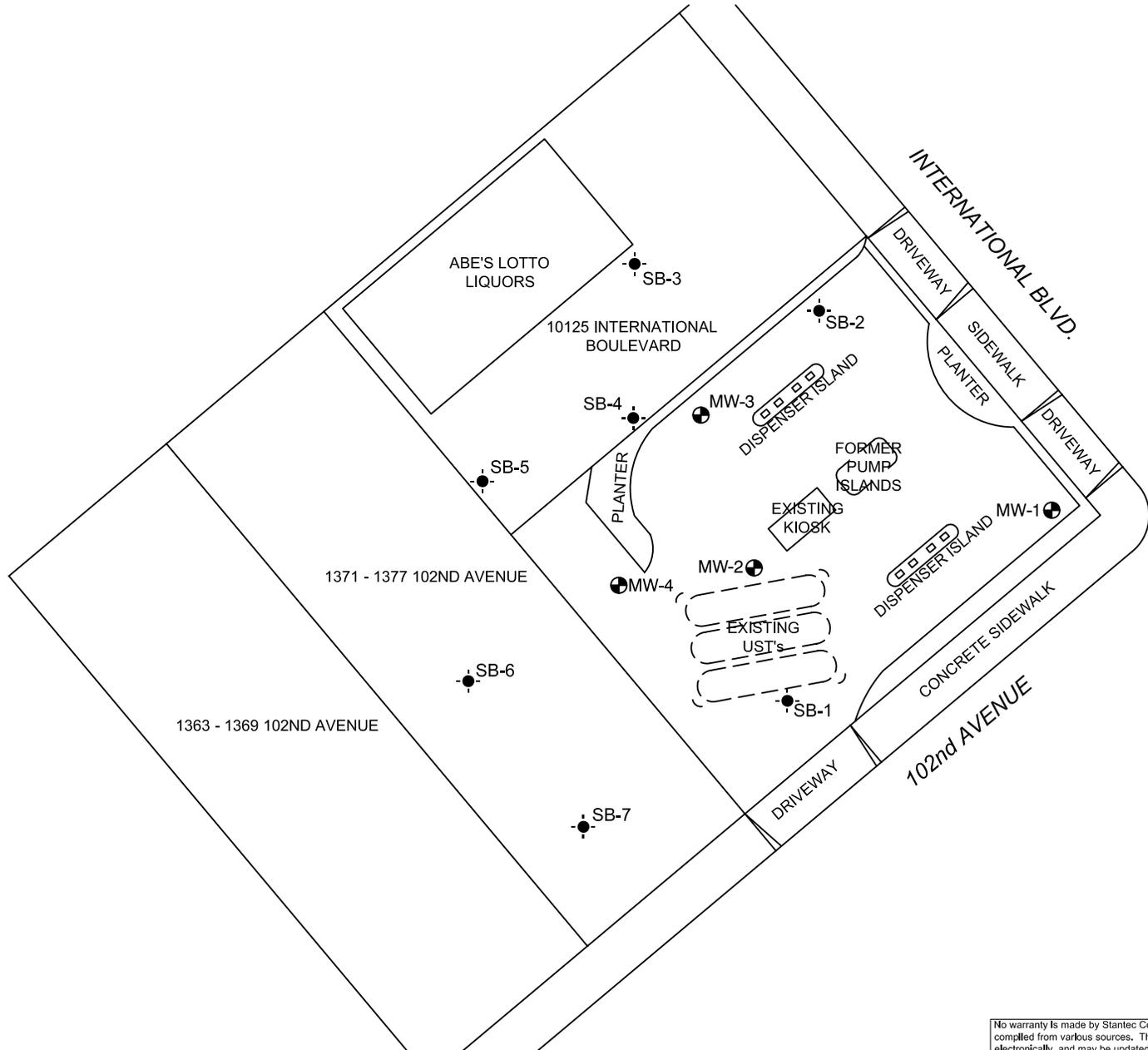
CHECKED BY:  
BC

APPROVED BY:  
TP

DATE:  
05/19/08

**LEGEND:**

- MW-1  GROUNDWATER MONITORING WELL LOCATIONS
- SB-1  SOIL BORING LOCATIONS



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	FORMER 76 STATION NO. 7124 10151 INTERNATIONAL BLVD. OAKLAND, CALIFORNIA		<b>SITE PLAN</b>		FIGURE: <b>2</b>
	JOB NUMBER: 77CP.01634.41	DRAWN BY: DWR/MDR	CHECKED BY: BC	APPROVED BY: RB	DATE: 7/3/08