



THE SALVATION ARMY

Adult Rehabilitation Centers Command
180 East Ocean Boulevard, 3rd Floor
Long Beach, CA 90802-4709

WILLIAM BOOTH
Founder

LINDA BOND
General

JAMES KNAGGS
Territorial Commander

MAN-HEE CHANG
ARC Commander

RECEIVED

By Alameda County Environmental Health at 2:01 pm, Jan 03, 2013

December 23, 2012

Re: Revised Subsurface Investigation Workplan
The Salvation Army Adult Rehabilitation Center
601 Webster Street
Oakland, CA 94607

"I declare under penalty of perjury that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge."

Submitted by,

James Boyd, Captain
ARC Command Secretary of Program

JB:kp

December 21, 2012

Mr. Keith Nowell, PG, CHG
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services, Environmental Protection
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Alameda, CA 94502

Cardno ATC

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Subject: Revised Subsurface Investigation Workplan, The Salvation Army, 601 Webster Street, Oakland, California Fuel Leak Case No. RO0003084, Geotracker Global ID T10000003428

Dear Mr. Nowell,

Cardno ATC, formerly ATC Associates Inc., has prepared this workplan, on behalf of The Salvation Army to conduct a subsurface investigation evaluating the presence of petroleum hydrocarbon impacted soil and/or groundwater beneath the site. The detection of residual petroleum hydrocarbons in soil samples collected during the underground storage tank (UST) removal activities on November 22 and 23, 2010 prompted this proposed investigation.

This revised workplan supercedes ATC Associates Inc.'s workplan dated June 21, 2012.

SITE LOCATION

The site is located at 601 Webster Street in Oakland, California, as shown on Figure 1. The site is developed as warehouse and distribution center for The Salvation Army (TSA). The principal land use in the vicinity of the site consists of commercial properties including restaurants, a hotel, and several gas stations.

BACKGROUND

According to TSA, the USTs at the site were used to fuel their fleet of commercial trucks. In early 2010, TSA made the decision to discontinue on-site fueling operations and remove the USTs and dispenser equipment from the site. In November 2010, a project to excavate and remove of the 12,000-gallon diesel UST and the 8,000-gallon gasoline UST and the former fuel dispensers was planned and executed by Terry Hamilton, a California licensed (Ca. License 339108) general engineering contractor.

The UST removal activities began on November 22, 2010, and were completed on November 23, 2010. The two USTs were triple rinsed and rendered inert with dry ice, tested and certified non-hazardous by a Certified Marine Chemist, loaded onto a flatbed truck and transported to Stanislaus County on November 23, 2010 for use as non-potable water tanks in a fire-

suppression system. The USTs appeared to be in good condition, with no visible holes or signs of leakage. Laboratory analysis of soil samples collected from the UST pit indicated that petroleum hydrocarbons related to gasoline were present, however diesel was not detected.

In early 2011, TSA retained Cardno ATC to assist follow up with any obligations that may have resulted from the gasoline detected in the soil samples collected.

After initial contact with Oakland City Fire Department (OFD), Cardno ATC developed a limited-scope workplan dated March 18, 2011 for the purpose of deriving information about the magnitude of the release to assist OFD in determining if the case could be closed or if the case should be forwarded to the Alameda County, Health Care Services Agency Environmental Health Services, Environmental Protection (ACEH) as a Local Oversight Program (LOP) case. ACEH was a copied recipient of this workplan.

In May and November 2012 ACEH requested changes to the March 18, 2011 OFD workplan. This revised workplan reflects these changes.

PROJECT GOALS

The immediate goals of the project are as follows:

1. Investigate the history of the USTs removed in 2010.
2. Evaluate the lateral and vertical presence of the absorbed phase hydrocarbons at the site. This initial investigation may or may not fully define the extent of absorbed phase hydrocarbons at the site.
3. Determine if the established petroleum hydrocarbon release at the site has impacted groundwater.
4. Use the derived information gained from the proposed investigation to clarify the site conceptual model (SCM) which will be key in determining if the site can be closed or if additional investigation and remediation is warranted.

SCOPE OF WORK

Cardno ATC will attempt to define the vertical and lateral extent of the absorbed phase hydrocarbons present in the area of the former tank pit and determine if groundwater has been impacted. The scope of work includes advancing multiple direct-push soil borings to collect soil and water samples, subjecting the collected samples to laboratory analysis to determine the presence of petroleum hydrocarbons, comparing analytical results to established Environmental Screening Levels (ESLs) to determine if any detected hydrocarbons threaten human health, the environment, or future projected groundwater usages, and preparing a summary report detailing site activities.

Planning, Permitting & Scheduling

Cardno ATC will obtain the necessary drilling permits from Alameda County Public Works Agency-Water Resources for the advancement of up to eight soil borings. Cardno ATC will schedule field personnel and equipment, and perform other necessary field preparation and job start-up activities. Cardno ATC will notify ACEH 48 hours in advance of drilling.

UST File Review & Utility Clearance

Cardno ATC will review the UST compliance records at the City of Oakland Fire Department to attempt to obtain the regulatory history of the USTs removed in 2010 and a possible explanation for the established petroleum hydrocarbon release.

Cardno ATC will seek to locate potential underground utilities at the site by notifying Underground Services Alert (USA) as required by law and also employ a private utility locating service to locate both public and private underground utilities that may be present in the proposed work areas.

Advancement of Soil Borings

To evaluate the horizontal extent of impacted soil and groundwater at the site, up to eight Geoprobe soil borings will be advanced to first encountered groundwater, estimated at approximately 16 to 25 feet bgs. Proposed boring locations are shown on Figure 2.

Research conducted by Cardno ATC into the local groundwater flow regime based on other UST investigation sites in the immediate vicinity is inconclusive. Consequently, field observations in the three initial borings and any limiting conditions on-site will be evaluated to determine the location of the subsequent borings. These borings will be advanced along a transect line parallel to Franklin Street, at a distance from Franklin Street determined by the observed conditions in the initial borings.

The soil borings will be advanced using truck mounted Geoprobe® narrow diameter, direct push technology. Drilling will be conducted by a State-licensed (C57) drilling company. A field geologist will be present to log all soil samples. Soil collected will be field screened with a Photo-Ionization Detection (PID) meter. Descriptions of soil types encountered and sample collection intervals will be recorded on boring logs. Soil samples will be collected continuously and prepared for laboratory analysis based on 1.) significant changes in lithology, 2.) signs of contamination (odor, discoloration, PID responses, etc.), and 3.) at the soil/groundwater interface. No fewer than two soil samples from each of the borings will be submitted for laboratory analysis. The field geologist will record all this information, including PID readings, on field boring logs.

All groundwater samples will be collected from each boring at the depth groundwater is first encountered, which is anticipated to be approximately 16 to 25 feet below ground surface (bgs). Groundwater samples will be collected utilizing a Geoprobe® Screen Point 15 Groundwater Sampler threaded onto the leading end of the Geoprobe® direct pushrod train. While the sampler is advanced, O-ring seals and an expendable drive point will provide a watertight system to ensure sample integrity. When the sampler has been advanced to the desired depth, extension rods will be sent down hole to brace the bottom of the sample screen as the tool casing is retracted. When the casing is retracted, up to 41-inches of screen with slot sizes of 0.004 inches will be exposed. Teflon® tubing with a check valve attached to one end will be inserted down the casing until it is immersed in groundwater. Water will then be pumped through the tubing and to the ground surface for collection using a peristaltic pump.

The soil and groundwater samples from the soil borings will be immediately placed in a cooler with ice and delivered under chain-of-custody documentation to a State-certified analytical laboratory.

Following soil and groundwater sample collection, the borings will be backfilled with neat cement grout to the ground surface. Drill cuttings, if generated, will be stored on-site in a 5-gallon container pending laboratory results.

Chemical Analyses

Soil and groundwater samples will be analyzed for total petroleum hydrocarbons as gasoline (TPHg) by method 8015M; benzene, toluene, ethyl benzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE), tertiary amyl methyl ether (TAME), 1,2-dibromoethane (EDB), 1,2-dichloroethane (1,2-DCA), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), and tertiary butyl alcohol (TBA) by EPA method 8260B.

Since diesel was not detected in the soil samples collected during the removal of the former USTs that contained diesel, it is the opinion of Cardno ATC that the release was composed entirely of gasoline. Cardno ATC does recommend that all water samples collected be sampled for total petroleum hydrocarbons as diesel (TPHd) by method 8015M to confirm the absence of diesel.

Report Preparation

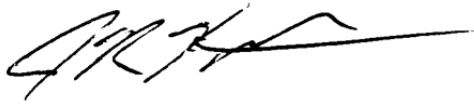
Upon receipt of the analytical data from collected soil and groundwater samples, Cardno ATC begin a risk analysis that will include a comparison of soil and groundwater data to established Environmental Screening Levels (ESLs) as provided by the California Regional Water Quality Control Board (RWQCB) San Francisco Bay Region to determine if any detected hydrocarbons present threaten human health, the environmental, or future projected groundwater usages. Cardno ATC will then prepare a report for submission to ACEH that describes field activities, includes the boring/well logs, the laboratory derived analytical data presented in tabular form, isoconcentration maps that depict the estimated horizontal extent of petroleum impacted soil and groundwater, and a description of the risk analysis process and conclusions. This report will also include recommendations for further courses of action, if warranted.

Projected Schedule

Once approval of this workplan has been received from ACEH, ATC will confirm a schedule for drilling activities. ATC will notify ACEH at least 48 hours prior to beginning any field activities. The summary report will be submitted to ACEH approximately 60 days following ACEH approval of this workplan.

If you have any questions or require additional information regarding this workplan, please contact us at (209) 579-2221.

Sincerely,



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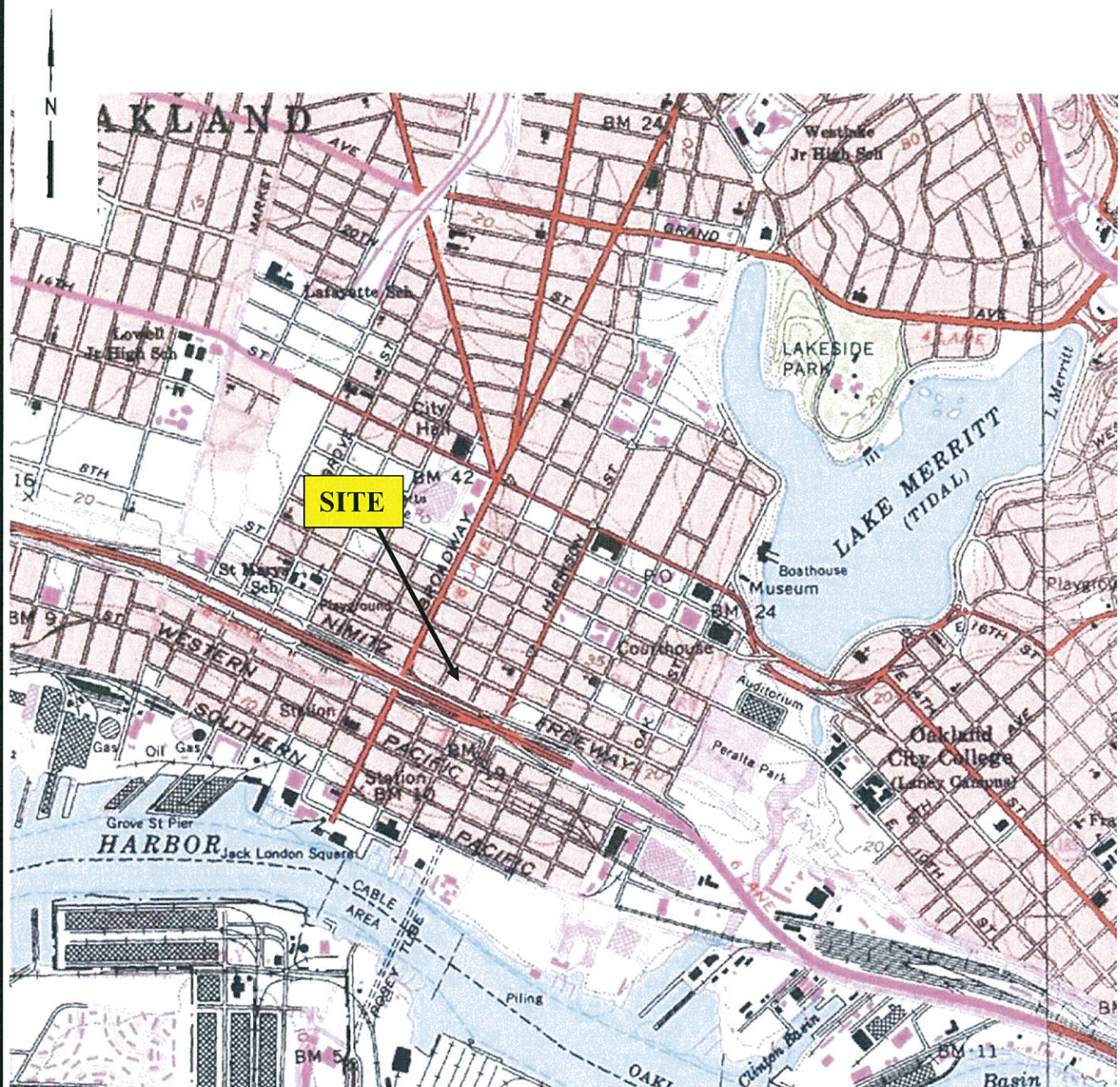


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enc: Figures

cc: Kaye Patterson, Property Project Manager, The Salvation Army, ARC Command



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP
OAKLAND WEST QUADRANGLE, CALIFORNIA, DATED 1959, PHOTO-UPDATED 1980.



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PROJECT NO: 54.25026.0001

DESIGNED BY: JK

SCALE: 1:24,000

REVIEWED BY: JH

DRAWN BY: JK

DATE: 03/11

FILE: LOCATION

FIGURE 1
SITE LOCATION MAP

THE SALVATION ARMY
601 WEBSTER STREET
OAKLAND, CALIFORNIA

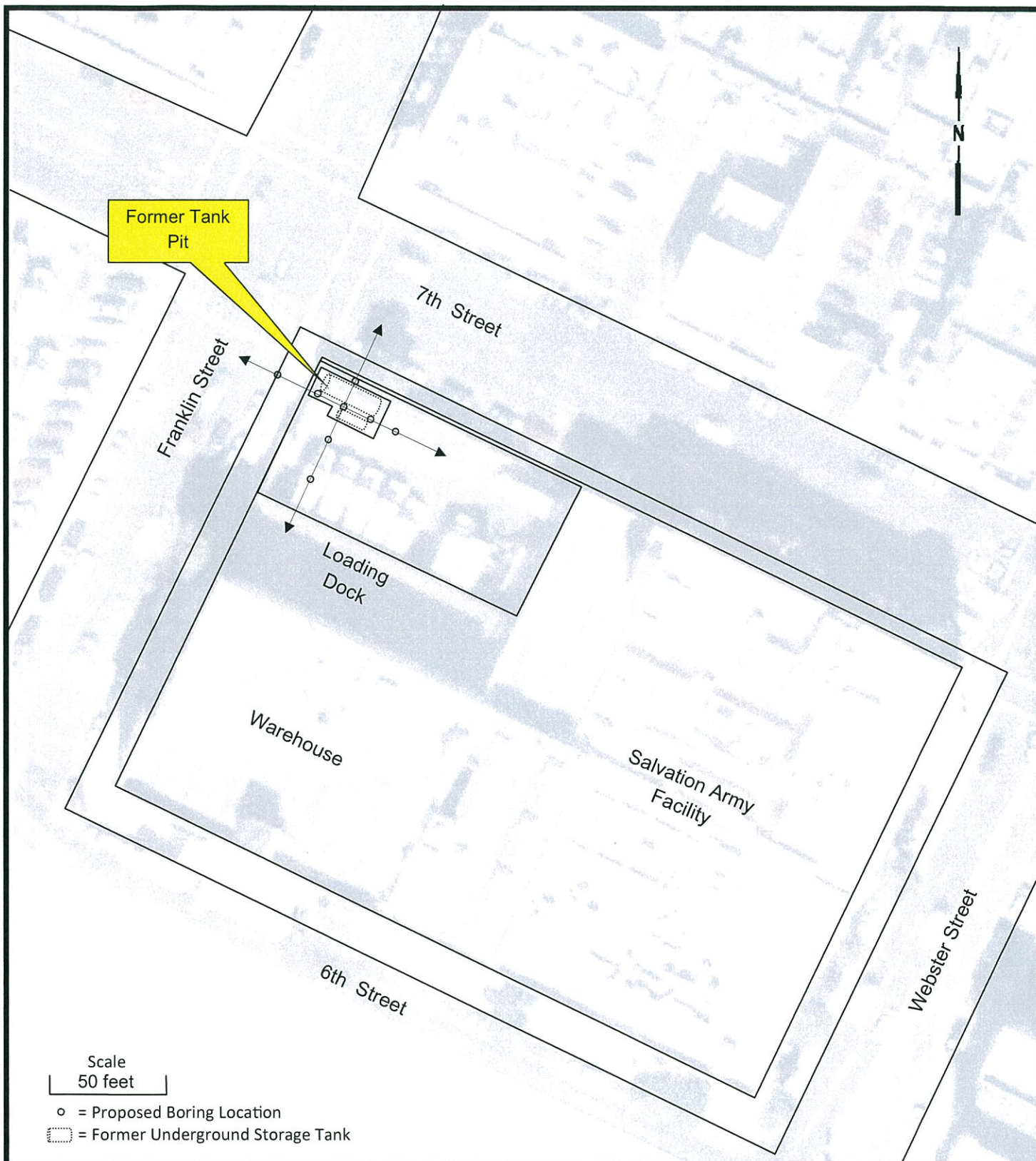


Figure 2
SITE MAP WITH PROPOSED BORING LOCATIONS

The Salvation Army
601 Webster Street
Oakland , California



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PROJECT NO: 54.25026.00001

DESIGNED BY: MS

DRAWN BY: MS

REVIEWED BY: JH

DATE: 12/2012