

Jurek, Anne, Env. Health

From: Mark Drollinger <mdrollinger@CitadelEnvironmental.com>
Sent: Friday, May 13, 2016 2:16 PM
To: Roe, Dilan, Env. Health; Jurek, Anne, Env. Health
Cc: Michael Boettger (mboettger@themichaelsorg.com)
Subject: FW: Michaels Development Work Plan
Attachments: 0849.1001.0_Phase_II_Subsurface_Investigation_Work_Plan-DRAFT_MD.pdf

Anne,

I hope you are doing well. Here is the draft work plan for the former red star development in Oakland. Please let us know at your earliest convenience if we can begin, or when we can schedule have a kick off meeting. Thanks again.

Mark

Mark Drollinger, M.Eng, CSP, CHMM, EiT

Director, Environmental Geology & Engineering



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assess
resolve
strengthen

CITADEL ENVIRONMENTAL SERVICES, INC.

May 13, 2016

Mr. Michael L. Boettger
Vice President
MICHAELS DEVELOPMENT
2020 W. Kettleman Lane
P. O. Box 1570,
Lodi, California 95241

Re: CITADEL Project No. 0849.1001.0
Phase II Subsurface Investigation Work Plan - Draft
Former Red Star Senior Living Apartments Development
1396 Fifth Street
Oakland, California 94607
SLIC Case Number: R00002896

Dear Mr. Boettger:

Citadel Environmental Services, Inc. (Citadel) is pleased to submit this Draft Work Plan to perform a Phase II Subsurface Investigation at the above referenced location. The scope of Citadel's services is outlined on the following pages.

If you have any questions or require additional information, please telephone me at (818) 246-2707.

Sincerely,
CITADEL ENVIRONMENTAL SERVICES, INC.

Mark Drollinger, M. Eng., CSP, CHMM, EIT
Director, Environmental Geology and Engineering

Enclosures



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resolve
strengthen

CITADEL ENVIRONMENTAL SERVICES, INC.

Michaels Development
2020 W. Kettleman Lane
P. O. Box 1570
Lodi, California 95241

Phase II Subsurface Investigation Work Plan - Draft

May 13, 2016

Citadel Project Number 0849.1001.0

Former Red Star Senior Living Apartments Development
1396 Fifth Street
Oakland, California 94607

www.citadelenvironmental.com

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1.0 INTRODUCTION

Citadel Environmental Services, Inc. (Citadel) has prepared this Work Plan on behalf of Michaels Development (Client) to complete a Phase II Subsurface Investigation of the former Red Star Yeast property located at 1396 Fifth Street, Oakland, California, (Site). The Site is currently overseen by the Alameda County Department of Environmental Health (ACDEH) and has been assigned Spills, Leaks, Investigations and Cleanups (SLIC) Case ID RO0002896 and GeoTracker Global ID T06019794669.

ACDEH REPORT REVIEW

ACDEH reviewed Citadel's "Soil Excavation Report," dated August 21, 2012 and revised September 22, 2015¹. The Revised Excavation Report presented results from excavation of shallow soil containing elevated concentrations of metals, confirmation sampling, and soil disposal conducted between August and September 2011. In a correspondence dated April 18, 2013, ACDEH provided technical comments in response to the Soil Excavation Report. ACDEH's correspondence identified items that required additional information, clarification, or correction.

The 2015 Revised Excavation Report addressed several of ACDEH's previous comments. However, the report did not address several major items that ACDEH believes are necessary to evaluate the case for closure. Specifically, the ACDEH comments were related to the following items:

- 1. Fill Material:** Approximately 7,000 tons of imported segregate/sand mix was imported from Inner City Recycling (ICR); the quality control used for the imported fill appear to be unknown. ACDEH has requested that soil sampling be conducted for characterization of the fill material across the Site.
- 2. Underground Storage Tanks:** Three underground storage tanks (USTs) were encountered under the sidewalk along Fifth Street in 2011. Two of these USTs have been removed and one was abandoned in-place with approval of the Oakland Fire Department (OFD)². In order to assess current Site conditions in the areas around the USTs discovered at the Site, ACDEH has requested that groundwater samples be collected in the areas of each of the former USTs.
- 3. Lead in Native Soil:** Based on conversations with ACDEH, additional soil sampling for lead is requested to confirm the presence of lead above the regulatory limit in previously excavated and unexcavated areas.
- 4. Groundwater Sampling:** Citadel will collect a groundwater sample from the area near former groundwater monitoring well 5 (MW-5), and from a second location in the east portion of the Site, to assess groundwater conditions upgradient of the former USTs.

Citadel has prepared this Work Plan to address the outstanding items that the ACDEH considers necessary to evaluate the case for closure.

¹ Citadel Environmental Services, Inc., Soil Excavation Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California 94607, LOC Case Number: RO0002896, Global ID: T06019794669, August 21, 2012, Revised September 22, 2015.

² Citadel Environmental Services, Inc., Underground Storage Tank Removal Closure Report, Red Star Senior Living Apartments Development, 1396 Fifth Street, Oakland, California 94607, August 23, 2012, Revised September 23, 2015.

2.0 SITE DESCRIPTION

The Site is identified in the County of Alameda with Assessor's Parcel Number 004-69-004. The Site totals approximately 0.88 acres and is an irregular shaped parcel of land situated along the north side of Fifth Street, between Mandela Parkway to the east, and Kirkham Street to the west. An elevated BART track is situated along the northern boundary of the Site. An extensive fire occurred at the Site in 2012 significantly damaging the Site structure and surrounding properties. The remaining structure from the fire consisted of a concrete podium which was removed in April 2016. The Site is currently a dirt covered vacant lot. A Site Location Map and Site Map are included as Figures 1 and 2, respectively.

3.0 GEOLOGY/HYDROGEOLOGY

The City of Oakland has identified three Oakland-specific soil types that can be used for determining site specific target levels. These soil categories are Merritt Sands, Sandy Silts and Clayey Silts. Merritt sands are primarily located in flatlands to the west of Lake Merritt and consist of fine-grained silty sand with lenses of sandy clay and clay. Merritt Sands typically feature low moisture content and high permeability. Sandy Silts are generally found throughout the East Bay and consist of unconsolidated, moderately sorted sand, silt, and clay. These are considered moderate permeability deposits. Clayey Silts are found primarily along the bay and estuary and typically contain organic material, peat, and thin lenses of sand. Clayey Silts are typically low permeability deposits.

During the excavation of soil and removal of the USTs at the Site, Citadel encountered groundwater at approximately four feet below grade. Groundwater in the local area reportedly flows to the southwest and is part of the East Bay Sub Basin of the Santa Clara Valley Basin (Number 2-9.04). Existing beneficial uses include municipal, agricultural, and industrial process supply; however, it is probable that the groundwater is not suitable for these uses due to high total dissolved solid (TDS) content, reported to be as high as 2,400 micrograms per liter ($\mu\text{g/L}$).

4.0 BACKGROUND

The Site had been developed and occupied by yeast manufacturing, vinegar production, and various brewery operations from at least 1880. Environmental concerns identified at the Site have included above ground and underground fuel tanks, the use of various chemicals with several documented releases, and an unauthorized release of mercury to the sewer system with apparent impacts to the subsurface soil. An extensive fire occurred at the Site in 2012 significantly damaging the Site structure and surrounding properties. The remaining structure from the fire consisted of a concrete podium which was removed in April 2016. The Site is currently a dirt covered vacant lot.

Monitoring Well 5:

Groundwater samples were collected from five temporary monitoring wells (MW-1 through MW-5) installed across the Site during a subsurface investigation by Citadel in 2010; none of the samples had detectable levels of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), or total petroleum hydrocarbons (TPH) in the gasoline range (TPHg), or diesel range (TPHd). TPH in the oil range (TPHo) were reported in the groundwater sample from MW-5 at a concentration of 2,400 $\mu\text{g/L}$, exceeding the San Francisco Regional Water Quality Control Board's

(SFRWQCB) Environmental Screening Level of 210 micrograms per liter $\mu\text{g}/\text{L}$ ³. Please refer to Figure 3 for a Site map showing the groundwater sampling locations and results.

Lead in Soil:

In mid-August 2011, Advent Companies (Advent), the general contractor for the project, contracted for the removal of contaminated soil. Upon removing the impacted soil, Citadel collected confirmation samples to evaluate residual metals contamination. Citadel's confirmation soil samples were collected using a grid consisting of 39 sampling nodes spaced about 25 feet apart across the excavation. In the final sampling intervals, the west side of the Site had been excavated to a depth of seven to 7 1/2 feet below grade and the east side had been excavated to approximately three feet below grade. The eastern margin of the Site was excavated to approximately four feet below grade. Results of the confirmation sampling indicated none of the final samples had detectable levels of cadmium or mercury. Low levels of oil-range hydrocarbons were detected in three samples, but did not exceed regulatory guidelines. Lead was detected in the majority of samples collected from native soil. All lead concentrations were below the Office of Environmental Health Hazard Assessment's (OEHHA) Soil Screening Level (SSL) of 80 milligrams per kilogram (mg/kg) for residential scenarios, except for soil sample S31-3 with a lead concentration of 93 mg/kg, collected at approximately three feet below grade from the east side. Please refer to Figure 4 for a Site map showing the confirmation soil sampling locations and results.

Fill Material:

Citadel collected samples of the soil that was to be imported; two samples identified as A and B, were analyzed for TPH and metals. TPHo was detected in samples A and B at concentrations of 39 to 55 mg/kg and rejected by Citadel. Inner City Recycling (ICR) was contracted to import fill material to the Site for backfilling the onsite excavation. Citadel was not provided with the source of the fill material. Advent did not share analytical data from the ICR report.

From 2011 to 2016, research was conducted by Salem Engineering Group, Inc. (Salem) in April 2016 in an attempt to identify the source and available analytical data for fill material imported to the Site during August and September 2011. The material was imported and placed over native soils to bring the Site up to grade and to provide a stable surface layer during deep foundation construction starting in September 2011. According to the memorandum prepared by Salem, daily field reports indicated that the source of the imported material was from ICR. However, correspondence with ICR indicated that Advent was on ICR's records as receiving materials from Advent for recycling rather than material purchased/delivered to Advent. Salem followed up and contacted ICR with a clarification that the likely client for the import material may be Sequoia Construction. No additional information was provided at this time. Due to the unknown chemistry of the import material, sampling of the in-place backfill will be performed as part of this Phase II Investigation to address this concern. A copy of Salem's memorandum of the source of the fill material is included in Appendix A.

USTs

On November 29, 2011, soils were excavated by Sequoia Construction and Development, Inc. (Sequoia), from above and along the sides of onsite USTs to expose their tops and walls in preparation for removal. The tops of the USTs were encountered at a depth of approximately 1.5 feet below ground surface (bgs). The volumes for the USTs were determined visually and were reportedly 250 gallons (UST No. 1), 2,500 gallons (UST No. 3) and 10,000 gallons (UST No. 4). UST No.

³ Citadel Environmental Services, Inc., Subsurface Investigation Report, Former Red Star Yeast Company, 1396 5th Street, Oakland, California 94607, SLIC Case Number: RO0002896, Global ID: T06019794669, March 18, 2010.

1 was buried at a depth of approximately four feet bgs; UST No. 2 was buried at a depth of 6 1/2 feet bgs; and UST No. 4 was buried at a depth of approximately 10 feet bgs. Suspected UST No. 2 was found to be a disconnected standpipe. No associated structure for this standpipe was located. Please refer to Figure 5 for a schematic showing the UST locations.

Oily water and minor amounts of sludge was removed from each of the USTs with the mixture pumped into a vacuum truck and the waste disposed of off-site. UST Nos. 1 and 3 were removed and transported off-site for recycling. The condition of both USTs were fair with no observable holes, significant corrosion, or scaling evident. UST No. 4 was not removed due to the discovery of live utilities crossing the top of the UST and that excavation of the UST would likely cause a power pole and pedestrian crossing pole to collapse. UST No. 4 was filled with a concrete slurry and sealed prior to being closed in-place. Citadel collected four soil samples following abandonment/removal of the USTs; one sample (TK-4) from native soil approximately two feet beneath the base of UST No. 1 (six feet total depth); one sample (SP) from a small soil stockpile from the excavation of soil around USTs No. 1, 2, and 3; and two samples (TK-2 West and TK-2 Middle) from beneath UST No. 3 (nine feet total depth). Analysis of soil samples indicated TPH at concentrations of 9, 37, and 31 mg/kg, in soil samples collected in the vicinity of UST No. 1, UST No. 2, and UST No. 3, respectively.

On January 3, 2012, three soil borings were advanced around UST No. 4 by Vironex Environmental Field Services (Vironex) under Citadel's supervision to evaluate the soil and potential groundwater around the UST. The analytical results indicated that the constituents detected in the soil samples were below regulatory levels. No significant findings were reported for TPH and VOCs in the groundwater samples collected.

5.0 PROPOSED WORK PLAN

This Phase II Subsurface Investigation addresses the concerns of the ACDEH regarding 1) the nature of the material used to backfill the excavation in 2011; 2) groundwater conditions in the vicinity of the three USTs at the Site; 3) characterization of lead in native soil; and 4) groundwater conditions in the area of MW-5 and upgradient of the former USTs. Citadel will provide the following services to meet the objectives of the Scope of Work:

5.1 Health and Safety Plan

Citadel prepared a site-specific health and safety plan (HASP) identifying existing and potential hazards for workers at the Site during drilling and sample collection activities. A copy of the HASP is included in Appendix B.

5.2 Permitting and Demarcation of Underground Utilities

Citadel will obtain boring permits from the Alameda County Public Works Agency (ACPWA), Water Resources Section prior to on-site drilling activities. Permits are required for all work pertaining to wells and boreholes at any depth.

Citadel will contact Underground Service Alert (USA) to mark underground utilities prior to advancing soil/groundwater borings at the Site. Citadel will also review any existing plans, including online and paper substructure maps available from the Client, showing utilities and other subsurface structures at the Site.

5.3 Groundwater Sampling

Citadel will collect groundwater grab samples in the vicinity of the former USTs. One groundwater grab sample will also be collected from the east portion of the Site; and one groundwater grab sample will be collected from the west portion of the Site along the north boundary, in the vicinity of former groundwater monitoring well MW-5. Groundwater in each boring will be collected using a dedicated disposable bailer. The bailer will be lowered into the water column until the bailer is submerged. Samples will be collected in one liter amber glass bottles and Teflon septum-sealed 40 milliliter glass vials with hydrochloric acid as a preservative.

A schematic of the proposed groundwater sampling locations is included in Figure 5.

5.4 Soil Sampling

Citadel will advance soil borings across the Site using a Geoprobe® type hydraulic push drilling rig. The borings will be advanced to a depth of seven feet bgs, and soil samples will be collected at one, three, five, and seven feet bgs. Three borings (B-1, B-2, B-5) will be located in the west portion of the Site where soil was previously excavated to seven feet bgs; three borings (B-3, B-4, B-6) will be located in the east portion of the Site where soil was previously excavated to three feet bgs; three borings (B-9 to B-11) will be located near the east boundary of the Site where soil was previously excavated to three feet bgs; and four borings (B-7, B-8, B-12, B-13) will be located along the east boundary of the Site where soil was not excavated. The soil borings will be logged in the field and screened with a photo ionization detector (PID) for the presence of VOCs. Soil samples will be collected in acetate sleeves sealed with Teflon tape and airtight plastic caps.

Citadel will collect continuous cores at two locations across the Site for geologic characterization of the fill and native material at the Site. A schematic of the proposed boring locations is included in Figure 5.

5.5 Laboratory Analysis

Soil Samples

The soil samples will be placed in an ice-packed cooler and delivered to a state-certified laboratory for analysis.

Soil samples from depths of one, three, and five feet bgs from locations B2 -and B-5, and soil samples from depths of one and three feet bgs from locations B-3 to B-6, in the backfilled portions of the Site will be analyzed for polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAH), and lead, in accordance with the New Jersey Department of Environmental Protection (NJDEP) Soil and Hazardous Waste Management Program's (SHWMP) Guidance for Characterization of Concrete and Clean Material Certification for Recycling. A copy of the NJDEP guidance document is included in Appendix C.

The soil sample collected within the native material from sampling location B-1 and the soil samples from depths of one, three, and five feet bgs from sampling locations B-7 to B-13 will be analyzed for lead by United States Environmental Protection Agency (USEPA) method 6010B. The

Groundwater Samples

The groundwater samples (GW-1 to GW-5) will be placed in an ice-packed cooler and delivered to a state-certified laboratory for analysis. Groundwater samples will be analyzed for TPH full range and VOCs by USEPA methods 8015 and 8260B, respectively.

5.6 Data Evaluation, Management, and Reporting

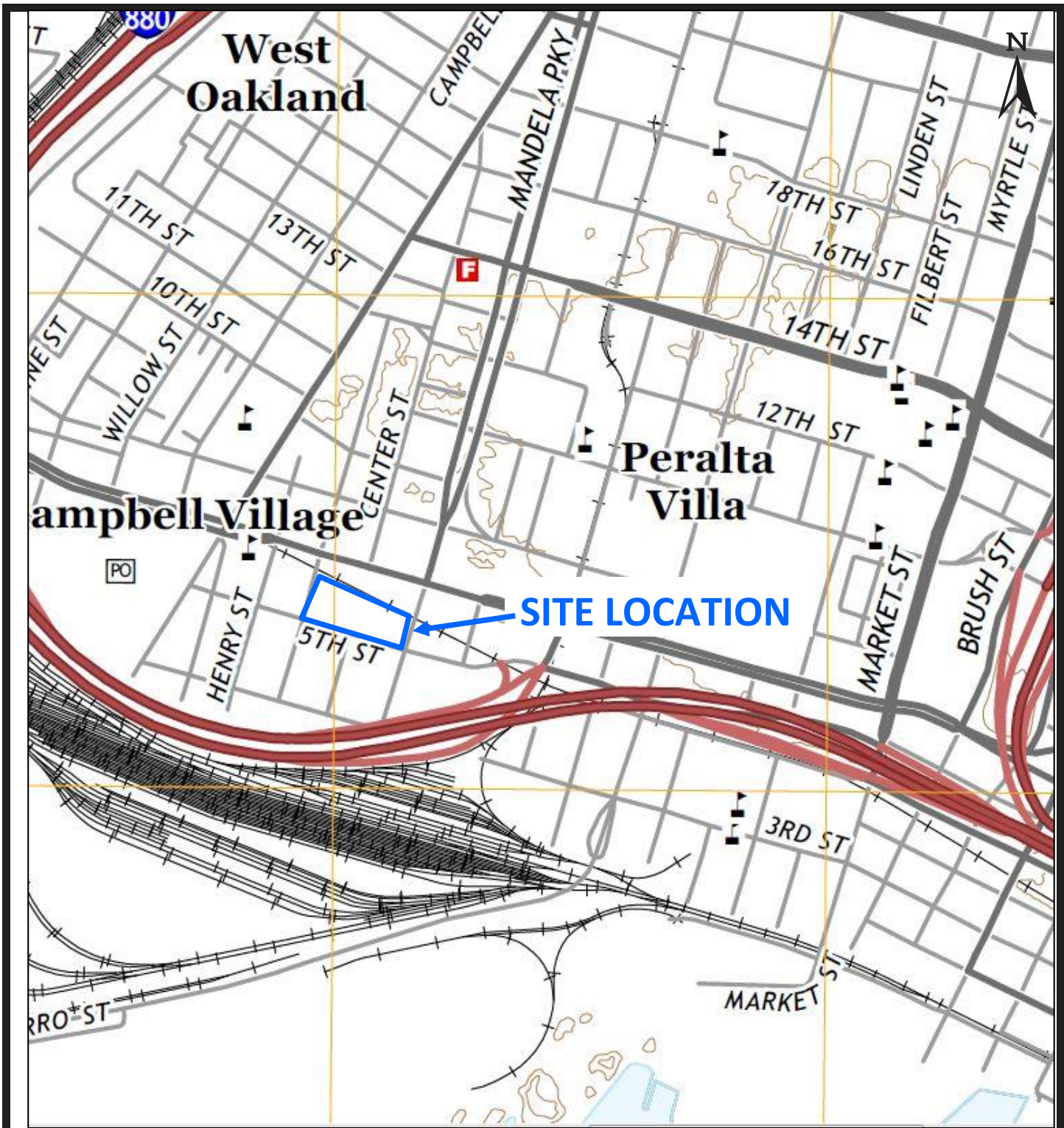
Upon completion of all on-site activities, a final report will be submitted documenting Citadel's methodologies, procedures, and laboratory analytical results. The report will provide a discussion of findings, conclusions and recommendations regarding the current environmental condition of the Site.



CITADEL
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Figure 1

Site Location Map



Source: USGS, Oakland West Quadrangle, 2015, 7.5 Minute Series

N

 Not to Scale



6633 Canoga Avenue,
 Los Angeles, California

Figure 1

PROJECT NO: 0821.1002.0
 DATE: FEBRUARY 2016

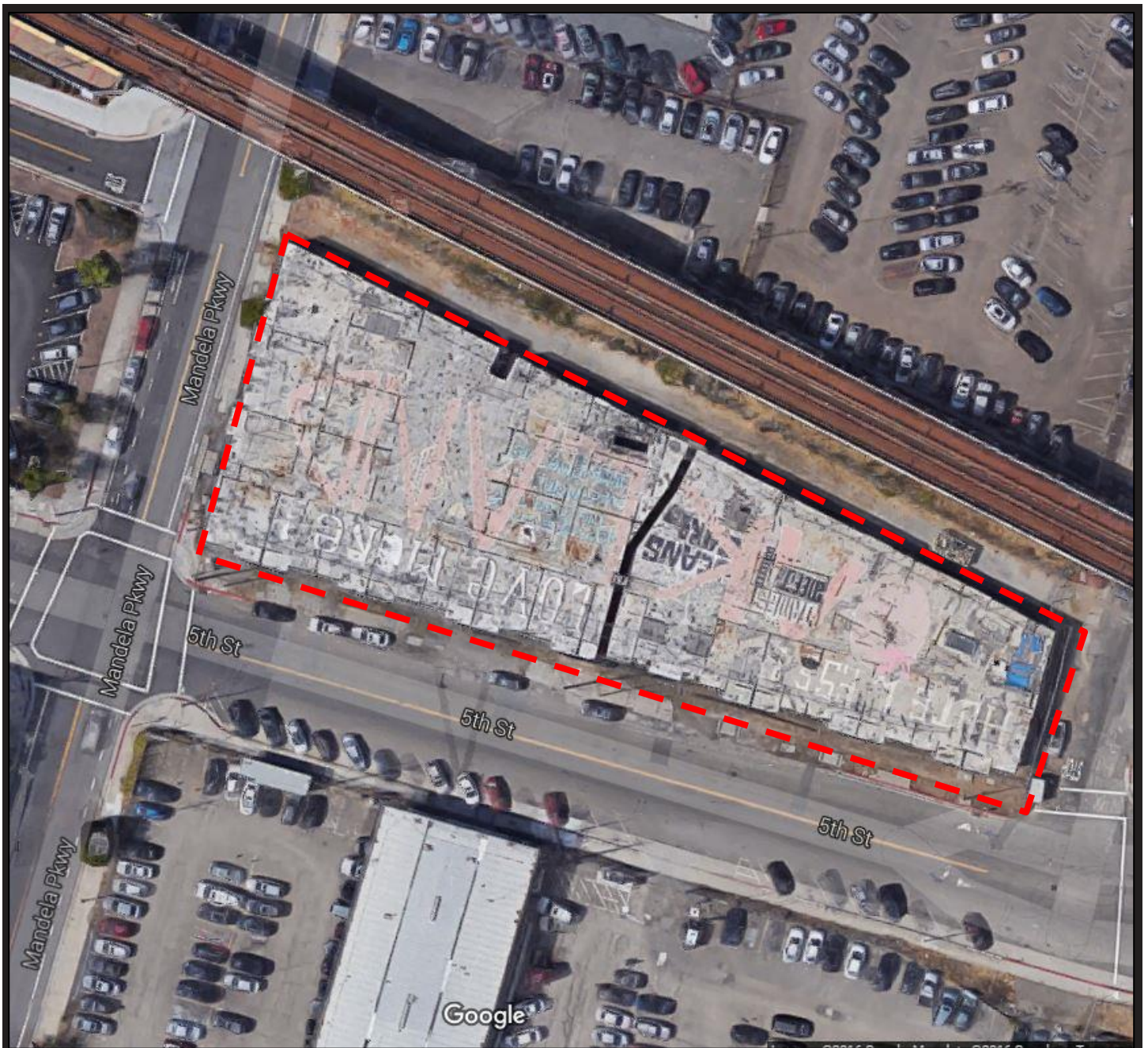
Site Location Map



CITADEL
ENVIRONMENTAL SERVICES, INC.

Figure 2

Site Map



- Approximate Site Boundaries

Source: Google Earth



Not to Scale



Former Red Star Yeast Company
1396 5th Street
Oakland, California

Figure 2

PROJECT NO: 0849.1001.0

DATE: MAY 2016

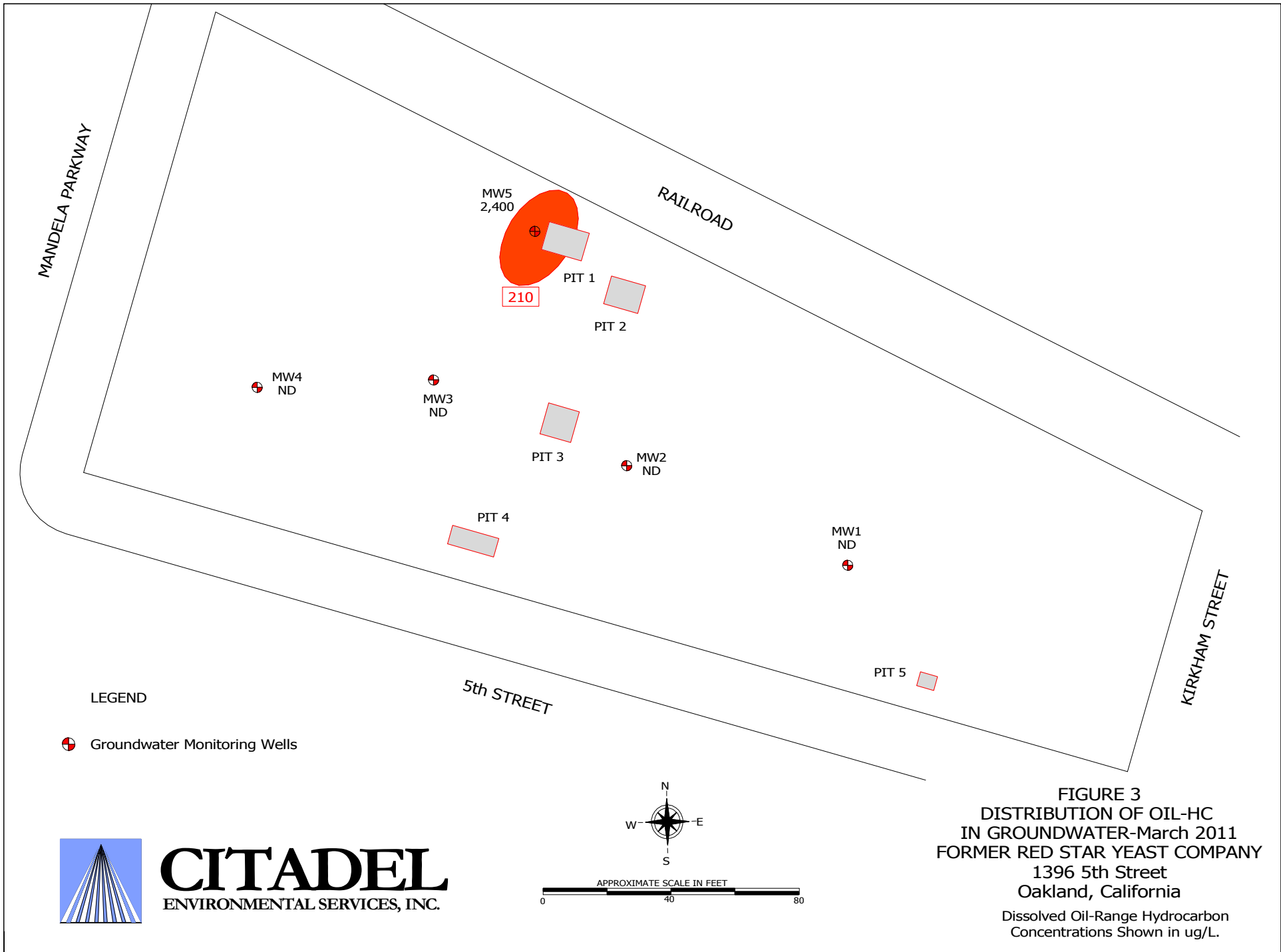
Site Map



CITADEL
ENVIRONMENTAL SERVICES, INC.

Figure 3

Groundwater Sampling Locations and Results – Citadel 2010



MANDELA PARKWAY

RAILROAD

MW5
2,400

210

PIT 1

PIT 2

MW4
ND

MW3
ND

PIT 3

MW2
ND

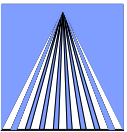
PIT 4

MW1
ND

PIT 5

5th STREET

KIRKHAM STREET



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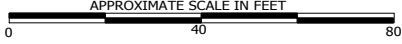
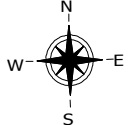


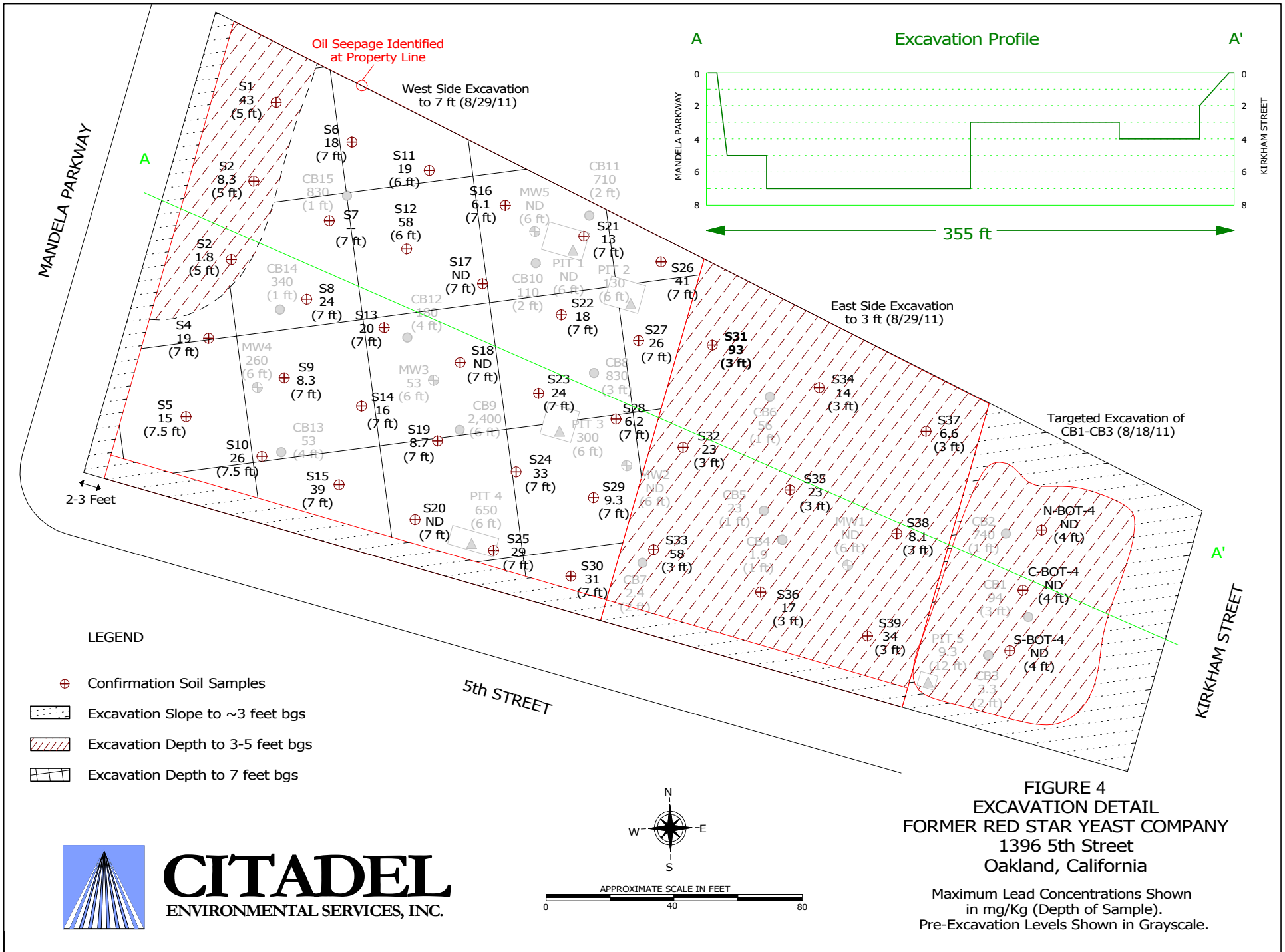
FIGURE 3
DISTRIBUTION OF OIL-HC
IN GROUNDWATER-March 2011
FORMER RED STAR YEAST COMPANY
1396 5th Street
Oakland, California
Dissolved Oil-Range Hydrocarbon
Concentrations Shown in ug/L.



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ENVIRONMENTAL SERVICES, INC.

Figure 4

Confirmation Soil Sampling Locations and Results – Citadel 2011

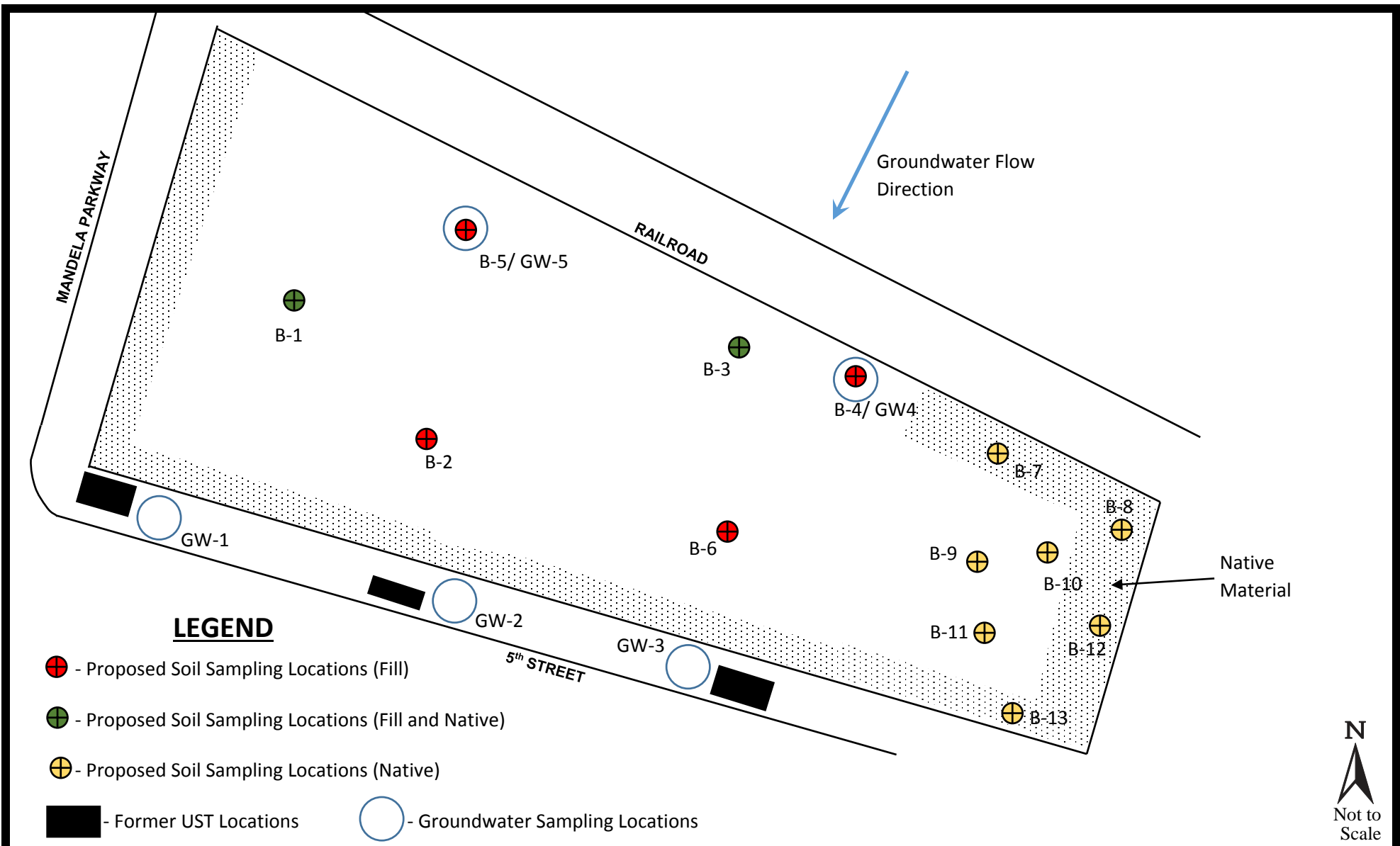




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Figure 5

Site Map with Proposed Soil Boring and Groundwater Sampling Locations



Former Red Star Yeast Company
 1396 5th Street
 Oakland, California

Figure 5

PROJECT NO: 0849.1001.0

DATE: MAY 2016

**Site Plan with Proposed Soil Boring
 and Groundwater Sampling
 Locations**



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ENVIRONMENTAL SERVICES, INC.

Appendix A

Salem's Memorandum of Source of Fill Material

April 29, 2016

Project No. 4-211-0290

Michael Boettger, Vice President
Michael's Development Company
2020 W. Kettleman Lane
Lodi, CA 95241

**Subject: MEMORANDUM – FILE AND OUTSIDE RESEARCH
SOURCE OF FILL MATERIAL
RED STAR SENIOR LIVING PROJECT
1396 5TH STREET
OAKLAND, CALIFORNIA**

Dear Mr. Boettger:

SALEM Engineering Group, Inc. (SALEM), per your authorization in an April 22, 2016 email, conducted research in an attempt to identify the source and available analytical data for fill material imported to the above project site during August and September 2011. Imported material was required following the excavation and removal of contaminated native soils during environmental mitigation of the selected portions of the site prior to August 2011. The material was imported and placed over native soils to bring the site up to grade and to provide a stable surface layer during deep foundation construction starting in September 2011. We understand that you are requesting information regarding the source of the backfill material and any chemical testing that might have been conducted on it.

The notes below represent our understanding, to date, of the imported material. The data was obtained from SALEM's geotechnical and our testing and inspection files for the project. Recent telephone calls and emails from outside parties also provided some of the following information.


- 4/15/11 SALEM obtains and conducts geotechnical lab testing on 2 candidate import soil samples (samples S-1 and S-2, recycled crusher sand) produced by Urban Recycling Solutions - one at Oakland and the other at the Lawson Construction jobsite in San Francisco. SALEM approves both materials for backfill. No chemical testing conducted. [Attachment 1].
- 8/23/11 Advent Companies sends email to SALEM stating they may need to find another source for backfill. Jim Gray of Sequoia Construction and Development (SCD) [the general and environmental? contractor for the project] requests data on and alternate source of structural backfill material from Inner City Recycling (ICR), which has its materials yard in Oakland and its business office in Dublin. ICR emails Sequoia material testing data for the material referred to as "3/8" Structure Backfill." Material geotechnical data is attached – does not include chemical testing. Advent states it will supply SALEM with a sample for testing. [Attachment 2]

- 8/29/11 SALEM tests a material sample with location listed as “Import (Inner City Recycling)”; Sample / Curve No. S-3, and classified as “3/8 Agg” (aggregate). Note the maximum density and optimum moisture values as 114.8 pcf and 13.5%, respectively. [Attachment 3].
- 8/30-31/11 Daily field reports (DFRs) prepared by SALEM technician state that “ICR” (8/30) or “Inner City Recycling” (8/31) is the source of the imported backfill material that was tested for compaction. The DFR lists the material compaction curve used for reference as Curve S-3; 3/8” aggregate; with density and moisture of 114.8 PCF and 13.5%, consistent with SALEM’s lab testing of the import material on August 29. [Attachment 4].
- 9/1/11 Photo of project site shows most of central and eastern side filled with 3+ feet of material consistent with the qualities of “3/8” aggregate.” [Attachment 5].
- 9/14/11 Email chain from SALEM to Advent Companies responding to Advent’s request for the source of its import material. SALEM’s response notes that according to Sequoia, the imported material came from ICR. It incorrectly references a Dublin facility – as noted above, ICRs offices are in Dublin and the yard is in Oakland. [Attachment 6].
- 10/11_14/11 (DFRs) prepared by SALEM compaction technician for import fill placed to bring to final grade after deep foundations were installed referred to as Curve S-3; 3/8” Agg/Sand Mix; with density and moisture of 114.8 PCF and 13.5%, again, consistent with SALEM’s lab testing of the import material on August 29. [Attachment 7].
- 4/27/16 SALEM’s research to that date listed in an internal email [Attachment 8]. The critical points are that Sequoia Construction and Urban Recycling Solutions are out of business and cannot be contacted. ICR was contacted for information regarding the imported material referred to by SALEM as “crusher sand”. SALEM specified that Advent Companies as the probable client, as ICR files records per its client. ICR responded it didn’t produce a “crusher sand” and that Advent was on its records receiving material from Advent for recycling, but stated that its records did not show material purchased/delivered to Advent.
- 4/29/16 SALEM again contacts ICR with a clarification regarding its likely client for the import material, now known to be Sequoia Construction, so that they can accurately research the issue. The ICR office person (Anne __?__) said she’d try to get SALEM some information by ~ 10am Monday (5/2/11). [Attachment 9].

We appreciate the opportunity to submit this Research Memorandum. Should you have questions regarding this proposal, please contact the undersigned at (559) 271-9700.

Respectfully submitted,

SALEM Engineering Group, Inc.



Bruce E. Myers, PE, CEG
Senior Engineer / Eng. Geologist
PE 62067 / CEG 2102

Attachments



Engineering Group, Inc.

DAILY FIELD REPORT

SEG Project Number: 4-611-0436
 Project Name: RED STAR
 Date: 07/15/11 Day: FRIDAY

Site Contact: MATT CHASM / KEVIN LAWSON
 Project Location: OAKLAND, CA
 Weather: PERFECT

- | | | | | | |
|--|----------------------------------|---|-----------------------------------|--|------------------------------------|
| <input checked="" type="checkbox"/> Sample | <input type="checkbox"/> Tagging | <input checked="" type="checkbox"/> Pick-Up | <input type="checkbox"/> Delivery | <input checked="" type="checkbox"/> Soil | <input type="checkbox"/> Aggregate |
| <input type="checkbox"/> Concrete | <input type="checkbox"/> Rebar | <input type="checkbox"/> Steel | <input type="checkbox"/> CMU | <input type="checkbox"/> Bolts | <input type="checkbox"/> Other |

Description of Work Inspected Performed

Report: PICKED UP ONE BULK SAMPLE FROM URBAN RECYCLING SOLUTION [OAKLAND, CA]

PICKED UP ONE BULK SAMPLE FROM URBAN RECYCLING SOLUTION (SAN-FRANCISCO)

Set(s) of _____ Concrete / Mortar / Grout Prisms / Other _____ (Circle One)

Time In	Time Out	Regular Time	Over Time	Travel Time	Mileage
10:30	11:30	1 Hr		6 Hr	

To the best of my knowledge, the above Was / Was Not performed in accordance with the approved plans, specifications, and regulatory requirements.

Superintendent/Representative: N/A

Technician:

- 4055 West Shaw Avenue, Suite 110 • Fresno, CA 93722 • (559) 271-9700 • Fax (559) 275-0827
- 2321 Perseus Court • Bakersfield, CA 93308 • (661) 393-9711 • Fax (661) 393-9710
- 3850 North Wilcox Road, Suite F • Stockton, CA 95215 • (209) 931-2226 • Fax (209) 931-2227
- 11650 Mission Park Drive, Suite 108 • Rancho Cucamonga, CA 91730 • (909) 980-6455 • Fax (909) 980-6435

SIEVE ANALYSIS

Project Number : 4-611-0436
 Project Name : Proposed Red Star Senior Living , Oakland, CA
 Date : 7/18/2011
 Sample Location : Urban Recycling Solution (Oakland)
 Sample Number : S-1 : Recycled Crusher Sand

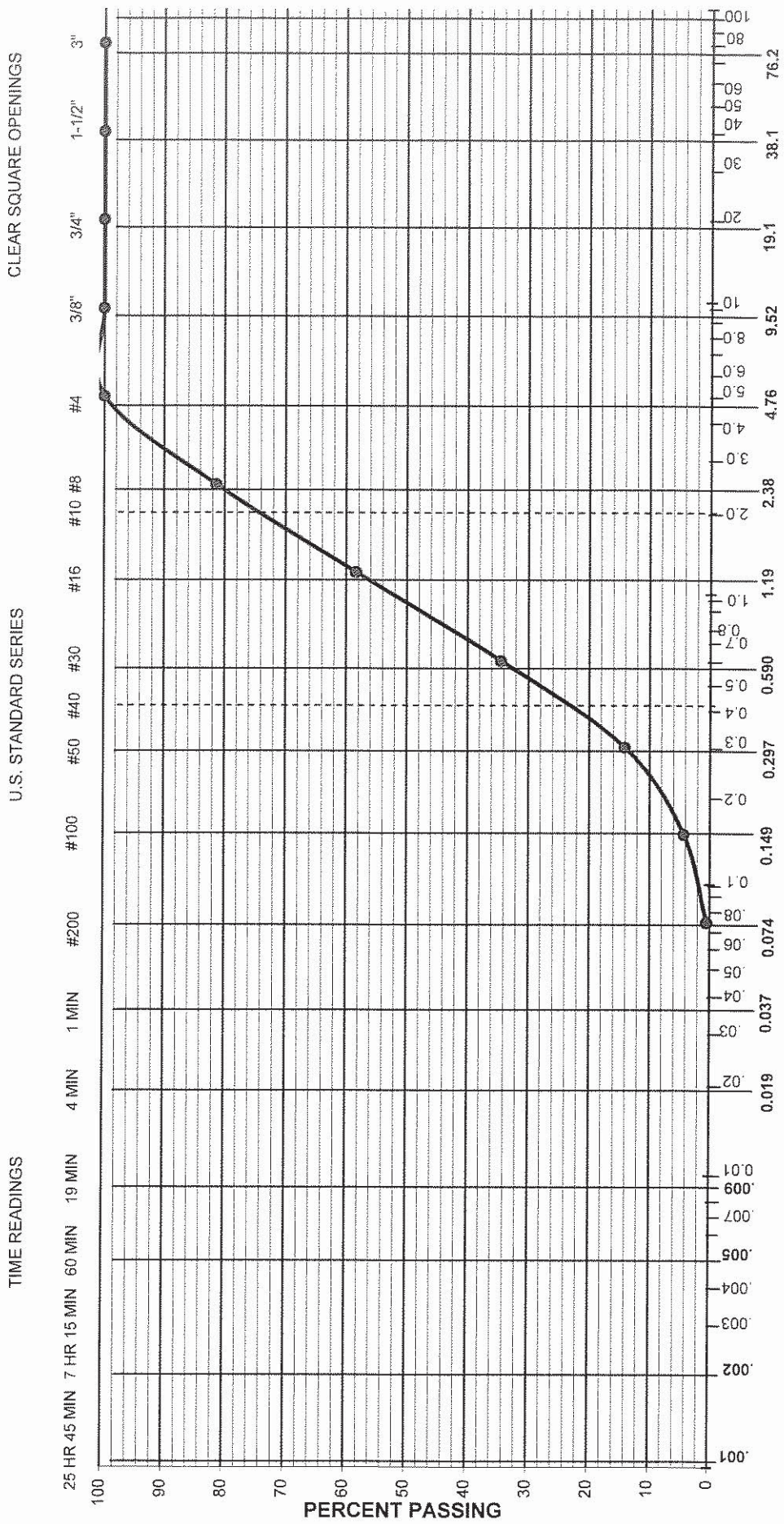
Wet Weight	564.2
Dry Weight (Coarse)	493.0
Moisture Content	14.4%
Dry Weight (Fine)	--

Sieves	Ret.Weight.	% Retained.	Cum. Ret %	Cum. Pass. %
3"				
2 1/2"				
2"				
1 1/2"	0.0	0.0	0.0	100.0
1"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
1/2"	0.0	0.0	0.0	100.0
3/8"	0.0	0.0	0.0	100.0
#4	0.3	0.1	0.1	99.9
#8	91.6	18.6	18.6	81.4
#16	113.4	23.0	41.6	58.4
#30	118.0	23.9	65.6	34.4
#50	100.3	20.3	85.9	14.1
#100	48.4	9.8	95.7	4.3
#200	18.7	3.8	99.5	0.5

PARTICLE SIZE DISTRIBUTION DIAGRAM
GRADATION TEST - ASTM D 421

HYDROMETER ANALYSIS

SIEVE ANALYSIS

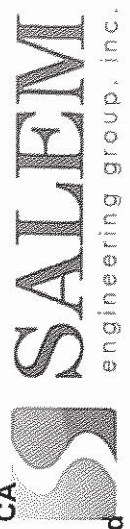


CLAY (PLASTIC) TO SILT (NON-PLASTIC)	SAND		GRAVEL		COBBLE
	FINE	MEDIUM	COARSE	FINE	COARSE

Job Name: Proposed Red Star Senior Living , Oakland, CA

Job Number: 4-611-0436

Boring: Urban Recycling Solutions yard in Oakland



SIEVE ANALYSIS

Project Number : 4-611-0436
 Project Name : Proposed Red Star Senior Living , Oakland, CA
 Date : 7/18/2011
 Sample Location : Urban Recycling Solution (San Fransisco)
 Sample Number : S-2 : Recycled Crusher Sand

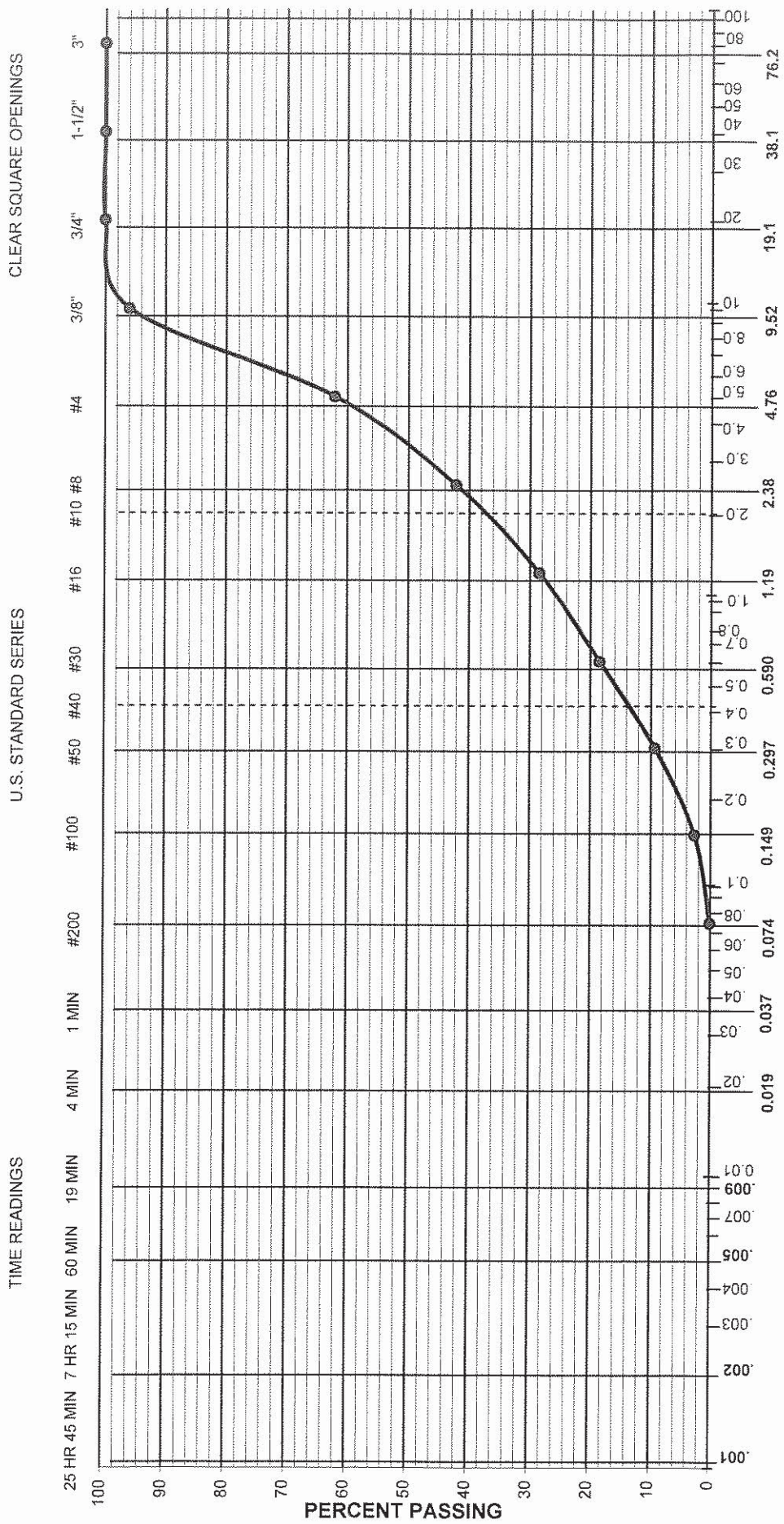
Wet Weight	664.3
Dry Weight (Coarse)	593.3
Moisture Content	12.0%
Dry Weight (Fine)	--

Sieves	Ret.Weight.	% Retained.	Cum. Ret %	Cum. Pass. %
3"				
2 1/2"				
2"				
1 1/2"	0.0	0.0	0.0	100.0
1"	0.0	0.0	0.0	100.0
3/4"	0.0	0.0	0.0	100.0
1/2"	0.0	0.0	0.0	100.0
3/8"	24.1	4.1	4.1	95.9
#4	200.9	33.9	37.9	62.1
#8	118.6	20.0	57.9	42.1
#16	81.2	13.7	71.6	28.4
#30	58.9	9.9	81.5	18.5
#50	53.9	9.1	90.6	9.4
#100	39.5	6.7	97.3	2.7
#200	15.3	2.6	99.8	0.2

PARTICLE SIZE DISTRIBUTION DIAGRAM
GRADATION TEST - ASTM D 421

HYDROMETER ANALYSIS

SIEVE ANALYSIS

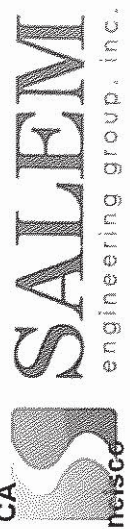


CLAY (PLASTIC) TO SILT (NON-PLASTIC)	SAND		GRAVEL		COBBLE
	FINE	MEDIUM	COARSE	FINE	COARSE

Job Name: Proposed Red Star Senior Living , Oakland, CA

Job Number: 4-611-0436

Boring: Lawson Construction Service jobsite in San Francisco



From: Ben Ashton <bashton@adventcompanies.com>
Sent: Tuesday, August 23, 2011 10:05
To: Sammy Salem; Josh Rhodes
Cc: Roger Robbins; Brock Hatch; Harvey Fernebok
Subject: Fwd: Submittals for Structural Backfill Material-Advent Red Star
Attachments: Inner City Structure Backfill-Pipe Bedding 7-15-11.pdf; Untitled attachment 00071.htm; Structural Backfill (Pipe Bedding) Liquid Limit and Plasticity Index Test.pdf; Untitled attachment 00074.htm

Categories: To Be Completed

Sammy and Josh,

Some concerns have been raised about the backfill material (crusher sand) that we have previously submitted for your review and approval. The concerns are environmental ones. To make sure we can maintain our schedule if the original material is rejected we would like to propose an alternate material for your review. Attached to this email are the geological reports that the supplier has already performed on the proposed material. In addition, we will be supplying your man in the field with a physical sample of the material. Can you please confirm if this material will meet our needs with both Malcolm's operation and that it will stand up for footings?

Thank you,

Ben Ashton

Advent Companies, Inc.

P 208.891.6628 | www.adventcompanies.com

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Begin forwarded message:

From: "Jim Gray P.E." <jimgray.sdg@gmail.com>
Date: August 23, 2011 9:57:02 AM PDT
To: "Ben Ashton" <bashton@adventcompanies.com>
Cc: "Jim Martin" <jim.sdg@gmail.com>, "Roger Robbins" <rrobbins@adventcompanies.com>
Subject: FW: Submittals for Structural Backfill Material-Advent Red Star
Reply-To: <jimgray.sdg@gmail.com>

Ben,

As we discussed, attached is geotechnical data for another Oakland source of recycled backfill material. There should be a sample delivered to the jobsite that can be used for chemical analysis. I have a call in to Roger to try to confirm that the sample was delivered.

Jim Gray

Sequoia Construction and Development, Inc.

822 Alhambra Avenue, Unit 2

Martinez, CA 94553

cell phone (415) 828-4653

efax: (415) 744-1188

From: Greg Desser [mailto:gdesser@innercitydemolition.info]

Sent: Tuesday, August 23, 2011 9:05 AM

To: jimgray.sdg@gmail.com

Subject: Submittals for Pipe Bedding (structural backfill)

Jim,

Attached are the **submittals for the Pipe Bedding (structural backfill)**. If you have any questions, please call me on cell at 510-715-5118. As discussed, our Project Engineer, Rob Edwall will be dropping off a sample this morning. Also, I have attached a **Credit Application**. Please email or fax it back to me along with the **Job Prelim information**.

Thank you, and have a nice day.

Greg Desser

Sales Manager

Inner City Recycling

9009 Railroad Avenue

Oakland, Ca 94603

Ph: 510-568-ROCK (7625)

Cell: 510-715-5118

Fax: 510-263-6062

gdesser@innercitydemolition.info

REPORT NO: 4308-3 (SL1068)

July 15, 2011

STL NO.: 46226849

INNER CITY RECYCLING
GREG DESSER
9009 RAILROAD AVE
OAKLAND, CA 94603-____**PROJECT:** INNER CITY ON-CALL LAB TESTING SVCS
9009 RAILROAD AVE
OAKLAND CA**SUBJECT:** Laboratory Testing of Structure Backfill**SAMPLES:** 3/8" Structure Backfill (Recycled) produced from Inner City Recycling, Oakland Ca., sampled 6/30/2011.

A sample of structure backfill was submitted to our laboratory for testing. The sample was tested for determination of gradation, sand equivalent, and maximum dry density.

Test results are as follows. Curve results attached

GRADING ANALYSIS
(CTM 202)

<u>Sieve</u> <u>Size</u>	<u>Sieve</u> <u>Size</u>	<u>Percent</u> <u>Passing</u>	<u>Specified</u> <u>Range</u>
75.0 mm	3"	100	100
19.0 mm	¾"	100	
12.5 mm	½"	100	
9.5 mm	3/8"	98	
4.75 mm	#4	65	35-100
2.36 mm	#8	42	
1.18 mm	#16	28	
600 um	#30	20	20-100
300 um	#50	13	
150 um	#100	8	
75 um	#200	7	2-9

PROJECT: INNER CITY ON-CALL LAB TESTING SVCS

STL NO.: 46226849

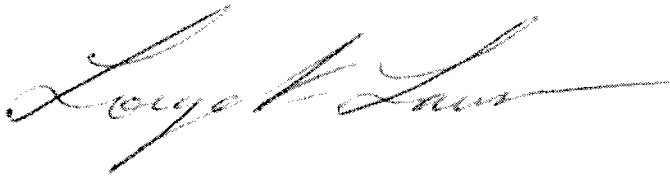
Page No.: 2 of 2

SAND EQUIVALENT
(CTM 217)

SE: 68
Specified Range: 20 minimum

Listed requirements are for Structure Backfill per Section 19, State of California Standard Specifications. Test results meet requirements.

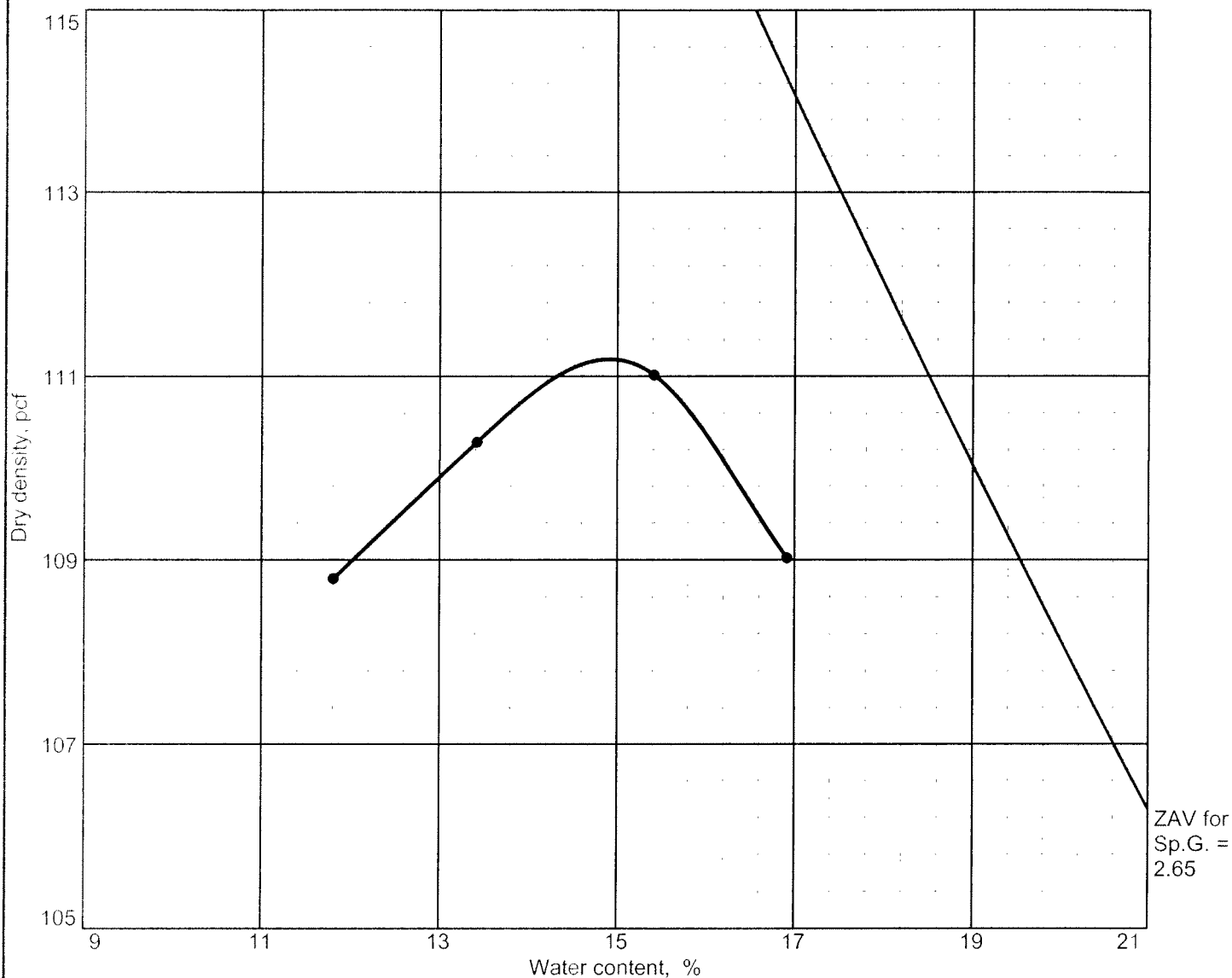
Respectfully submitted,
SIGNET TESTING LABORATORIES, INC.



LORENZO K LAWSON

/l

COMPACTION TEST REPORT

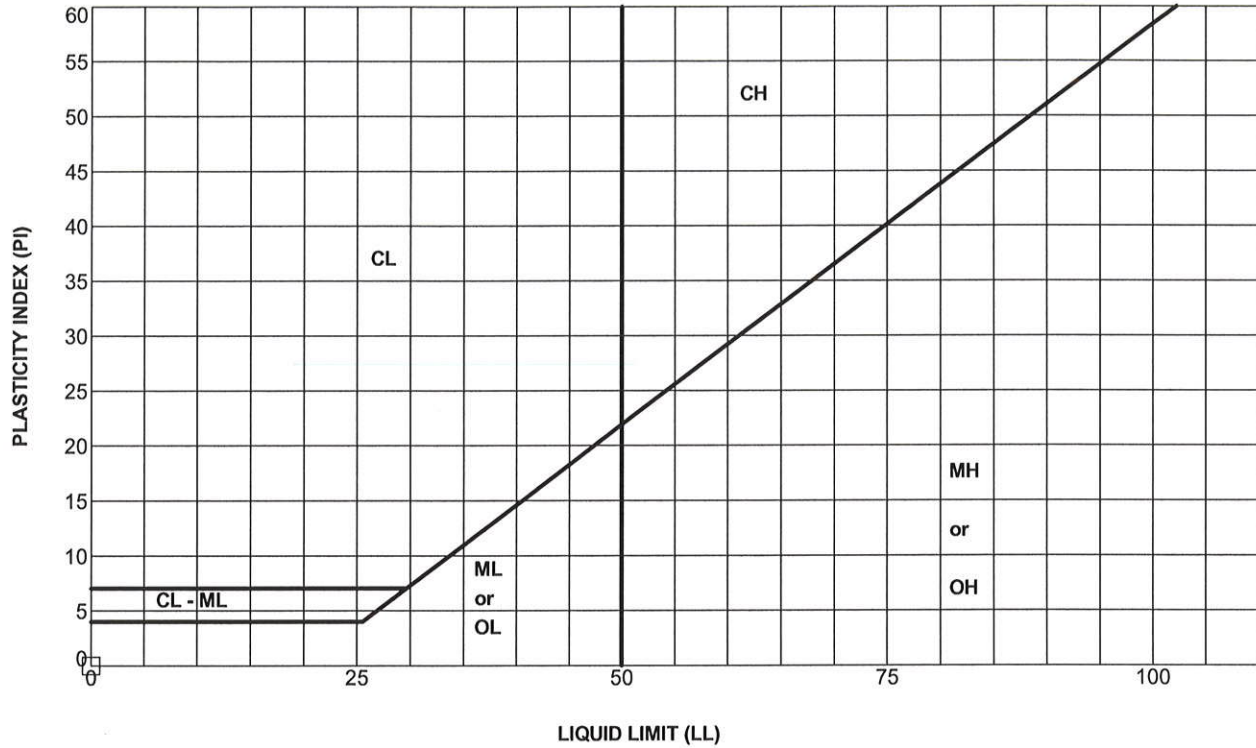


Test specification: ASTM D 1557 Procedure B Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
							2.4	

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 111 pcf Optimum moisture = 15 %	3/8" Structure Backfill produced from Inner City Recycling, Oakland CA, sampled 6/30/2011

Project No. 46226849 Client: Inner City Recycling Project: Inner City Recycling On Call Lab Testing • Location: Inner City Recycling	Remarks: Curve #4308-3 SL1068
--	--



SYMBOL	BORING	DEPTH, ft	LL	PL	PI	SAMPLE DESCRIPTION
□	HL2841	0.0	NP	NP	NP	Dark Grayish Brown Silty Sand with Gravel (SM)

Unified Soil Classification
Fine Grained Soil Groups

Symbol	LL < 50	Symbol	LL > 50
ML	Inorganic clayey silts to very fine sands of slight plasticity	MH	Inorganic silts and clayey silts of high plasticity
CL	Inorganic clays of low to medium plasticity	CH	Inorganic clays of high plasticity
OL	Organic silts and organic silty clays of low plasticity	OH	Organic clays of medium to high plasticity, organic silts

*PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318 (DRY PREP)

Pursuant to 2006 IBC Section 1704, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail (meets/does not meet), if provided.

As the samples tested were sampled and/or transported to our laboratory by parties other than Kleinfelder staff, this report makes no representation of whether the samples are representative of the material onsite.



ATTERBERG LIMITS*

INNER CITY RECYCLING

PLATE

PROJECT NO. 77516 / 2841

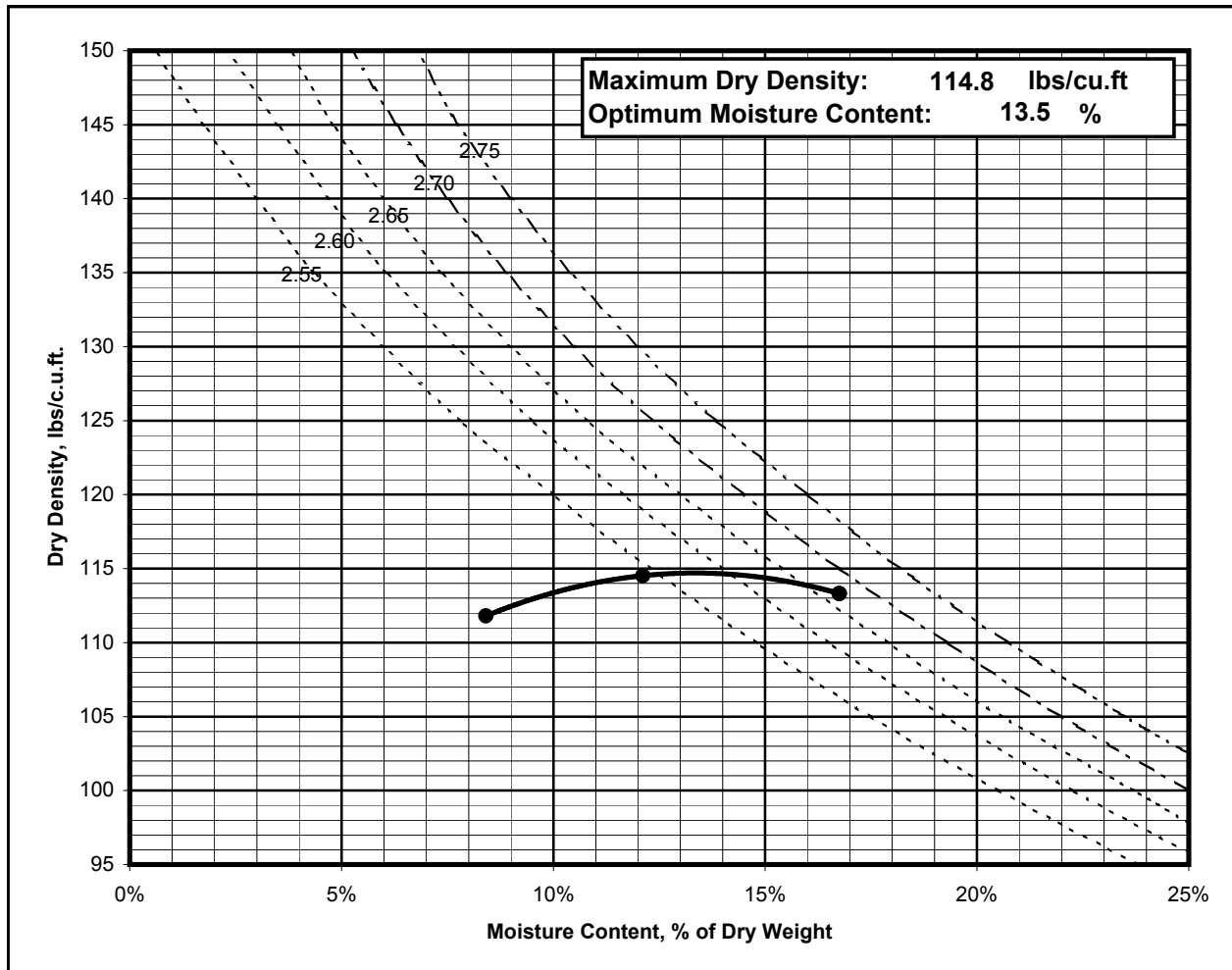
CHED #2 2/14/11

Laboratory Compaction Curve ASTM - D1557, D698

ATTACH. 3

Project Number : 4-611-0436
 Project Name : Red Star Senior Living , Oakland, CA
 Sample Date : 08/29/11
 Test Date : 08/31/11
 Sample location : Import (Inner City Rec.)
 Sample/Curve Number : S-3 (11-1757)
 Soil Classification : 3/8 Agg.
 : --
 Test Method : 1557 A

	1	2	3
Weight of Moist Specimen & Mold, gm	3864.6	3973.4	4032.4
Weight of Compaction Mold, gm	2032.1	2032.1	2032.1
Weight of Moist Specimen, gm	1832.5	1941.4	2000.3
Volume of mold, cu. ft.	0.0333	0.0333	0.0333
Wet Density, lbs/cu.ft.	121.2	128.4	132.3
Weight of Wet (Moisture) Sample, gm	327.5	328.5	327.5
Weight of Dry (Moisture) Sample, gm	302.1	293.0	280.5
Moisture Content, %	8.4%	12.1%	16.8%
Dry Density, lbs/cu.ft.	111.8	114.5	113.3



SALEM

Engineering Group, Inc.

DAILY FIELD REPORT

SEG Project Number: 4-611-0436
 Project Name: ROAD SITE
 Date: 08/30/11 Day: TUESDAY

Site Contact: Rosen
 Project Location: DALLAS, CA
 Weather: PERFECT 74°

- | | | | | | |
|-----------------------------------|----------------------------------|----------------------------------|-----------------------------------|--------------------------------|---|
| <input type="checkbox"/> Sample | <input type="checkbox"/> Tagging | <input type="checkbox"/> Pick-Up | <input type="checkbox"/> Delivery | <input type="checkbox"/> Soil | <input type="checkbox"/> Aggregate |
| <input type="checkbox"/> Concrete | <input type="checkbox"/> Rebar | <input type="checkbox"/> Steel | <input type="checkbox"/> CMU | <input type="checkbox"/> Bolts | <input checked="" type="checkbox"/> Other |

Description of Work Inspected Performed

Report: ARRIVED AT SUB SITE. MET WITH ROSEN.
VISUALLY & PHYSICALLY OBSERVED IMPACT MATERIAL
FROM IER.

ALL MATERIAL IS CONSISTANT. APPEARS TO
COMPACTING WELL. NO DEFICIENCIES NOTED.
LEFT SUB SITE & RETURNED AT 5:20.

PERFORMED COMPACTION TESTS FOR OPERATIONS
ROSEN & SIM REQUEST. OBSERVED BACKFILL OVER
WATER TABLE AT WESTERN HALE.

Set(s) of _____ Concrete / Mortar / Grout Prisms / Other _____ (Circle One)

Time In	Time Out	Regular Time	Over Time	Travel Time	Mileage
10:00am	3:00	5hr		3 1/2 hr	


5:30 pm 9:30 4hr
 To the best of my knowledge, the above Was / Was Not performed in accordance with the approved plans, specifications, and regulatory requirements.

Superintendent/Representative:

[Signature]

Technician:

[Signature]


-  4055 West Shaw Avenue, Suite 110 • Fresno, CA 93722 • (559) 271-9700 • Fax (559) 275-0827
- 2321 Perseus Court • Bakersfield, CA 93308 • (661) 393-9711 • Fax (661) 393-9710
- 3850 North Wilcox Road, Suite F • Stockton, CA 95215 • (209) 931-2226 • Fax (209) 931-2227
- 11650 Mission Park Drive, Suite 108 • Rancho Cucamonga, CA 91730 • (909) 980-6455 • Fax (909) 980-6435

DAILY FIELD REPORT

SEG Project Number: 4-611-0436
 Project Name: RED STAR
 Date: 08/31/11 Day: WEDNESDAY

Site Contact: P. Sen
 Project Location: OAKLAND, CA
 Weather: PERFECT, 70°

- Nuclear Test
 Sand Cone
 Tube Test
 Other _____
 Performed compaction testing on the following:
 Performed observation for the following:


Description	Depth of Testing	% Required	Miscellaneous
Building Pad (s)			Gauge # <u>2919</u>
Paved Areas: SUB/Agg/AC			Den. STD. Count: <u>5163</u>
Trenches: Sewer/Water/Storm/Utility/Irr:			Moist STD. Count: <u>453</u>
Other: 	<u>12"</u>	<u>90%</u>	Ready for Final Report: Yes / No

Curves	Soil Description	Max Dry Density	Opt. Moisture
<u>S-3</u>	<u>3/8" Agg.</u>	<u>114.5</u>	<u>13.8%</u>

Report: ARRIVED AT SITE. OBSERVED BACKFILL OF IMPORT
(INNER CITY RECY.) ON WESTERN HALF OF PROJECT SITE.
WATER TABLE APPEARED TO BE STEADY AT 16"-20" FROM
NATIVE SOIL AT -7' BELOW GRADE.
OBSERVED BACKFILL UNTIL 4' OF FILL WAS
PLACED IN. PERFORMED COMPACTION TESTS
FROM -3', to -2', to -1'. ALL TESTS PASSED WITH
SATISFACTORY RESULTS. PLS SEE ATTACHED FOR
DETAILS & LOCATIONS.

Time In	Time Out	Regular Time	Over Time	Travel Time	Mileage
<u>7:30</u>	<u>6:30</u>	<u>11 m</u>		<u>1 m</u>	

To the best of my knowledge, the above Was / Was Not performed in accordance with the approved plans, specifications, and regulatory requirements.

Superintendent/Representative: 

Technician: 

- 4055 West Shaw Avenue, Suite 110 • Fresno, CA 93722 • (559) 271-9700 • Fax (559) 275-0827
- 2321 Perseus Court • Bakersfield, CA 93308 • (661) 393-9711 • Fax (661) 393-9710
- 3850 North Wilcox Road, Suite F • Stockton, CA 95215 • (209) 931-2226 • Fax (209) 931-2227
- 11650 Mission Park Drive, Suite 108 • Rancho Cucamonga, CA 91730 • (909) 980-6455 • Fax (909) 980-6435



Bruce E. Myers

Subject: FW: Import@ Red Star**From:** Mandip S. Sandhu
Sent: Friday, April 29, 2016 9:02 AM
To: Bruce E. Myers <Bruce@salem.net>
Subject: FW: Import@ Red Star

From: Joshua Rhodes [<mailto:josh@salemenggroup.com>]
Sent: Wednesday, September 14, 2011 2:37 PM
To: 'Bruce' <Bruce@salemenggroup.com>; 'Ben Ashton' <bashton@adventcompanies.com>; 'Sammy Salem' <sammy@salemenggroup.com>
Cc: Mandip Sandhu <Mandip@salemenggroup.com>
Subject: RE: Import@ Red Star

Keep in mind that we originally samples from 2 locations (Urban Recycling in Oakland and Lawson in SF). These were approved by Salem and later rejected by the enviro consultant. The current import being used is from another place altogether (which I think is Inner City in Dublin). If you are looking for the import location for the first original Lawson source, Mandip is tracking the location down now.

Joshua S. Rhodes, PE
Testing and Inspections Manager



4055 West Shaw Avenue, Suite 110
Fresno, California 93722
(559) 271-9700 - Main
(559) 978-7411 - Cell
(559) 275-0827 - Fax
josh@salemenggroup.com

From: Bruce [<mailto:Bruce@salemenggroup.com>]
Sent: Wednesday, September 14, 2011 2:27 PM
To: Ben Ashton; Sammy Salem
Cc: Josh Rhodes
Subject: Re: Import@ Red Star

According to Jim Martin with Sequoia Const. and Develop. (925) 957-6430, the imported material on site came from Inner City Recycling -- I believe their Dublin facility, but should Jim know.

Bruce

Bruce Myers, Sr. Eng./ Eng. Geologist
SALEM Engineering Group
4055 W. Shaw Ave., #110
Fresno, CA 93722
ph. 559-271-9700

cell 559-286-8712
fx. 559-275-0827

----- Original Message -----

From: [Ben Ashton](#)
To: [Sammy Salem](#)
Cc: [Bruce Myers](#)
Sent: Wednesday, September 14, 2011 11:54 AM
Subject: Fwd: Import Red Star

Sammy,

We are trying to track down the source of our import material. Did your company ever contact Lawson to schedule sampling of their material in San Francisco. Do you have the address of the location in SF that you looked at?

Thanks,

Ben Ashton

Advent Companies, Inc.

P 208.891.6628 | www.adventcompanies.com

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Begin forwarded message:

From: Tom Chasm <tchasm2recycle@hotmail.com>
Date: July 13, 2011 5:26:48 PM PDT
To: Ben Ashton <bashton@adventcompanies.com>
Subject: RE: Import Red Star

crusher sand. Its Lawsons site He will be expecting a call.

From: bashton@adventcompanies.com
Subject: Re: Import Red Star
Date: Wed, 13 Jul 2011 16:07:14 -0700
To: tchasm2recycle@hotmail.com

What product do I need to reference?

Ben Ashton

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On Jul 13, 2011, at 4:01 PM, Tom Chasm wrote:

Ben and Jim,

Please contact Kevin Lawson with Lawson Construction Service at 415-559-9139 to schedule sampling. Tom

From: bashton@adventcompanies.com

Subject: Import Red Star

Date: Wed, 13 Jul 2011 15:52:48 -0700

CC: tchasm2recycle@hotmail.com; bhatch@adventcompanies.com

To: jimgray.sdg@gmail.com

Jim,

Please advise on where we can send our Soils Engineer to collect samples of the proposed import material.

Thank you,

Ben Ashton

Advent Companies, Inc.

P 208.891.6628 | www.adventcompanies.com

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Engineering Group, Inc.

DAILY FIELD REPORT

SEG Project Number: 4-611-0436
 Project Name: RED STAR
 Date: 10/11/11 Day: TUESDAY

Site Contact: Rogn / Sohn
 Project Location: OAKLAND, CA
 Weather: SUNNY

- Nuclear Test
 Sand Cone
 Tube Test
 Other _____
 Performed compaction testing on the following:
 Performed observation for the following:

Description	Depth of Testing	% Required	Miscellaneous
Building Pad (s)	12"	90%	Gauge # 2919
Paved Areas: SUB/Agg/AC			Den. STD. Count: 3165
Trenches: Sewer/Water/Storm/Utility/Irr:			Moist STD. Count: 473
Other:			Ready for Final Report: Yes / No

Curves	Soil Description	Max Dry Density	Opt. Moisture
S-3	3/8 Agg, SAND MIX	114.0	13.5%

Report PERFORMED COMPACTION TESTS AT
FINEMED GRADE ALONG SM STREET.
VISUALLY OBSERVED GRADERS & LIFT
COMPACTIONS.
BLADES OVER STONE COLUMNS WERE
CLEAN READY CUTS WITH NO VISUAL
DAMAGE.
PLS SEE ATTACHED FOR MORE ENFO

Time In	Time Out	Regular Time	Over Time	Travel Time	Mileage
10:00	3:30	35		→	

To the best of my knowledge, the above Was / Was Not performed in accordance with the approved plans, specifications, and regulatory requirements.

Superintendent/Representative: [Signature]

Technician: [Signature]

- 4055 West Shaw Avenue, Suite 110 • Fresno, CA 93722 • (559) 271-9700 • Fax (559) 275-0827
- 2321 Perseus Court • Bakersfield, CA 93308 • (661) 393-9711 • Fax (661) 393-9710
- 3850 North Wilcox Road, Suite F • Stockton, CA 95215 • (209) 931-2226 • Fax (209) 931-2227
- 11650 Mission Park Drive, Suite 108 • Rancho Cucamonga, CA 91730 • (909) 980-6455 • Fax (909) 980-6435

DAILY FIELD REPORT

SEG Project Number: 4-611-0486
 Project Name: 2ND STAR
 Date: 10/12/11 Day: WEDNESDAY

Site Contact: Roger / John
 Project Location: OAKLAND, CA
 Weather: SUNNY

- Nuclear Test
 Sand Cone
 Tube Test
 Other _____
 Performed compaction testing on the following:
 Performed observation for the following:

Description	Depth of Testing	% Required	Miscellaneous
Building Pad (s)	12"	90%	Gauge # 2919
Paved Areas: SUB/Agg/AC			Den. STD. Count: 3161
Trenches: Sewer/Water/Storm/Utility/Irr:			Moist STD. Count: 375
Other:			Ready for Final Report: Yes / No

Curves	Soil Description	Max Dry Density	Opt. Moisture
S-3	3/8 Agg, SAND MIX	114.8	13.5%

Report VISUALLY OBSERVED GRADING. PERFORMED
COMPACTION TESTS. ALL TESTS PASSED
WITH SATISFACTORY RESULTS.
PER ADJUTANT, SCHEDULED COMPACTION TEST
TERMINATED AT 2:00 PM
PLS SEE ATTACHED FOR DETAILS.

Time In	Time Out	Regular Time	Over Time	Travel Time	Mileage
9:00	2:00	5			

To the best of my knowledge, the above Was / Was Not performed in accordance with the approved plans, specifications, and regulatory requirements.

Superintendent/Representative: [Signature]

Technician: [Signature]

- 4055 West Shaw Avenue, Suite 110 • Fresno, CA 93722 • (559) 271-9700 • Fax (559) 275-0827
- 2321 Perseus Court • Bakersfield, CA 93308 • (661) 393-9711 • Fax (661) 393-9710
- 3850 North Wilcox Road, Suite F • Stockton, CA 95215 • (209) 931-2226 • Fax (209) 931-2227
- 11650 Mission Park Drive, Suite 108 • Rancho Cucamonga, CA 91730 • (909) 980-6455 • Fax (909) 980-6435

SALEM

Engineering Group, Inc.

DAILY FIELD REPORT

SEG Project Number: 4-611-0436 Site Contact: Ryan / John
 Project Name: RED STAR Project Location: OAKLAND, CA
 Date: 10/14/11 Day: FRIEDAY Weather: SUNNY

- Nuclear Test
 Sand Cone
 Tube Test
 Other _____
 Performed compaction testing on the following:
 Performed observation for the following:

Description	Depth of Testing	% Required	Miscellaneous
Building Pad (s)	12"	90%	Gauge # 1979
Paved Areas: SUB/Agg/AC			Den. STD. Count: 2720
Trenches: Sewer/Water/Storm/Utility/Irr:			Moist STD. Count: 472
Other:			Ready for Final Report: Yes / No

Curves	Soil Description	Max Dry Density	Opt. Moisture
S-3	3/8" Agg / SAND MIX	114.8	13.5%

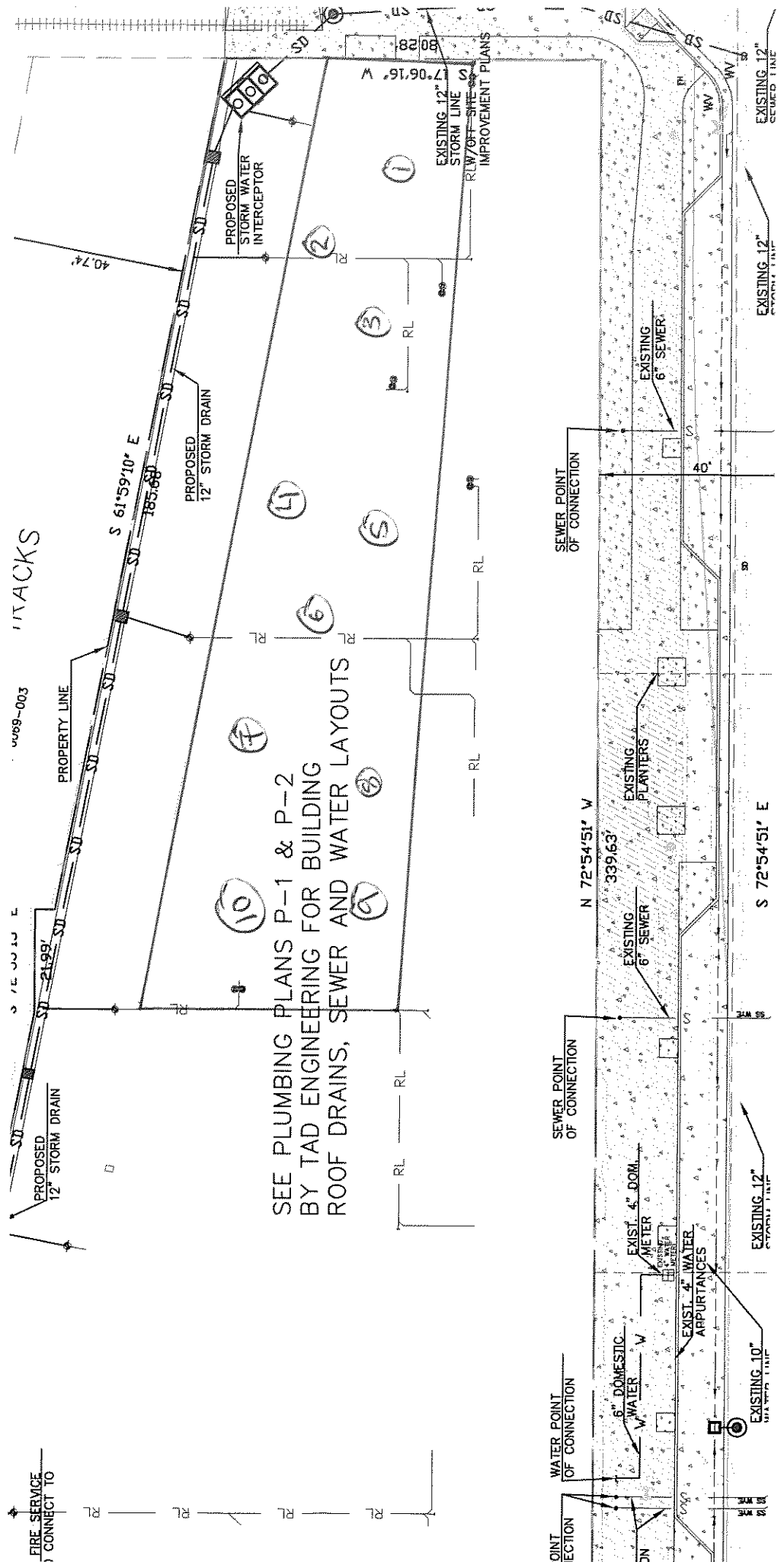
Report PERFORMED COMPACTION TESTS ON
REMAINDER OF SO3 SITE. ALL TESTS
PASSED WITH SATISFACTORY RESULTS.
PLS SEE ATTACHED FOR DETAILED REPORT.

Time In	Time Out	Regular Time	Over Time	Travel Time	Mileage
11:00	12:00	1 hr			

To the best of my knowledge, the above Was / Was Not performed in accordance with the approved plans, specifications, and regulatory requirements.

Superintendent/Representative: [Signature] Technician: [Signature]

- 4055 West Shaw Avenue, Suite 110 • Fresno, CA 93722 • (559) 271-9700 • Fax (559) 275-0827
- 2321 Perseus Court • Bakersfield, CA 93308 • (661) 393-9711 • Fax (661) 393-9710
- 3850 North Wilcox Road, Suite F • Stockton, CA 95215 • (209) 931-2226 • Fax (209) 931-2227
- 11650 Mission Park Drive, Suite 108 • Rancho Cucamonga, CA 91730 • (909) 980-6455 • Fax (909) 980-6435



FIRE SERVICE
CONNECT TO

TRACKS

4489-003

PROPERTY LINE

PROPOSED
12" STORM DRAIN

PROPOSED
12" STORM DRAIN

PROPOSED
12" STORM DRAIN

PROPOSED
STORM WATER
INTERCEPTOR

SEE PLUMBING PLANS P-1 & P-2
BY TAD ENGINEERING FOR BUILDING
ROOF DRAINS, SEWER AND WATER LAYOUTS

EXISTING 12" STORM LINE
RLW/80' SITE
IMPROVEMENT PLANS

WATER POINT
OF CONNECTION

SEWER POINT
OF CONNECTION

SEWER POINT
OF CONNECTION

6" DOMESTIC
WATER

EXIST. 4" DOM.
METER

EXISTING
6" SEWER

EXISTING
6" SEWER

EXISTING
6" SEWER

EXIST. 4" WATER
APPURTANCES

EXISTING
PLANTERS

EXISTING 10" WATER MAIN

EXISTING 12" STORM LINE

S 72°54'51" E

EXISTING 12" STORM LINE

N 72°54'51" W
339.63'

40.74'

S 61°59'10" E
185.68'

S 21°59' E
21.99'

RL

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80.28'

S 17°06'16" W

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JOINT
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Bruce E. Myers

From: Shannon Lodge
Sent: Wednesday, April 27, 2016 12:46
To: Bruce E. Myers
Subject: Red Star
Attachments: RFI 30 (reply).pdf

Bruce,
Here is what I have come to with the Red Star Import Material Search:

Citidale- Allan Coffee is no longer with them, Mark Drollinger has replaced him. They are still working on this project and have no information regarding the fill material but have a meeting with the County next week trying to figure out if they will have to sample. Seems like they are waiting on any information we might uncover.

Inner City Recycling-they do not have a product called "crusher sand", their records indicate that they RECEIVED material from the site in 2011 but did not deliver material. I have them checking their records for any documentation (amount, tickets, etc.), they think it will take through at least tomorrow to find that. I have been talking to Anne at (510) 382-0100. **Their file was under Advent Companies, Inc.** I am attaching the only document that says Inner City provided the fill, unfortunately this document was completed by us and Inner City has no record of us so I believe it to be a mistake.

Lawson Construction- the only listing I found was for a 1-man operation, I left a message but no return call.

Urban Recycling Solutions – Out of Business

Sequoia Construction & Development – Out of Business. Citidale indicated that these guys are the ones who removed the tanks and would not have been the ones to bring in fill material.

KTGY-Mark Nelson does remember the project and claims that Advent Companies would have the info regarding the fill material.

Advent Companies- No answer, left a message (949) 797-8343.

I did find a reference to "Cardinal" (no elaboration) on an old e-mail, there is a Cardinal Construction in Santa Cruz. I got no answer when I called.

This seems to be as far as I can get with the info on the S: drive and what you gave me. Are there any other business cards in the file that I might try? Seems like a return call from (or additional calls to) Advent would be our best bet.

Shannon Lodge
Professional Geologist | Senior Project Manager



4729 W. Jacquelyn Avenue
Fresno, California 93722
(559) 374-3917 – Direct
(559) 275-0827 – Fax
(559) 907-9742 – Mobile
www.Salem.net

REQUEST FOR INFORMATION

RED STAR SENIOR APARTMENTS

Description: Crusher sand instead of AB

Number: 00030

Priority: High

Created On: 10/18/2011

Plan Ref: Soils Report

Due Date: 10/20/2011

Status: Open

Response Date: N/A

Closed Date: N/A

To: Mark Nelson
KTGY
17922 Fitch St
Irvine, CA 92614
Phone: (949) 797-8343
Fax: (949) 476-8114

From: Ben Ashton
Advent Companies
,
Phone: (208) 891-6628
Fax:

Question:

Sammy,

It has already been agreed that the crusher sand backfill that was brought in during the backfill operation can be used instead of class II aggregate base. At this time we would like clarification on what section (thickness) of crusher sand is required under the slab on grade area and in the EVA road in order to replace the need for class II aggregate base. As part of your response please clarify the compaction requirements for those two areas.

Please advise

Answer:

The crusher sand provided by Inner City Recycling will be acceptable as a replacement for Class II aggregate base provided:

1. The thickness of the base material using crusher sand in lieu of Class II should be increased by 20% over the existing geotechnical report specifications. Example: a currently spec'd Class II base thickness of 10 inches is equivalent to 12 inches of crusher sand.
2. Compact crusher sand to a minimum compaction of 95 percent of the maximum dry density based on ASTM D1557-07 Test Method.

Bruce Myers, PE CEG, Sr. Eng./ Eng. Geologist
SALEM Engineering Group
4055 W. Shaw Ave., #110
Fresno, CA 93722
ph. 559-271-9700
cell 559-286-8712
fx. 559-275-0827

Bruce E. Myers

From: Bruce E. Myers
Sent: Friday, April 29, 2016 10:37
To: 'info@innercityrecycling.net'
Cc: Shannon Lodge
Subject: Contact Info

Anne,

As I mentioned, we'd greatly appreciate any information prior to our client's meeting on Tues. May 3 regarding the material identified as "3/8" structural backfill", probably sold to Sequoia Construction of Martinez, CA, and delivered to the Red Star site at 1396 5th St. in Oakland about Aug 23 thru Sep 6, 2011. We'd talk to Sequoia, but they're out of business. At a minimum, if we can get the approximate tonnage and your name for the material delivered, this may be enough for the meeting. Ultimately, we'd like to get more detailed information – load tickets, etc.

Thanks so much for your help – I really do appreciate it

Bruce E. Myers

Sr. Geotechnical Engineer / Eng. Geologist



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www.Salem.net



CITADEL
ENVIRONMENTAL SERVICES, INC.

Appendix B

Health and Safety Plan



assess
resolve
strengthen

CITADEL ENVIRONMENTAL SERVICES, INC.

Michaels Development
2020 W. Kettleman Lane
P. O. Box 1570
Lodi, California 95241

Health and Safety Plan

May 9, 2016

Citadel Project Number 0849.1001.0

Former Red Star Senior Living Apartments Development
1396 Fifth Street
Oakland, California 94607

www.citadelenvironmental.com

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1.0 SITE DESCRIPTION

Citadel Environmental Services, Inc., (Citadel) has prepared this Health and Safety Plan (HASP) for use during soil and groundwater sampling activities to be conducted at 1396 Fifth Street, Oakland, California (Site). Activities conducted under Citadel's direction at the Site will be in compliance with applicable Occupational Safety and Health Administration (OSHA) regulations, particularly those in Title 8 California Code of Regulations (CCR) 5192, and other applicable federal, state, and local laws, regulations, and statutes. A copy of this HASP will be kept onsite during scheduled field activities.

2.0 BACKGROUND

The Site is identified in the County of Alameda as Assessor's Parcel Number 004-69-004. The Site totals approximately 0.88 acres and is an irregular shaped parcel of land situated along the north side of Fifth Street, between Mandela Parkway to the east, and Kirkham Street to the west. An elevated BART track is situated along the northern boundary of the Site. The Site is currently comprised of vacant land.

Historically, the Site has been developed and occupied by yeast manufacturing, vinegar production, and various brewery operations from at least 1880. Environmental concerns identified at the Site have included above ground and underground fuel tanks, the use of various chemicals with several documented releases, and an unauthorized release of mercury to the sewer system with apparent impacts to the subsurface soil. A major fire occurred at the Site in 2012 significantly damaging the structure and surrounding properties. The remaining structure consisting of a concrete podium to be used for parking and building support was removed in April 2016.

Groundwater samples were collected from five temporary monitoring wells (MW1-MW-5) installed across the Site during a subsurface investigation by Citadel in 2010; none of the samples had detectable areas of VOCs SVOCs, gasoline range TPH or diesel range TPH, the sample from MW-5 had oil-range hydrocarbons at a concentration of 2,400 micrograms per liter ($\mu\text{g/L}$), which exceeded the San Francisco Regional Water Quality Control Board's (SFRWQCB) Environmental Screening Level of 210 $\mu\text{g/L}$.

In mid-August 2011, Advent Companies, the general contractor for the project, initiated the excavation program at the Site. Confirmation soil samples collected during the excavation indicated that lead was present at a concentration of 93 milligrams per kilogram (mg/kg) in sample S31-3 collected at three feet below grade from the east side of the Site, which exceeded the Office of Environmental Health Hazard assessment's (OEHHA) Soil Screening Level (SSL) of 80 mg/kg for residential scenarios. The source and types of quality control used for backfilling the excavation appear to be unknown. Additional soil sampling is necessary to verify that the imported fill material is suitable for the Site.

On November 29, 2011 soil was excavated by Sequoia Construction and Development, Inc., (Sequoia) from above and along the sides of the USTs (see Figure 3 for UST locations) to expose their tops and walls in preparation for removal. The volumes for the USTs were determined visually and were reportedly 250 gallons (UST No 1), 2,500 gallons (UST No. 3) and 10,000 gallons (UST No. 4). Suspected UST No. 2 was found to be a disconnected standpipe. No associated structure for this standpipe was located. UST Nos. 1 and 3 were removed and transported off-site for recycling. The condition of both USTs were fair with no observable holes, significant corrosion or scaling evident. UST No. 4 was filled with a concrete slurry and sealed prior to being closed in-place. Analysis of soil samples after abandonment/removal of the USTs indicated TPH at concentrations of 9, 37, and 31 mg/kg, in soil samples collected in the vicinity of UST No.1, UST No.2, and UST No.3, respectively.

The purpose of this Investigation is to characterize the fill material used by Advent Companies to backfill the excavation in 2011, and assess current soil and groundwater conditions at the Site.

3.0 SAFETY POLICY

Safety will be given primary importance in the planning and operation of this project. It is the policy of Citadel to conform to current OSHA standards in construction and local government agency requirements having authority over the project as regards to Citadel employees, subcontractors and public safety.

Each subcontracting firm will assume primary responsibility for the safety of their own work in regards to their employees and other persons. Subcontractors will assume the duty to comply with OSHA, and all other federal, state and local regulations. Their HASP must be as stringent as that for Citadel.

The subcontractors work will be monitored by Citadel project managers for implementation of the Citadel HASP, while adhering to their own safety program. Citadel will retain the authority and power to enforce this HASP during the progress of the work. Any deficiencies in safe work practices will be brought to the attention of the subcontractor firm's supervisor for immediate corrective action. If the subcontractor fails or refuses to take corrective action promptly a stop work order shall be issued and the subcontractor or the subcontractor employee may be removed from the project.

4.0 WORK DESCRIPTION

Citadel will collect groundwater grab samples (GW-1, GW-2, GW-3) in the vicinity of the UST abandoned in place and each of the two USTs formerly located at the Site. One groundwater grab sample (GW-4) will be collected in the vicinity of former monitoring well five (MW-5) located in the northwestern section of the Site. Groundwater in each boring will be collected using a factory-cleaned disposable bailer. The bailer will be lowered into the water column until the bailer is submerged. Samples will be collected in one liter amber glass bottles and Teflon septum-sealed 40 milliliter glass vials with hydrochloric acid as a preservative.

Citadel will advance soil borings across the Site (SB-1 through SB-4) using a hand auger or equivalent method. The borings will be advanced to a depth of seven feet below ground surface (bgs), and soil samples will be collected at one, three, five, and seven feet bgs. Soil samples will also be collected at the groundwater sampling location GW-4 at three, five, and seven feet bgs. The soil borings will be logged in the field and screened with a PID for the presence of VOCs. Soil samples will be collected in stainless steel or brass sleeves sealed with Teflon tape and airtight plastic caps.

Citadel will collect continuous cores at four locations across the Site for geologic characterization of the fill and native material at the Site, and identification of potential impacts to subsurface soil due to past releases.

Hazards that may be associated with the project include heavy and rotating equipment, hand augering equipment, and soil, soil vapor, and groundwater potentially impacted with volatile organic compounds (VOCs) and lead.

5.0 KEY PROJECT PERSONNEL AND RESPONSIBILITIES

Project Manager	Mark Drollinger (Citadel)
SSO/Project Monitor	Citadel Personnel TBD
Subcontractor Personnel	Drilling Subcontractor Laboratory Personnel
Site Representative	Michael Boettger, Michaels Development Alameda County Environmental Health City of Oakland

PROJECT MANAGER

The Project Manager has the ultimate responsibility for the health and safety of personnel at the Site. The Project Manager is responsible for:

- Ensuring that project personnel review and understand the requirements of this HASP;
- Keeping on-site personnel, including subcontractors, informed of the expected hazards and appropriate protective measures at the Site; and
- Providing resources necessary for maintaining a safe and health work environment.

SITE SAFETY OFFICER/PROJECT MONITOR

The SSO is responsible for enforcing the requirements of this HASP once site work begins. The SSO has the authority to immediately correct situations where noncompliance with this HASP is noted and to immediately stop work in cases where an immediate danger to site workers or the environment is perceived. Responsibilities of the SSO also include:

- Obtaining and distributing PPE and air monitoring equipment necessary for this project;
- Limiting access at the Site to authorized personnel;
- Communicating unusual or unforeseen conditions at the Site to the Project Manager;
- Supervising and monitoring the safety performance of site personnel to evaluate the effectiveness of health and safety procedures and correct deficiencies;
- Conducting daily tailgate safety meetings before each day's activities begin; and
- Conducting a site safety inspection prior to the commencement of each day's field activities.

SUBCONTRACTOR PERSONNEL

Subcontractor personnel are expected to comply with the minimum requirements specified in this HASP. Failure to do so may result in the dismissal of the subcontractor or any of the subcontractor's workers from the job site. Subcontractors may employ health and safety procedures that afford them a greater measure of personal protection than those specified in this plan as long as they do not pose additional hazards to themselves, the environment, or others working in the area.

6.0 SITE CONTROL MEASURES

The SSO or Project Manager has been designated to coordinate access and security on site.

7.0 STANDARD OPERATING PROCEDURES

GENERAL SAFETY

- Maintain good housekeeping at all times in all project work areas.
- Check the work area to determine what problems or hazards may exist.

- Designate specific areas for the proper storage of materials.
- Store tools, equipment, materials, and supplies in an orderly manner.
- Provide containers for collecting trash and other debris.
- Clean up all spills quickly.
- Report unsafe conditions or unsafe acts to your supervisor immediately.
- Report all occupational illnesses, injuries, and vehicle accidents.
- Do not wear loose clothing, wristwatches, and other loose accessories when within arm's reach of moving machinery.
- Emergency exits and evacuation areas should be clearly marked during work activities.
- Personnel fall protection is required when climbing to perform maintenance six feet or higher above ground.
- Inspect hand tools and use proper PPE.
- Ensure proper grounding and guarding of equipment.
- Keep hands and fingers out of pinch points.
- Use good ergonomic posturing when working with heavy items.

HAZARD EVALUATION

The following substances are known or suspected to be on site. The primary hazards of each are identified as follow:

<u>Substances</u>	<u>Concentration</u>	<u>Primary Hazards</u>
VOCs	various	ingestion, inhalation, skin
Lead	various	ingestion, inhalation, skin

COMMUNICATION PROCEDURES

Due to the close proximity of all field crew members the necessity for radio communication is not necessary.

The following standard hand signals will be used:

- Hand drawn across throatCease operation immediately
- Hand gripping throat.....Out of air, can't breathe
- Grip partner's wrist or both hands around waist..... Leave area immediately
- Hands on top of head..... Need assistance
- Thumbs up.....OK, I am alright, understood
- Thumbs down..... No, negative

FIELD VEHICLES

- Equip vehicles with emergency supplies and equipment.
- Maintain both a first aid kit and fire extinguisher in the field vehicle at all times.
- Utilize a rotary beacon on vehicle if working adjacent to active roadway.
- Always wear seatbelt while operating vehicle.
- Tie down loose items.

MANUAL LIFTING

- Personnel shall seek assistance when performing manual lifting tasks that appear beyond their physical capabilities.
- Assess the situation before lifting, ensure good lifting and body positioning practices, and ensure good carrying and setting down practices.

HEAT EXPOSURE

- Limit exposure to the sun, or take extra precautions when the UV index rating is high.
- Take lunch and breaks in shaded areas.
- Create shade by using umbrellas, tents, and canopies.
- Wear proper clothing: long sleeved shirts with collars, long pants, and UV-protective sunglasses or safety glasses.
- Apply sunscreen generously to all exposed skin surfaces at least 20 minutes before exposure. Re-apply sunscreen at least every 2 hours, and more frequently when sweating or performing activities where sunscreen may be wiped off.
- Communicate any concerns regarding heat stress to a supervisor.
- Keep hydrated throughout the day (about 4 cups per hour).
- OSHA's Heat Index:

Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (Caution)	Basic heat safety and planning
91°F to 103°F	Moderate	Implement precautions and heighten awareness
103°F to 115°F	High	Additional precautions to protect workers
Greater than 115°F	Very High to Extreme	Triggers even more aggressive protective measures

Utilities (Under Ground and Above Ground): Low Hazard. Utilities have been cleared during a geophysical survey.

Biological Hazards: Low to medium Hazard. Beware of spiders, insects and other possible animals.

Site Instability: Low to medium Hazard. The Site will be inspected prior to equipment placement and closely monitored. Any settling of the equipment will cause the work to stop immediately.

Equipment Refueling: Low Hazard. Equipment shall not be refueled with the engine running. Cigarettes, open flames, or other ignition sources are not allowed within 50 feet of the fueling location.

Personnel Injury: Upon notification of an injury the Project Field Leader should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement. The Project Field Leader shall initiate the appropriate first aid, and contact should be made for an ambulance and with the designated medical facility (if required).

Fire/Explosion: The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

Other Equipment Failure: If any other equipment on site fails to operate properly, the Project Team Leader shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, work will cease until the situation is evaluated and appropriate actions taken.

8.0 PERSONAL PROTECTIVE EQUIPMENT

The purpose of PPE is to protect employees from hazards and potential hazards they are likely to encounter during site activities. The amount and type of PPE used will be based on the nature of the hazard encountered or anticipated. Respiratory protection will be utilized when an airborne hazard has been identified using real-time air monitoring devices, or as a precautionary measure in areas

designated by the SSO, elevating to level C. If this occurs, contractor personnel shall be respirator-approved.

Dermal protection, primarily in the form of chemical-resistant gloves and coveralls, will be worn whenever contact with chemically affected materials (e.g. soils, groundwater, sludge) is anticipated, without regard to the level of respiratory protection required.

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

<u>Location</u>	<u>Job Function</u>	<u>Level of Protection</u>
Controlled Area	All workers	A B C D Other

Specific protective equipment for each level of protection is as follows:

Level A

- Fully-encapsulating suit
- SCBA
- Disposable coveralls

Level C

- Splash gear
- Half-face canister respirator with H₂S/VOC cartridge
- Mouth/nose canister respirator
- Efficiency 100 (HEPA)

Level B

- Splash gear
- SCBA

Level D

- Hard hat
- Ear plugs
- Neoprene or leather gloves - nitrile gloves
- Safety vests and Glasses
- Hard toe boots

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SSO OR PROJECT MANAGER.

9.0 DECONTAMINATION PROCEDURES

Despite protective procedures, personnel may come in contact with potentially hazardous compounds while performing work tasks. If so, decontamination needs to take place using an Alconox or tri-sodium phosphate (TSP), followed by a rinse with clean water. Standard decontamination procedure for levels C and D are as follows:

- Equipment drop
- Boot cover and outer glove wash and rinse
- Boot cover and out glove removal
- Suit wash and rinse
- Suit removal
- Safety boot wash and rinse
- Inner glove wash and rinse
- Respirator removal
- Inner glove removal
- Field wash of hands and face

Workers should employ only applicable steps in accordance with level of PPE worn and extent of contamination present. The SSO shall maintain adequate quantities of clean water to be used for personal decontamination (i.e. field wash of hands and face) whenever a suitable washing facility is not located in the immediate vicinity of the work area. Disposable items will be disposed of in an appropriate container. Wash and rinse water generated from decontamination activities will be handled and disposed of properly. Non-disposable items may need to be sanitized before reuse. Each site worker is responsible for the maintenance, decontamination, and sanitizing of his/her own PPE.

Used equipment may be decontaminated as follows:

- An Alconox or TSP and water solution will be used to wash the equipment.
- The equipment will then be rinsed with clean water.

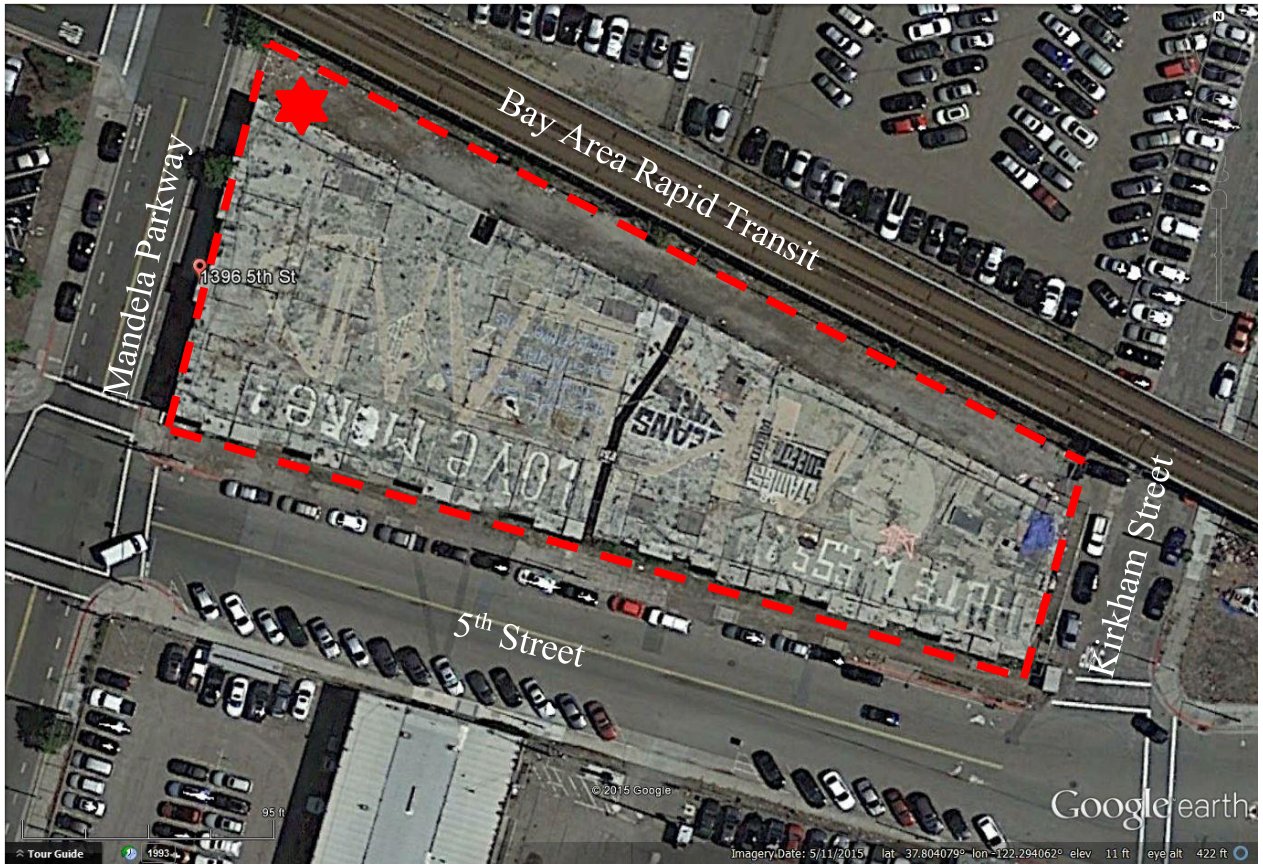
Each person must follow these procedures to reduce the potential for transferring chemically affected materials offsite.

10.0 EMERGENCY PROCEDURES

In the event of an emergency, site personnel will signal distress with three blasts of a horn (a vehicle horn will be sufficient), or other predetermined signal. Communication signals, such as hand signals, must be established where communication equipment is not feasible or in areas of loud noise.

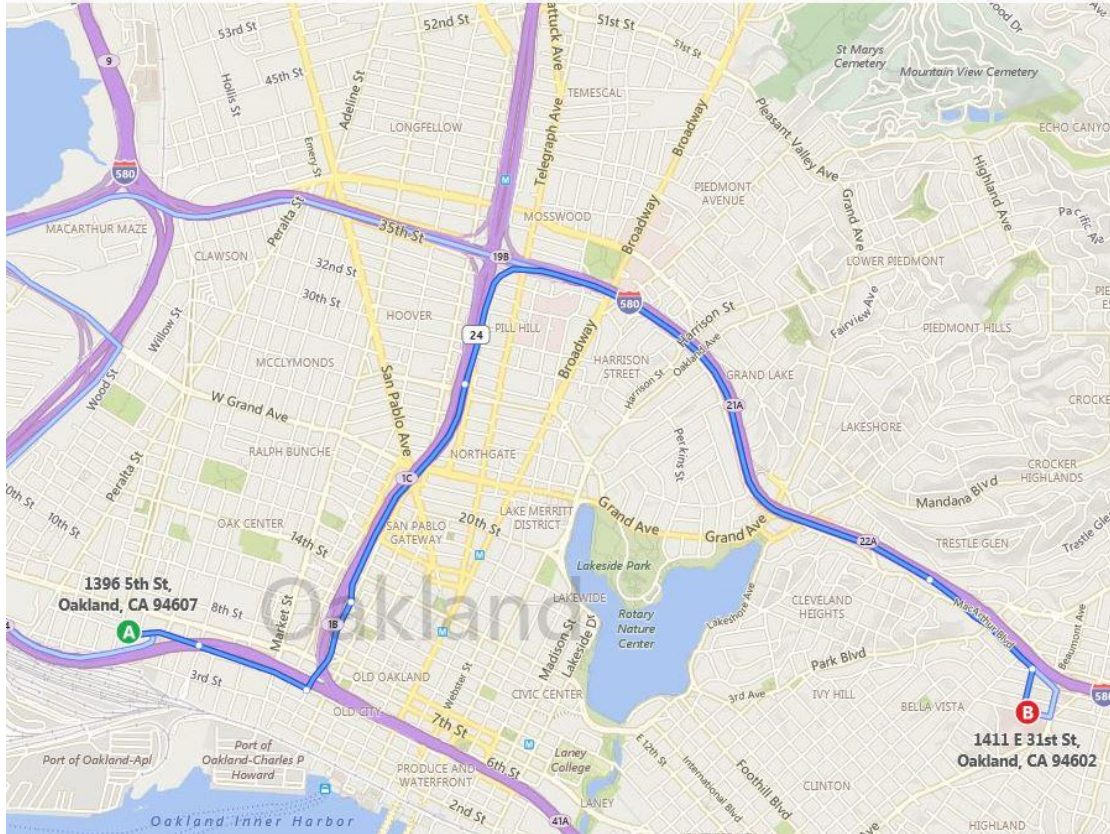
The SSO will designate evacuation routes and refuge areas to be used in the event of an emergency. Site personnel will stay upwind from vapors or smoke and upgradient from spills. Workers should exit through the established decontamination areas wherever possible. If evacuation cannot be done through an established decontamination area, site personnel will go to the nearest safe location and remove contaminated clothing there. Personnel will assemble at the predetermined refuge following evacuation and decontamination. The SSO will count and identify site personnel to verify that all personnel have been evacuated safely. Please refer to Figure 1.0 for the evacuation route and refuge location.

FIGURE 1.0 – EVACUATION ROUTE AND REFUGE AREAS



 = Approximate Site Boundaries  = Refuge Areas

The designated medical facility is:
 Highland Hospital
 1411 E 31st St
 Oakland, CA 94602
 Tel: (510) 437 4865



Directions:

- Depart 5th St toward Kirkham St (east) 0.3 mi
- Take ramp on right for I-880 South toward Alameda/Broadway 0.4 mi
- Turn left onto Castro St 0.4 mi
- Take ramp left for I-980 East toward San Francisco/Walnut Creek 1.0 mi
- Take ramp right for I-580 East toward Hayward 2.6 mi
- At exit 22, take ramp right for MacArthur Blvd towards Park Blvd 0.5 mi
- Turn right on Stuart St 0.2 mi
- Turn left onto 31st St 95 ft
- Arrive at 1411 E 31st St

Local ambulance service is available from:

Name	Local Paramedics
Phone	911

First-aid equipment is available in the SSO's vehicle.

List of emergency phone numbers:

<u>Agency/Facility</u>	<u>Phone#</u>
Police	911

Fire

911

Hospital

(510) 437 4865

This HASP has been prepared by:

Roopal Jani
Staff Geologist

Reviewed by:

Mark Drollinger, M. Eng., CSP, CHMM, EIT
Director, Environmental Geology and Engineering



CITADEL
ENVIRONMENTAL SERVICES, INC.

Appendix C

NJDEP Guidance for Characterization of Concrete and Clean Material Certification for Recycling

**The New Jersey Department of Environmental Protection
Solid and Hazardous Waste Management Program**

**Guidance for Characterization of Concrete and
Clean Material Certification for Recycling**

(Updated January 12, 2010)

I. Overview:

The New Jersey Department of Environmental Protection (Department or NJDEP) is requiring the characterization, preferably by in situ predemolition sampling, or post-demolition sampling, through the laboratory analysis of concrete, post-demolition concrete-processing fines and brick and block (referred to herein as concrete) at all New Jersey demolition and construction sites that have the Department's Site Remediation Program's and Licensed Site Remediation Professional Program's, (SRP) oversight when the concrete is designated for: 1) recycling pursuant to N.J.A.C. 7:26A *et seq.*; or, 2) beneficial use pursuant to N.J.A.C. 7:26-1.7(g), rather than disposal as solid waste. This characterization requirement applies to demolished buildings, concrete roadways and related structures such as, but not limited to, sidewalks and curbing. The Department is taking this step to ensure that the concrete entering the State's concrete recycling system is clean and will not contaminate otherwise clean sites. The Department is also outlining in the, "Guidance for Characterization of Concrete and Clean Material Certification for Recycling" (Guidance), how site owners can self-certify building materials as clean prior to demolition without sampling and analysis. See Section VI for information on clean building certification compliance procedures.

The Sampling and Analysis Protocol outlined below is for certain contaminants that the Department recognizes may be found in concrete from contaminated sites. Only uncontaminated concrete will normally qualify for unrestricted recycling, while some minimally contaminated concrete or concrete fines may qualify for beneficial uses but only with Department approval.

For example, asphalt-contaminated concrete or concrete mixed with soils may meet beneficial use requirements for certain conditional uses at roadways. No sampling of the concrete from a site is required under this guidance if the property owner chooses to dispose of all of the material as solid waste. Note that Department approval pursuant to N.J.A.C. 7:26-1.7(g)8 is required for the beneficial use of materials out of state, which may require sampling and analysis of the material to meet the receiving State's requirements.

II. Concrete Materials Characterization:

Through either in situ, which is the preferred approach, or post demolition sampling the site owner is responsible for characterizing the concrete in the structures the owner is demolishing. In situ sampling and analysis is sampling prior to demolition at targeted areas of the structure, which are known and suspected areas of contamination, in order to determine contamination levels. More detailed information concerning in situ sampling requirements is described in Section V below.

Alternatively, the owner may elect to conduct post-demolition sampling and analysis of the concrete from a structure or consolidation of concrete from roadway and related structures. The concrete material must be stockpiled on the property where it is generated if it is to be considered for either recycling or beneficial use. The material should be staged in Sampling Areas of segregated material based on any knowledge of contamination and sampled according to the Sampling and Analysis Protocol below in Section V. Otherwise the concrete must be managed as solid waste per the solid waste regulatory requirements at N.J.A.C. 7:26 *et seq.* All sampling must take place where the material is generated in accordance with the Department's Technical Requirements for Site Remediation at N.J.A.C. 7:26E, including the Field Sampling Procedures Manual.

III. Criteria for Materials Disposition:

The disposition of all concrete material from contaminated sites with the Department's **SRP's** oversight at contaminated sites shall be determined by characterization of the material using the results of sampling and analysis conducted according to this Guidance. The analytical results shall be compared to the Department's most recent Soil Remediation Standards (SRS) at N.J.A.C. 7:26D, which are publicly available at the following website: <http://www.nj.gov/dep/srp/regs/rs/> .

Note that the Impact to Groundwater Soil Remediation Standards are not applicable to the materials addressed in this guidance.

Data averaging is not permitted in order to achieve compliance with the standards.

For material that is intended to be used on the site of generation sampling and management of material must be conducted in compliance with the requirements of the Department's case manager.

Concrete materials containing contamination entirely below the Department's Residential Direct Contact Soil Remediation Standards (RDSCRS) shall be considered eligible for transfer: 1) to a Class B Recycling Center holding a General or Limited Approval for recycling, 2) for recycling per the recycling site approval exemption requirements at N.J.A.C. 7:26A-1.4(a)2, 7, or 20, or 3) for direct unrestricted use on or off site in compliance with all other requirements. Compliance with any Federal, State, and local requirements is still required for all uses of concrete materials.

Materials containing any contaminant above the Department's RDSCRS are considered solid wastes and must be managed in accordance with all statutory and Department regulatory requirements including, but not limited to, the full requirements for solid waste pursuant to the Solid Waste Regulations at N.J.A.C. 7:26 *et seq.* including classification as hazardous waste as necessary, or at specific Class B recycling centers authorized to accept the material, or beneficial use in accordance with Department requirements. Department guidance for conducting Beneficial Use Projects and a project application form are available at <http://www.state.nj.us/dep/dshw/rtrp/bud.htm> . These contaminated materials do not qualify for the following: 1) recycling at the State's Class B, or other, Recycling Centers holding a General Approval or at Class B Limited Recycling Centers approved in

accordance with the requirements at N.J.A.C. 7:26A-3.7 unless the facilities are specifically authorized to accept the material; 2) recycling at sites operating per the recycling approval exemption requirements at N.J.A.C. 7:26A-1.4(a)2, 7, or 20; and, 3) for direct reuse or recycling on or off of the site of generation without Department approval.

IV. Separation of Distinct Demolition Areas and Materials:

The sampling and analysis protocol specified in this document in Section V is based on defining distinct areas of the structure for initial in situ sampling or demolition based on known and suspected areas of contamination within or on a structure, roadway or pad or any other “area of concern”. Demolition shall be planned to prevent the mixing of areas of demolition that are contaminated with uncontaminated areas in the form of a demolition workplan. The site owner is obligated to develop and implement a plan to segregate contaminated materials from uncontaminated materials. Demolition practices should separate out materials that may be contaminated prior to and/or concurrent with demolition, for proper manifesting and/or disposal as solid waste.

V. Sampling and Analysis:

1. What Demolition Materials to Sample: Source Separated Concrete, Block, Brick and Concrete Fines (processed concrete fines or concrete mixed with soil, sand, stone, etc.) at all New Jersey demolition and construction sites that have the Department’s Site Remediation Program’s oversight at a contaminated site.

2. How to Sample:

- a. **Biased Sampling:** All sampling, including in situ sampling, shall be biased toward visible staining or other indication of potential contamination: such as the source of the material, coloration or odor.
- b. **Sampling Methods:** the Department is specifying approved sampling methods as either chip or core samples. Core samples shall be no deeper than 1 inch unless staining or discoloration indicates that contamination is below that depth. Sampling logs shall record the depth of core samples. This would further support the Self Certification Process discussed below. Confirmatory sampling is required of material intended for recycling if suspected contaminated sections of material are removed.
- c. **Sampling Areas:** Sampling areas shall be determined based on each distinct area of demolition such as separate properties, separate structures on the same property, known or suspected areas of contamination within a structure or roadway, or designated Areas of Concern (AOC). The Department case manager may be consulted as an option for advice, or a determination, of which structures to sample.

Sampling Frequency: In situ sampling frequency is dependent on the number of areas of biased sampling and whether contamination is found at sampling locations. Material used for samples shall not exceed 1 (one) inch maximum in

depth. If additional material is needed for a sample additional sample(s) should be colocated at the sampling point. In situ samples shall always be discrete samples and not composited.

Each post-demolition Sampling Area, such as accumulated concrete material in individual staged stockpiles, shall be sampled at the following rate. Material used for individual samples shall not exceed 1 (one) inch maximum in size, and depth. If additional material is needed for a sample additional sample(s) should be colocated at the sampling point.

(Each composite sample must include 1 sample for each 20 yds³.)

<u>Quantity</u>	<u>Number of Composite Samples</u>
Less than 400 yds ³ -	1/100 total yds ³
400 yds ³ – 2000 yds ³ -	1/200 total yds ³ + 2
Over 2000 yds ³ -	1/500 total yds ³ + 8

(Ex. 1: 310 total yds³ project requires: (310/100) = 4 samples.)

(Ex. 2: 735 total yds³ project requires: (735/200) + 2 = 6 samples.)

(Ex. 3: 1,750 total yds³ project requires: (1750/200) + 2 = 11 samples.)

(Ex. 4: 5,000 total yds³ project requires: (5000/500) + 8 = 18 samples.)

(Note: for any amount over a volume increment round up to the next highest number of samples as in ex. 1 and 2.)

3. What Contaminants to Analyze: (Analysis Profile)

All sampling and sample analyses shall be conducted in accordance with the criteria and methods specified in the Technical Requirements for Site Remediation at N.J.A.C. 7:26E *et seq.* The Department sanctions composite sampling for the purposes of post-demolition materials characterized for management per this Guidance. In situ samples shall always be discrete samples and not composited.

For all sites:

a. PCBs & PAHs: :

Sample and analyze in all concrete and concrete fine materials. If the recycled concrete is going to be used as road base, the requirement to analyze for PAHs may be eliminated by the site case manager.

Based on site-specific factors, or as directed by the SRP Manager:

b. TCLP, TAL/TCL+30, TPH:

If known or suspected at industrial, mining or other sites, or as directed by the Department's Case Manager for the site, analyze for VOCs, SVOCs, TCLP Pesticides, Herbicides; TAL/TCL+30, TPH, and as required on a case-specific basis RCRA TCLP including TCLP metals.

c. Dioxins/Furans:

If known or suspected at industrial, mining or other sites, or as directed by the site Case Manager for the site, use USEPA Method 1613B, 1ppt detection limit, 17-congener profile, or the latest Department-approved method. Consult the Department for a case-specific determination for use of materials containing

elevated levels of dioxins/furans above a screening level of 50 parts per trillion (ppt) total 17-congener Toxicity Equivalents (TEQ) off site.

d. **Radionuclides as Naturally Occurring Radioactive Material (NORM):**

If known or suspected at industrial, mining or other sites, or as directed by the Department's Case Manager for the site, analyze by gamma spectroscopy for the natural series of radionuclides. The representative samples should be dried, sealed and counted after 21 days. The minimum detectable concentration requirement for Ra-226 and Th-232 daughter nuclides should be 0.5 picoCuries per gram (pCi/g) on dried material. Provide laboratory documentation of analysis and methodology. The laboratories must be certified by the Department's Office of Quality Assurance (OQA) for radionuclides in soil analysis DOE 4.5.2.3. Contact Mr. Vas Komanduri of OQA at (609)984-0855 for a current list of certified laboratories.

The following industries are recognized by the Department's Bureau of Environmental Radiation as having the potential to have technologically enhanced Naturally Occurring Radioactive Material (NORM) contamination potential: Paper and pulp facilities; Ceramics manufacturing; Paint and pigment manufacturing; Metal foundry facilities; Optical glass; Fertilizer plants; Aircraft manufacture; Munitions and armament manufacture; Scrap metal recycling; Zirconium manufacturing; Oil and gas production, refining, and storage; Electricity generation; Cement and concrete product manufacture; Radiopharmaceutical manufacturing; Geothermal energy production.

If material is from a radioactive materials licensee or a former licensee, or is a radioactively contaminated site, contact the Bureau of Environmental Radiation case manager for assistance.

VI. Clean Building Self Certification Compliance:

This section discusses the procedures for the owner of a structure self certifying that the structure is clean. The Department will allow the owner of a site that is a demolition and construction site with the **SRP's** oversight that is required to comply with this Guidance, to self certify the site, or a portion or portions of the site's structures, as clean either based on the results of in situ or post-demolition sampling and analysis prior to concrete material disposition per this guidance document or by reviewing the historical uses and construction features of the site. Note that each individual building or structure at the site from which concrete will be generated for recycling or use as outlined above must undergo either sampling and analysis per the guidance in sections I through V of the "Guidance for Characterization of Concrete and Clean Material Certification for Recycling," or one of the two self-certification procedures described in this section.

The person completing the certification must be a principal executive officer, general partner or proprietor of the company or a high level official of a government-owned site. The site owner has the option of providing a delegation of authority, which assigns responsibility for signing the Certification Statement from the officer or high ranking official to the local site manager, to the Department with the Certification Statement.

1. Self Certification with Sampling/Analysis:

The self Certification process with sampling specifies that all of the concrete and concrete materials contain contamination of PCBs and PAHs, and other contaminants based on site-specific factors or as directed by the SRP's Case Manager, below the Department's Soil Remediation Standards. The site owner shall base the self Certification on analytical data from the testing of the concrete in accordance with this Guidance and certify that the concrete was fully characterized and also managed according to the requirements of this Guidance. The owner of the site is responsible for compliance with this Guidance, maintaining all documentation related to the demolition and material characterization process including demolition and sampling plans, analytical testing documentation and material disposition after self Certification and filing self Certification documents with the Department.

The owner of the property where the concrete sampling was conducted shall complete the Certification in Addendum 2 of this Guidance, which the owner shall have notarized and retain with the characterization documentation on site for a minimum of five years. The owner of the property is responsible for submitting a copy of the executed Certification to the SRP Case Manager for the site.

2. Self Certification without Sampling/Analysis using the "Clean Building Checklist":

The self Certification process without sampling specifies that all of the concrete and concrete materials contain contamination of PCBs and PAHs, and other contaminants based on site specific factors or as directed by the SRP's Case Manager, below the Department's Soil Remediation Standards based on an assessment of the historical uses of the site and building construction materials. The site owner shall base the self Certification on the results of the "Clean Building Checklist" in accordance with this Guidance and certify that the concrete is clean based on the assessment of the building and also managed according to the requirements of this Guidance. The owner of the site is responsible for compliance with this Guidance, maintaining all documentation related to the demolition and assessment process including demolition and sampling plans, analytical testing documentation and material disposition after self certification and filing self Certification documents with the Department.

The owner of the property for which the, "Clean Building Checklist for Recycling" was used to assess the status of material contamination in the building shall complete the Certification in Addendum 2 of this Guidance, noting that the "Clean Building Checklist" was used to determine the building's concrete and related materials are clean. The owner shall have the Certification notarized and retain with the other related facility documentation. The owner of the property is responsible for submitting a copy of the executed Certification to the SRP Case Manager for the site.

ADDENDUM 1
The New Jersey Department of Environmental Protection
Solid and Hazardous Waste Management Program
CLEAN BUILDING CHECKLIST for RECYCLING

Activity	Yes	No	* If “Yes”, Include Detailed Comments
1. Was the building constructed or concrete poured in the year 2000 or later?			
2. Was the building constructed or the concrete poured between 1990 and 1999?			
<u>3. The following questions apply to the current and historic use of the building (including prior owners and operators):</u>			
a. Did the building contain liquid filled transformers?			
b. Did the building contain liquid filled PCB equipment?			
c. Did the building contain oil filled equipment?			
d. Did the building contain chemicals?			
e. Did the building contain heat transfer equipment?			
f. Was the building utilized for an industrial process where chemicals may have been manufactured or used?			
4. Does the building have doorways that are caulked?			
5. Does the building have windows that are caulked?			
6. Does the building have exterior panels with joints that are caulked?			
7. Does the building have floor concrete expansion joints that are caulked?			
8. Are there any sumps, floor drains or pits in a chemical room or process area <u>(include current and historic operations)</u> ?			
9. Did the building have chemical waste collection areas <u>(current and historic operations)</u> ?			
10. Did the building have storage areas for raw materials or finished products that contained liquids <u>(include current and historic operations)</u> ?			

(March 2007)

Sampling and Analysis Summary: (Detailed direction for sampling and analysis is described in the Guidance.)

- No sampling or analysis is required for any buildings or concrete poured 2000 or later
 - Buildings constructed between 1990 and 1999; sampling is only required in areas with an affirmative response as required in the, “Clean Building Checklist for Recycling”
 - Buildings containing caulking, expansion joints and constructed between 1990 and 1999, sampling for PCBs is required
 - Nonbuilding structures (i.e., sidewalks, curbs, driveways, etc.) constructed between 1990 and 1999, analysis of PCBs & PAHs is required
- * Include or attach appropriate documentation to support claims.

ADDENDUM 1 (cont.)

CLEAN BUILDING CHECKLIST for RECYCLING - INSTRUCTIONS

Clean Building Checklist Determination:

To certify that a nonindustrial use building (i.e., cafeterias, offices hotels, etc.) or structure (i.e., sidewalks, etc.) are free of contamination (a.k.a., clean) because of the building's historical uses and operations, the owner of the facility should, at a minimum, conduct the following:

For nonindustrial use buildings or structures constructed in the year 1990 or later, complete the Department's "Clean Building Checklist", a series of questions related to the historical use(s) of such structures and buildings, the age, etc. If, after completing the checklist, the owner determines that no evidence of industrial use has occurred, the building or structure is considered clean and no sampling will be required. If the building or structure can not be documented as clean, then targeted sampling is required using the protocol below. Follow the Certification process in the Guidance.

Building Self Certification Process Summary:

For nonindustrial use buildings and structures constructed prior to 1990 or if the completion of the "Clean Building Checklist" revealed possible industrial uses, targeted sampling shall be performed of the caulking from windows, doorways, expansion joints in floors and external panels, spacers from other structures, transformers and electrical supply areas and other known or suspected contaminated building components;

Targeted sampling shall be completed as follows: the caulking from one outer doorway will be sampled for PCBs and PAHs. If it can be documented that all the doorways were installed at the same time and no physical alterations were made since installation, then the one sample shall be representative. Otherwise, samples will be taken from multiple outer doorways and composited into one sample. At a minimum, at least one 5-sample composite from different doorways shall be analyzed from each building's doorway caulking for PCBs. The same sampling protocol shall be followed for windows, expansion joints in floors and external panels, spacers from other structures, transformers and electrical supply areas or other known or suspected contaminated building components;

A copy of the results shall be retained for five years and shall be certified by the site operations manager or the ranking corporate officer at the site according to the procedure in the Department's "Guidance for Characterization of Concrete and Clean Material Certification for Recycling" available at:

<http://www.state.nj.us/dep/dshw/resource/techman.htm#concrete> .

Note: that this is the recommended Guidance at this time only for determining that concrete and related materials are suitable for recycling in the State's recycling system.

ADDENDUM 2:
The New Jersey Department of Environmental Protection
Solid and Hazardous Waste Management Program

CERTIFICATION STATEMENT FOR CONCRETE DESIGNATED
FOR RECYCLING

"I certify under penalty of law that I have personally examined and am familiar with the information related to this material characterization documentation concerning the self Certification of the site named herein and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, complete and meets the requirements of the latest, **“Guidance for Characterization of Concrete and Clean Material Certification for Recycling”** issued by the New Jersey Department of Environmental Protection that all of the concrete and concrete materials contain contamination of PCBs and PAHs, and other contaminants as directed by the SRP Case Manager, below the Department’s Soil Remediation Standards. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I understand that, in addition to criminal penalties, I may be liable for a civil administrative penalty pursuant to N.J.A.C. 7:26-5 and that submitting false information may be grounds for denial, revocation or termination of any solid waste facility permit, vehicle registration or other Department authorization for which I may be seeking approval or now hold."

Note below whether Sampling was conducted and/or the “Clean Building Checklist” was completed:

Sampling Conducted: Complete “Clean Building Checklist:

NAME OF SITE

ADDRESS

CITY, STATE & ZIP CODE

NAME OF CERTIFYING PERSON (must be a corporate officer) **TITLE**

SIGNATURE OF CERTIFYING PERSON (must be a corporate officer) **DATE**

TELEPHONE **FAX**

INTERNET WEBSITE ADDRESS **EMAIL**

IMPORTANT

Pursuant to N.J.S.A. 47:1A-1 et seq. the information provided in this form and its attachments shall be available to the public for review unless a specific claim of confidentiality is submitted pursuant to the procedures set forth in N.J.A.C. 7:26-17 et seq. and is approved by the Department. For assistance regarding confidentiality claims, please contact the Solid and Hazardous Waste Management Program at (609) 984-6985.

SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Certification of Concrete Sampling as of the date first written above.

[If Owner is an individual]

WITNESS:

[Signature]

[Print name below signature]

[If Owner is a corporation]

ATTEST:

[Name of corporation]

By _____

[Print name and title]

[Signature]

[If Owner is a general or limited partnership]

WITNESS:

[Name of partnership]

[Signature]

By _____, General
[Print name] Partner

[If Owner is an individual]

STATE OF [State where document is executed] SS.:
COUNTY OF [County where document is executed]

I certify that on _____, 20__, [Name of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that this person [or if more than one person, each person]

(a) is named in and personally signed this document; and

(b) signed, sealed and delivered this document as his or her act and deed.

_____, Notary Public
[Print Name and Title]

[If Owner is a corporation]

STATE OF [State where document is executed] SS.:
COUNTY OF [County where document is executed]

I certify that on _____, 20__, [Name of person executing document on behalf of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the [secretary/assistant secretary] of [Owner], the corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the [president/vice president] of the corporation;

(c) this document was signed and delivered by the corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

[Signature]

[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

[Print name and title]

[If Owner is a partnership]

STATE OF [State where document is executed] SS.:
COUNTY OF [County where document is executed]

I certify that on _____, 20__, [Name of person executing document on behalf of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that this person:

(a) is a general partner of [Owner], the partnership named in this document;

(b) signed, sealed and delivered this document as his or her act and deed in his capacity as a general partner of [owner]; and

(c) this document was signed and delivered by such partnership as its voluntary act, duly authorized.

[Signature]

_____, General Partner

[Print Name]

_____, Notary Public

[Print name and title]