US TP SRM TEMESCAL, LLC

111 N. Post St. Ste. 200
Spokane, WA 99201
509-455-5477
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Mr. Mark Detterman
Alameda County Environmental Health
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502-6577

RECEIVED
By Alameda County Environmental Health 1:59 pm, Nov 18, 2015

Re: **Revised Soil and Groundwater Management Plan**
4901, 4915, 4919, 4921, 4939, and 4945 Broadway;
Parcel No. 013-1136-008-04 (no address);
311 and 313 51st Street;
4974, 4970, 4966 and 4964 Desmond Street;
Oakland, California

Dear Mr. Detterman:

US TP SRM Temescal, LLC, has retained Pangea Environmental Services, Inc. (Pangea) for environmental consulting matters at the project referenced above. Pangea is submitting the attached report on our behalf.

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

Sincerely,

Trevor Ashenbrener
SRM Development, LLC

November 12, 2015

Mr. Trevor Ashenbrener
US TP SRM Temescal, LLC
101 North Post, Suite 200
Seattle, WA 99201

Re: **Revised Soil and Groundwater Management Plan**
4901, 4915, 4919, 4921, 4939, and 4945 Broadway;
Parcel No. 013-1136-008-04 (no address);
311 and 313 51st Street;
4974, 4970, 4966 and 4964 Desmond Street;
Oakland, California

Dear Mr. Ashenbrener:

Pangea Environmental Services, Inc. (Pangea) prepared this revised soil and groundwater management plan (SMP) for the subject site. This SMP revisions were prepared to incorporate specific sampling locations and depths requested by the soil export contractor, and to allow sampling within the subsurface exposed by the building demolition process. This SMP also incorporates comments from Alameda County Environmental Health (ACEH), who is providing oversight via a Voluntary Remediation Action Agreement. This SMP will help safeguard human health and safety with respect to potential petroleum hydrocarbons and lead present in soil and/or groundwater during planned site improvement. The site background and SMP are described below.

SITE BACKGROUND

The subject site is comprised of numerous parcels located along Broadway Avenue and 51st Street within a mixed commercial and residential area of Oakland, California. The site has four dilapidated buildings that are currently vacant. One of these buildings (4901 Broadway) was formerly occupied by a dry cleaner. Former structures have been demolished in other areas of the site. Some of the paved areas are leased to a car dealership to be used for overflow parking

A mixed commercial and residential development is planned for the subject site located at the western intersection area of Broadway and 51 Street and bounded by Desmond Street to the west and 49th Street to the south. Development plans include the excavation and removal of approximately 38,000 cubic yards of soil from the site. The excavation will extend approximately 5 ft deep in the western area, 10 ft deep in the southern area, and 20 ft deep in the northeastern area.

According to subsurface investigation data, lead and petroleum hydrocarbon impact has been identified in site soil and/or groundwater in select locations in excess of select conservative environmental screening levels (ESLs) established by the Regional Water Quality Control Board - San Francisco Bay Region. Site conditions are documented in a *Phase II Environmental Site Assessment Report* (Phase II ESA) by ERS Corporation dated May 3, 2013. The Phase II ESA reported a lead concentration of 550 mg/kg in soil boring SB-10 at 2.5 ft depth. This lead concentration exceeds the ESL of 80 mg/kg for residential site use and 320 mg/kg for commercial site use. The reported lead concentrations may be due to fill material used at the site or due to naturally occurring metals in site soil. The Phase II ESA also reported total petroleum hydrocarbons as motor oil (TPHmo) in soil at 2.5 ft depth (220mg/kg) in boring SB-10. This TPHmo concentration in soil exceeds the ESL of 100 mg/kg for residential site use (a ceiling value based on odor/nuisance), but is below the 500 mg/kg for commercial site use. Note that the reported TPHmo of 220 mg/kg is well below the ESL protective of human health direct contact to TPHmo-impacted soil of 1,000 and 10,000 mg/kg for residential and commercial site use, respectively. A TPHmo concentration of 330 ug/L was reported for a groundwater

sample from nearby boring SB-7. This TPHmo concentration in groundwater exceeds the ESL of 100 ug/L for residential and commercial site use, but state and local agencies generally do not require corrective action for such low TPHmo concentrations. Low lead and TPHmo concentrations were detected at 5 and 10 ft depth in boring SB-10 and no significant impact was detected in surrounding borings, suggesting the lateral and vertical extent of lead-impacted material is limited in extent.

During drilling, bedrock was encountered in the upper 10 feet in the northern portion of the site and refusal prevented collection of groundwater samples. Groundwater samples were collected from the samples collected in the southern portion of the site, when sufficient groundwater was encountered. Groundwater samples was collected from an approximate depth of 15 feet.

Within the past few weeks the site buildings were demolished. The basement was removed near 49th Street. The sloped sidewalls along 49th Street and Broadway adjacent the former dry cleaner are exposed to facilitate sampling without drilling through the adjacent sidewalk laden with utilities.

SOIL AND GROUNDWATER MANAGEMENT PLAN

This management plan addresses potential residual hydrocarbons and lead in soil and groundwater that could be encountered during planned site improvement. Planned subsurface work will require shallow excavation to install utility conduits and footings, may deeper excavation for subgrade features. The management plan also includes soil profiling to characterize soil in advance of site excavation for soil disposal planning purposes.

Pre-Excavation Soil Profiling for Soil Disposal

The site environmental manager shall be contacted to assist with soil characterization and removal activities. Available soil analytical data will be provided to the disposal or other facility accepting soil from the subject site. Pangea will assist with additional soil characterization as required to obtain soil acceptance by the designated facility.

Additional soil characterization described herein is planned to help facilitate offsite disposal of site material. This characterization will be conducted before, during or after building demolition at the site. The development plans include the excavation and removal of approximately *38,000 cubic yards* of soil from the site. Select soil (e.g, light yellow sandy and silty soil) may be accepted for use at the Oakland Army Base. This soil will likely require significant testing in accordance with *DTSC Clean Fill Advisory* (Advisory) dated October 2001. Select soil may be accepted at Dumbarton Quarry. Other soil (e.g., soil with higher lead impact) may require disposal at appropriate landfill.

The revised soil boring locations are shown on Figure 2. This includes eighteen boring or test pit locations to profile soil for disposal and address initial requirements from ACEH. The basis for the eighteen boring/test locations is presented below and summarized on revised Table 1.

For *insitu* soil sampling of site between 2 and 4 acres in size (site is about 2.25 acres), the Advisory recommends a minimum 1 discrete sample for every ½ acre. For this site this yields a *minimum of 5 samples*. Although the Advisory guidance recommends a minimum of 5 samples for the subject site size, soil accepting facilities typically require larger analysis quantities.

Per the soil export contractor, the revised sampling plan will involves sampling a minimum of 12 insitu samples for the following compounds:

- Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8260B;
- Total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) by EPA Method 8015Cm;
- Volatile organic compounds (VOCs) by EPA Method 8260B;
- CAM-17 Metals by EPA Method 6010/200.7;
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270D;
- PCBs by EPA Method 8082;
- Organochloride pesticides by EPA Method 8081A, and
- Asbestos by EPA Method 600 with CARB 435 and 0.25% target sensitivity.

To delineate lead and hydrocarbon impact previously identified at at 2.5 ft depth at boring SB-10, this plan also proposes three borings (B-9, B-10 and B-11) with soil sampling at 2.0 ft and 4.0 or 6.0 ft in each boring. This plan also proposes two borings (B-12 and B-13) to characterize soil and groundwater beneath the former dry cleaner facility at 4901 Broadway, and two borings (B-17 and B-18) to characterize shallow soil just outside the southern property boundary adjacent the former dry cleaning facility. Two borings (B-1 and B-2) are proposed in the townhome area, with boring B-2 proposed outside the proposed basement area.

As shown on Table 1, six select soil samples in deeper native soil to remain after excavation will only be analyzed for:

- Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8260B;
- Total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) by EPA Method 8015Cm;
- Volatile organic compounds (VOCs) by EPA Method 8260B.

As shown on Table 1, borings near lead and TPH impact in former boring B-10 will be analyzed for:

- Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8260B;
- Total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) by EPA Method 8015Cm;
- Lead or CAM-17 Metals by EPA Method 6010/200.7.

If field observations (e.g., odor, staining, PID readings) suggest hydrocarbon or other impact, additional sample analysis will be performed. If any hot spots are identified in soil, step-out borings will be performed for further lateral characterization, and deeper soil samples will be analyzed for vertical delineation. STLC and TCLP analyses will be performed as required by the landfill facilities to enable soil acceptance at the facility. If total metal concentrations exceed 10x the STLC limit for a specific metal, STLC analysis will be performed.

Pre-Excavation Activities

Prior to commencement of the excavation and drilling activities, the site environmental manager (Bob Clark-Riddell of Pangea) will be contacted at (510) 435-8664 or (510) 836-3700. A site safety and health plan (SSHP) dealing with the presence of petroleum hydrocarbons and lead shall be in place prior to commencement of the excavation and drilling activities. In accordance with the SSHP, a project Safety and Health Officer (SHO) will be assigned to respond to community queries regarding odors and other health

concerns. Perimeter air monitoring will be performed if odors are noticeable at the perimeter.

Soil and Groundwater Handling

Existing data and soil profiling data will be used to create a plan for soil handling. The excavation will extend approximately 5 ft deep in the western area, 10 ft deep in the southern area, and 20 ft deep in the northeastern area. Any soil containing brick or other obvious fill material will be stockpiled for further characterization. Any soil containing hydrocarbon odor or staining will also be stockpiled for further characterization. Prior to the excavation of soil with suspected hydrocarbon impact, the excavator or owner representative shall contact the site environmental manager (Bob Clark-Riddell of Pangea at 510.435-8664) and the oversight agency (Mark Dettermen of ACEH at 510.567-6876).

General handling procedures are as follows. If soil or groundwater contamination is encountered during site redevelopment, the site environmental manager (Bob Clark-Riddell) is to be contacted immediately at (510) 435-8664 or (510) 836-3700. The site environmental manager (or their agent) will respond to the site within two hours to ascertain the appropriate measures to be taken to assure worker safety and to assure that all contaminated materials encountered are properly managed. If contaminated material is excavated, it will be stockpiled on plastic sheeting and covered with plastic sheeting, or placed in appropriate containers (e.g., 55-gallon DOT-approved drums or roll-off bins). Alternatively, based on pre-profiling results, soil may be direct loaded into trucks with immediate offhaul to an appropriately licensed, offsite disposal facility. In accordance with agency requirements for minimizing potential odor concerns, excavated soil will not be 'aerated.' Debris (brick, rubble, etc.) encountered during excavation as well as concrete and/or asphalt cuttings will be separated from the excavated soil and disposed of separately. In summary, an environmental professional shall be onsite at any time the potential for contamination is present, or excavated, to document and verify the extent of removal and that dust control measures are implemented.

For soil borrow volumes from *stockpiled* soil, the Advisory recommends analysis of 1 discrete (not composited) sample for every 250 cubic yards. If soil is stockpiled, additional soil sampling will be performed as required by the accepting facilities.

Any water removed from the subsurface during construction shall be properly stored and/or disposed. Water will be disposed at an appropriately licensed offsite facility, discharged to the sanitary sewer in accordance with local water district requirements, or discharged to the storm drain in accordance with requirements of the Regional Water Quality Control Board.

Dust Control and Monitoring

With the soil profiling in advance, it anticipated that excavated soil will be immediately loaded onto trucks and routed to the disposal facility. This will significantly limit soil handling and minimize generation of dust, odor and noise. Stockpiled soil, if any, will be stored on plastic sheeting, covered with plastic, and weighted down by sandbags at the end of each working day, or immediately in the event of rain, suspicious odors, or if visible dust is being generated from the stockpiles.

All graded surfaces of any nature shall be wetted, or otherwise suitably contained to prevent nuisance from dust or spillage on city streets or adjacent properties. Equipment, materials and roadways on the site shall be used in a manner or treated as to prevent excessive dust conditions. Dust and dirt control activities shall not result in any material entering the storm drain system.

Dust control measures during excavation, backfilling, and handling of contaminated soil will consist of spraying the minimum amount of water needed to suppress the dust onto the soil and work area. Noise

generated during excavation will be monitored and modified accordingly, to ensure compliance with any applicable noise ordinances. Vapor suppressant spray will also be utilized, as deemed necessary.

Cleanup of Soil Tracked Offsite and Track Off Prevention

The following methods will be used to prevent and cleanup up offsite tracking of soil:

- Contractor will avoid tracking dirt off site and will assign someone to visually inspect trucks exiting the site.
- Contractor will limit construction access routes and stabilize designated access points.
- Paving, water, or non-toxic soil stabilizers will be used on unpaved access roads.
- Hauling trucks will not carry soil extending above the walls or back of the truck bed. As necessary, trucks with loose material will be covered with tarpaulins or other material. Wetting of soil in truck prior to covering, if necessary.
- Contractor will manually brush off tires and trucks, or will install wheel washers to clean all trucks and equipment leaving the construction site.
- Contractor will sweep streets (with water sweepers as necessary) at the end of each day if visible soil material is carried on the adjacent paved roads.

Grading, Erosion Control, and Stormwater Control

The following grading and erosion control best management practices (BMP) will be observed and implemented throughout excavation activities:

- Delineate with field markers clearing limits, easements, setbacks, sensitive or critical areas, buffer zones, trees, and drainage courses.
- Stabilize all denuded areas and install and maintain all temporary erosion and sediment controls continuously between October 15th and April 15th.
- Perform clearing and earth moving activities only during dry weather (without significant rainfall).
- Provisions will be made for diverting on-site runoff around exposed areas and diverting off-site runoff around the site.
- Provisions for preventing erosion and trapping sediment on site, storm drain inlet protection, covers for soil stock piles, and/or other measures.
- Store, handle, and dispose of construction materials and wastes properly, so as to prevent their contact with stormwater.
- Control and prevent the discharge of all potential pollutants, including pavement cutting wastes, concrete, petroleum products, chemicals, washwater or sediments, and non-storm water discharges to storm drains and any nearby surface water.

- Avoid cleaning or maintaining vehicles on site, except in a designated area where washwater is contained and treated.

- Protect adjacent properties and undisturbed areas from construction impacts.

- Train and provide instruction to all employees and subcontractors regarding the construction BMPs.

If any storm water catch basins are found in close proximity to excavation, the contractor will implement the following procedures designed to ensure that grading and erosion control practices proposed for the above project comply with best management practices and standards.

- Any catch basin will be protected by silt fencing or other erosion sedimentation prevention devices at all times.

- Erosion control devices will not be moved or modified without approval of the project manager.

- All removable erosion protective devices shall be in place at the beginning and end of each working day at all times.

- All silt and debris shall be removed from streets and public right of way immediately.

- All immediate downstream inlets will be protected.

REPORTING

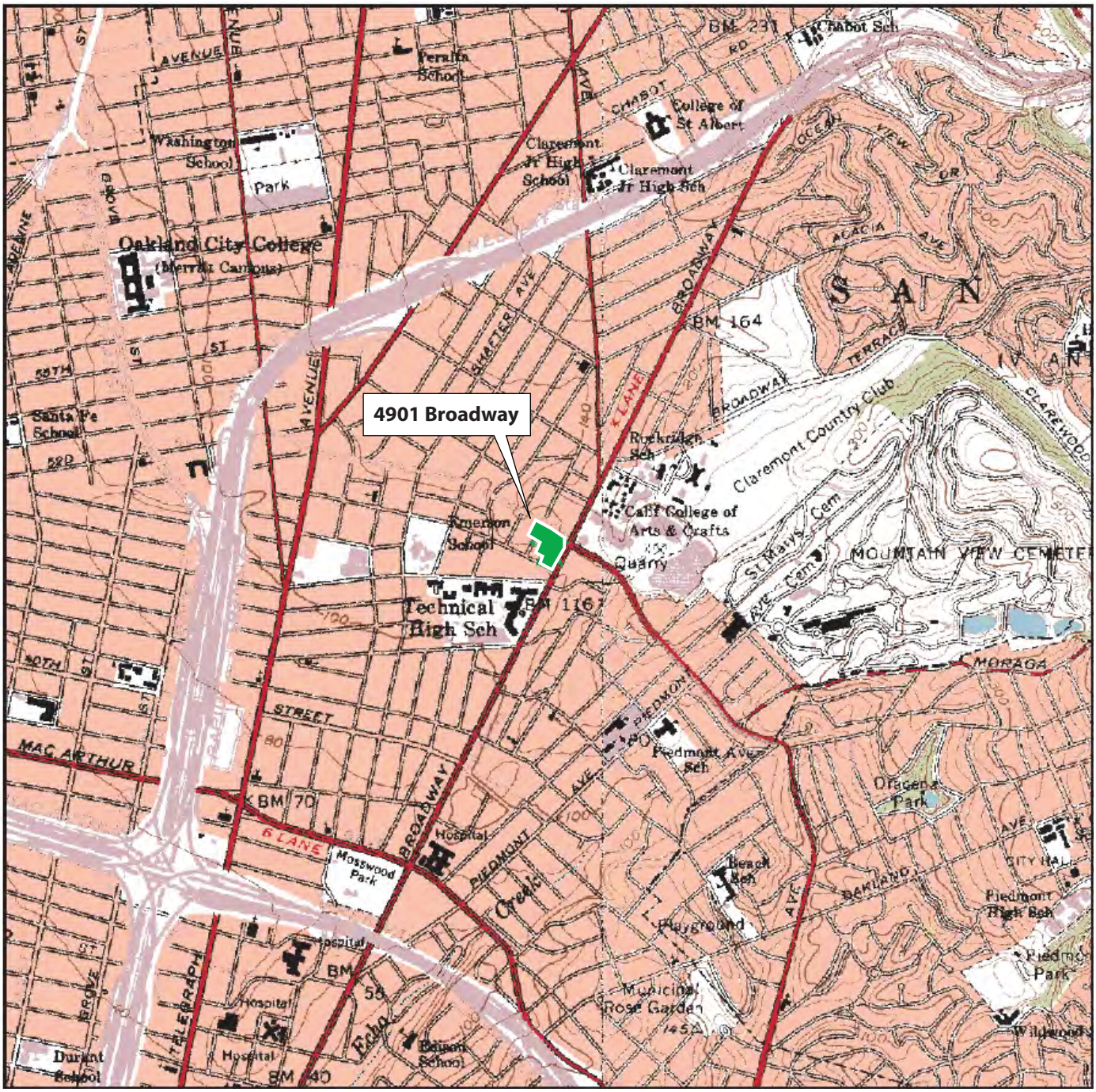
This plan will be provided to the general contractor and excavation subcontractors working on this project. If environmental conditions are observed by the site environmental manager or others that may represent an imminent threat to human health or the environmental, such conditions shall be reported to the City of Oakland Fire Department and Alameda County Environmental Health.

At the completion of the soil profiling sampling program a technical report will be provided to ACEH. The report will include boring logs. Interim data reports will also be provided to ACEH. At the completion of soil excavation, soil samples will be collect from the excavation sidewalls and floor to document conditions in residual soil. If chemical concentrations in residual soil and groundwater exceed applicable ESLs, Pangea recommends evaluating potential mitigation measures. We trust this information satisfies your requirements. If additional information is required, please call (510) 435-8664.

Sincerely,
Pangea Environmental Services, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

Attachments:
Figure 1 – Site Vicinity Map
Figure 2 – Proposed Boring Locations
Table 1 – Proposed Sampling and Analysis Program



Source Map: ERS

0 1/4 1/2

Approximate Scale (in Miles)

N

Figure 1

4901 Broadway
Oakland, California

PANGEA

Site Vicinity Map

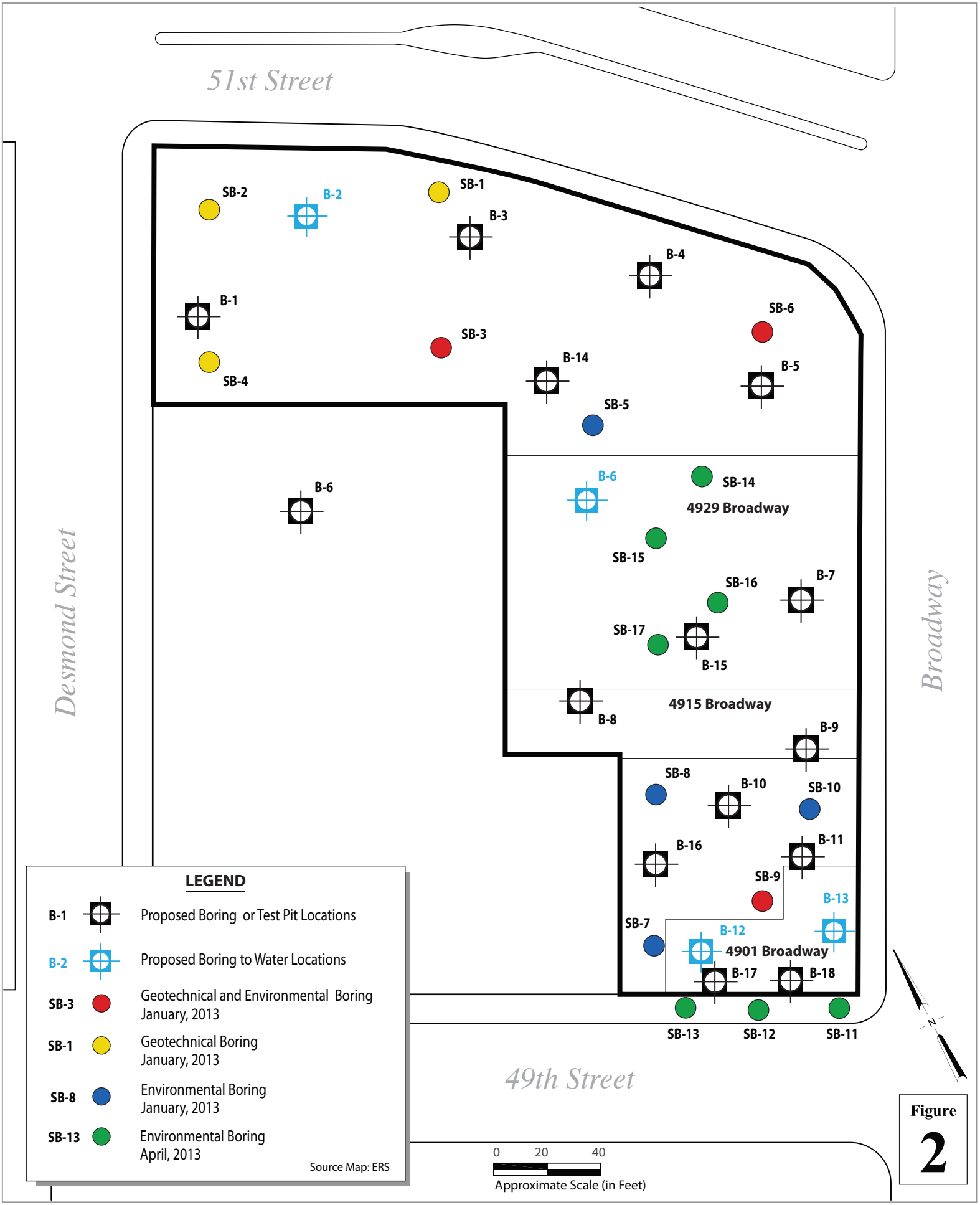


Figure 2

4901 Broadway
Oakland, California

PANGEA

Revised Boring Locations (11/9/15)

Revised Soil and Groundwater Sampling Plan - 4901 Broadway, Oakland (11-9-15)

Boring ID	Boring Depth	Sample Depth	*Soil Analysis*								*Groundwater Analysis*		Sampling Purpose	
			TPH	VOCs	CAM 17	Lead	SVOCs	PCBs	Pest	Asbestos	TPH + VOCs	SVOCs+PCBS+Pest	Export Profile	County Requirement
B 1*	0.5	0.5	X	X	X		X	X	X	X			S12-0.5'	---
B 2*	20.0	2.0	X	X	X		X	X	X	X			S11-2'	---
B 2	20.0	6.0	X	X	X		X	X	X	X			---	Soil under future residences.
B 2	20.0	water									X	X	---	Water in NW under residences.
B 3*	8.0	8.0	X	X	X		X	X	X	X			S10-8'	---
B 4*	1.0	1.0	X	X	X		X	X	X	X			S9-1'	---
B 5*	16.0	16.0	X	X	X		X	X	X	X			S8-16'	---
B 6	20.0	12.0	X	X	X		X	X	X	X			S7-12'	---
B 6	20.0	18.0	X	X									---	Soil under central area.
B 6	20.0	water									X	X		Water in central area.
B 7*	10.0	10.0	X	X	X		X	X	X	X			S5-10'	---
B 8*	2.0	2.0	X	X	X		X	X	X	X			S3-2'	---
B 9*	4.0	2.0	X			X							---	Assess B-10 lead+TPH @2.5'
B 9*	4.0	4.0	X			X							---	Assess B-10 lead+TPH @2.5'
B 10*	4.0	2.0	X			X							---	Assess B-10 lead+TPH @2.5'
B 10*	4.0	4.0	X			X							---	Assess B-10 lead+TPH @2.5'
B 11*	6.0	2.0	X			X							---	Assess B-10 lead+TPH @2.5'
B 11*	6.0	6.0	X	X	X		X	X	X	X			S2-6'	Assess B-10 lead+TPH @2.5'
B 12	20.0	12.0	X	X									---	Soil under former cleaner.
B 12	20.0	water									X	X	---	Water SW of former cleaner.
B 13	20.0	12.0	X	X			X	X					---	Soil under former cleaner.
B 13	20.0	water									X		---	Water SE of former cleaner.
B 14*	4.0	4.0	X	X	X		X	X	X	X			S6-4'	---
B 15*	14.0	14.0	X	X	X		X	X	X	X			S4-14'	---
B 16*	1.0	1.0	X	X	X		X	X	X	X			S1-1'	---
B 17*	1.0	1.0	X	X	X		X	X	X	X			---	Soil adjacent former cleaner.
B 18*	1.0	1.0	X	X	X		X	X	X	X			---	Soil adjacent former cleaner.
Total analysis quantity			23	18	13	5	14	14	13	13	4	3	12	16

* = Optional collection via excavator test pit or hand tools. Assumes minimum of 4 borings by direct push for insitu sampling of soil and groundwater.
TPH = TPH as gas, diesel, motor oil
Pest = Organochlorine pesticides
Depth in feet