



September 6, 2015

Mr. Trevor Ashenbrener  
SRM Development, LLC  
101 North Post, Suite 200  
Seattle, Washington 99201

Re: **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 soil and groundwater management plan (SMP) for the subject site. 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 51<sup>st</sup> 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 49<sup>th</sup> Street to the south. Development plans include the excavation and removal of approximately 38,000 cubic yards of soil from the site.

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

**PANGEA Environmental Services, Inc.**

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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. Boring locations and referenced data is shown on the attached figure.

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.

## **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.

### **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.

Following building demolition at the site, shallow soil in the vicinity of boring SB-10 may be targeted for subsequent characterization and offsite disposal at an appropriate facility. 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. Additional soil characterization will likely be required to arrange offsite disposal of site material. Pangea will assist with additional soil characterization as required to obtain soil acceptance by the designated facility.

### **Soil and Groundwater Handling**

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, contaminated soil may be profiled in advance of excavation to allow direct soil loading 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.' To further minimize potential odor concerns, stockpiled soil may be sprayed with Simple Green or equivalent. For odor and dust mitigation, water and/or non-toxic soil stabilizers will be applied on stockpiled soil and/or all unpaved areas as necessary. For potential lead-impacted soil, water spraying and/or other dust suppression techniques can be used for dust control.

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.

## Reporting

Pangea recommends providing this plan 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 environment, such conditions shall be reported to the City of Oakland Fire Department, Alameda County Environmental Health Department, or other applicable agencies.

At the completion of soil and groundwater management associated with the planned improvement, Pangea recommends sampling of residual soil and groundwater to document conditions in residual soil and groundwater. 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.**



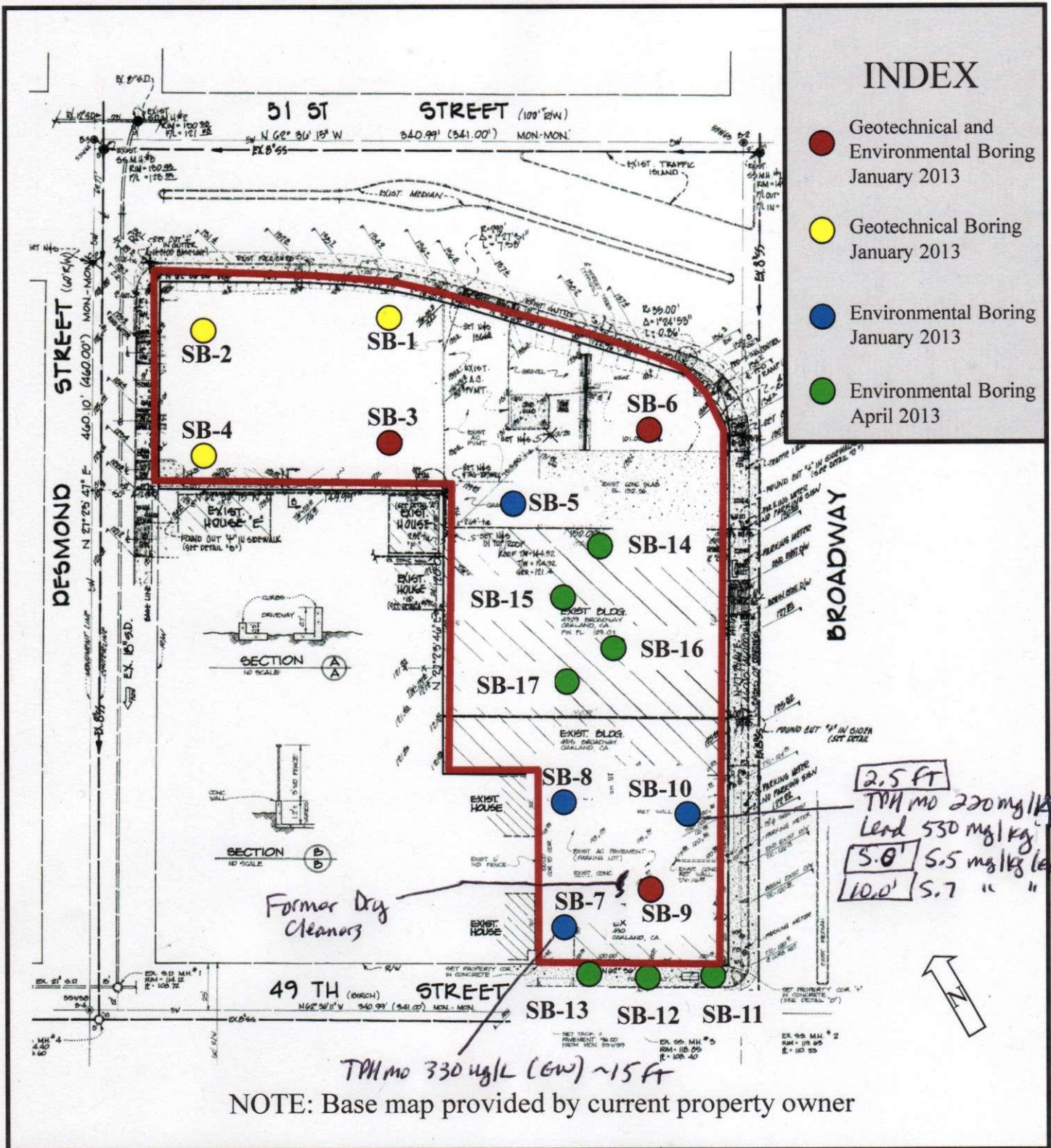
Bob Clark-Riddell, P.E.  
Principal Engineer

Attachment: Figure of Boring Locations and Residual Hydrocarbon and Lead Impact



# INDEX

- Geotechnical and Environmental Boring January 2013
- Geotechnical Boring January 2013
- Environmental Boring January 2013
- Environmental Boring April 2013



**FIGURE 2 –Boring Locations**

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

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