Haley & Aldrich, Inc.
7926 Jones Branch Dr.
Suite 870
McLean, VA 22102
703.336.6200

26 June 2015
File No. 40223-002

McKissack & McKissack
901 K Street, NW 6th Floor
Washington, D.C. 20001

Attention: Mr. Mark Babbitt, P.E.

Subject: Phase II Soil Investigation Report
Voluntary Cleanup Program
District of Columbia Parcel at Buzzard Point, Square 0603S, Lot 0800
Washington, D.C.

Ladies and Gentlemen:

Haley & Aldrich, Inc., (Haley & Aldrich) prepared this Phase II Soil Investigation Report (Report) for the parcel owned by the District of Columbia (D.C.) identified as Square 0603S, Lot 0800 (Site) at Buzzard Point. The objective of the soil investigation was to provide an evaluation of the potential impacts associated with the potential environmental concerns at the Site identified during review of the Environmental Data Resources (EDR) reports obtained for the Site and the adjoining properties. The investigation was conducted in a manner consistent with ASTM E 1903-11 Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process. It is understood that the information provided in this Report will assist the District of Columbia Department of General Services in their application under the Voluntary Cleanup Program.

Background

The Site is bound by R Street, SW to the north, properties owned by Rollingwood Real Estate, LLC, (Rollingwood) and Super Salvage, Inc., (Super Salvage) to the south, 1st Street, SW to the east and 2nd Street, SW to the west. The Site is currently on vacant land.

A limited environmental assessment was conducted at the Site to identify potential environmental concerns based on review of the data provided in the EDR reports. This assessment did not identify potential environmental concerns based on Site-related activities (i.e., historical operations and/or use). Properties immediately adjacent to the Site (Rollingwood and Super Salvage) are currently undergoing soil and groundwater investigations at recognized environmental conditions identified in the "Report on ASTM Phase I Environmental Site Assessment" (Haley & Aldrich, 2013). Additionally, Super Salvage currently uses the land immediately southeast of the Site as a staging area for equipment. The potential impacts at the Site from adjacent properties are considered the only identified potential environmental concerns for the Site.

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PHASE II SOIL INVESTIGATION REPORT
VOLUNTARY CLEANUP PROGRAM
DISTRICT OF COLUMBIA PARCEL AT BUZZARD POINT, SQUARE 0603S, LOT 0800
WASHINGTON, D.C.

by Haley & Aldrich, Inc.
McLean, Virginia

for McKissack & McKissack
Washington, D.C.

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The Site is one property of several that is planned for redevelopment as part of the new D.C. United soccer stadium. The approximate limits of the stadium development are shown in Figure 1 and the Site boundary is shown in Figure 2. At this time, design drawings have not been prepared for the new stadium. For the purpose of the Voluntary Cleanup Program application, the soil investigation described herein was conducted at the Site. The soil investigation considered an excavation depth of up 10 feet below ground surface (bgs) for foundation construction of the proposed stadium to assess soil disposition during excavation. This is also the depth of soil to which a future on-Site receptor (i.e., a construction worker during Site development or a future occupant at the Site) may likely be exposed.

Soil Investigation

Soil investigation activities were conducted at the Site to evaluate subsurface conditions and assess whether current and/or former operations adjacent to the Site have impacted on-Site soil quality. These investigation activities were conducted at the Site on 10 April 2015. The sample analyses were selected based on the potential chemicals of concern associated with known activities on the adjacent properties. Three sample locations were selected along the southern fence line at the Site to investigate the identified potential environmental concerns. These soil sample locations are shown in Figure 2.

SOIL SAMPLING

Soil samples were collected during advancement of direct-push borings using a track-mounted direct-push drill rig to an approximate depth of 10 feet bgs. Each boring was continuously logged in accordance with the Unified Soil Classification System. Continuous soil cores were collected with hydraulic-percussive driving of a stainless steel sampling probe equipped with dedicated acetate tube liners. Soil cores were observed and documented visually for discoloration and screened for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID). Soil samples were collected at approximately 5 and 10 feet bgs at each location. Samples were placed in a cooler with ice and submitted to Pace Analytical Services, Inc., under standard chain of custody procedures for the following analyses:

- Target Analyte List metals by United States Environmental Protection Agency (EPA) Method 6010B/7471A;
- Total petroleum hydrocarbons by EPA Method 8015B;
- VOCs by EPA Method 8260B;
- Polycyclic aromatic hydrocarbons (PAHs) by EPA 8270C; and
- Polychlorinated biphenyls by EPA Method 8082.

Boring logs are provided as Appendix A.

FINDINGS

The subsurface investigation activities described herein did not define the lateral and vertical extent of chemical concentrations in soil at the Site. The objective of this subsurface investigation was to explore the identified potential environmental concerns to evaluate current conditions at the Site and assess the nature and general magnitude of potential impacts at the Site.

Soil screening levels were selected for the protection of human health based on the understanding that the Site will be redeveloped into a professional soccer stadium. Soil sample analytical results were compared to the following screening levels:

- DC Tier 0 Soil Standards from the Tier 0 Standards Final Rulemaking published at 40 DCR 7835, 7892 (12 November 1993), as amended by Final Rulemaking published at 46 DCR 7699 (1 October 1999); and
- Environmental Protection Agency (EPA) Regional Screening Level for Industrial Soil from the EPA Regional Screening Level Tables (May 2014).

For the purpose of this Report, "soil screening levels" are the lower of the above screening levels. The following summarizes the results by sample location.

- Sample location GSS-603-800-1: Arsenic and benzo(a)pyrene were detected at concentrations above soil screening levels. Reported detection limits for dibenz(a,h)anthracene were elevated (due to sample dilution) greater than soil screening levels.
- Sample location GSS-603-800-2: Arsenic was detected at a concentration above the soil screening level. Reported detection limits for benzo(a)pyrene and dibenz(a,h)anthracene were elevated (due to sample dilution) greater than soil screening levels in the shallow sample.
- Sample location GSS-603-800-3: Arsenic was detected at a concentration above the soil screening level. Reported detection limits for benzo(a)pyrene and dibenz(a,h)anthracene were elevated (due to sample dilution) greater than soil screening levels.

The reported concentrations of arsenic in soil above the soil screening levels may be within naturally occurring background at the Site, and if so, would not warrant remediation. In addition, it cannot be ascertained whether remediation is warranted in areas where the PAHs, dibenz(a,h)anthracene and benzo(a)pyrene, are reported at detection limits that are greater than the soil screening levels.

For the "high" order of magnitude cost of soil remediation including segregation and disposition (see Summary and Recommendations) at sample locations GSS-603-800-2 and GSS-603-800-3, it was conservatively assumed that PAHs are present in soil at concentrations greater than the soil screening levels in these areas until future investigation/sampling confirms otherwise. It was also assumed that soil from the surface to 10 feet bgs will be excavated and segregated for off-Site disposal since impacts from the adjacent properties could have migrated via surface runoff based on the surficial operations of the adjacent properties.

Soil sample analytical results and soil screening levels are provided in Table I. Laboratory analytical reports are provided as Appendix B.

Summary and Recommendations

In summary, soil samples were collected for evaluation of the presence of identified chemicals of potential concern at three locations at the Site in support of Site redevelopment, including proposed excavation to a depth of 10 feet bgs. The following is recommended:

- Preparation of a Site-specific background metals evaluation for soil;
- Preparation of a soil management plan to provide guidance on the excavation environmental monitoring process; and
- Implementation of the soil management plan during Site redevelopment to provide environmental oversight of excavation activities and ensure soil is properly segregated and disposed of off-Site.

Based on the analytical results collected to date, soil remediation may be required to reduce the potential risk to human health for the on-Site construction worker and future occupant. Potential order of magnitude cost impacts based on the analytical results range from $60,000 to $1,300,000. These costs and their associated assumptions are summarized in Table 2. The soil screening levels used for evaluation of impacts at the Site do not account for cumulative health risks and potential threat to groundwater quality. Additionally, costs do not include groundwater remediation and/or vapor intrusion mitigation in the construction of the stadium that may be required to reduce the threat to human health. These sampling/characterization recommendations and the potential order of magnitude costs for soil remediation are based on the currently available data.

Limitations

All recommendations are based solely upon Site conditions in existence at the time of performance of services. Haley & Aldrich is unable to report on, or accurately predict events that may impact the Site or system following preparation of this document, whether occurring naturally or caused by external forces. The recommendations provided by Haley & Aldrich are based solely on the scope of work conducted and the sources of information referenced in this document. Services hereunder were performed in accordance with our agreement and understanding with, and solely for the use of McKissack & McKissack. Any additional information that becomes available concerning this Site or system should be provided to Haley & Aldrich so that any further recommendations may be reviewed and modified as necessary. Haley & Aldrich is not responsible for the subsequent separation, detachment, or partial use of this document. No warranty or guarantee, whether expressed or implied, is made with respect to the recommendations expressed in this report. Any reliance on this report by a third party shall be at such party's sole risk.

We appreciate the opportunity to provide consulting services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Dana L. Kennard
Assistant Project Manager

David A. Schoenwolf, P.E.
Principal Consultant | Senior Vice President

Attachments:

- Table 1 – Summary of Soil Analytical Results
- Table 2 – Order of Magnitude Soil Remediation Costs
- Figure 1 – Site Locus
- Figure 2 – Site Plan and Sample Locations
- Appendix A – Boring Logs
- Appendix B – Laboratory Analytical Reports

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References

1. Environmental Data Resources, Database Report, dated March 4, 2015.

2. Haley & Aldrich, Inc., 2013a. Report on ASTM Phase I Environmental Site Assessment, Potomac Avenue & 1st Street SW, Washington, DC. 30 August.