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REPORT ON
ASTM PHASE I ENVIRONMENTAL SITE ASSESSMENT AND SUBSURFACE SAMPLING
DISTRICT OF COLUMBIA PARCEL AT BUZZARD POINT, SQUARE 0603S, LOT 0800
WASHINGTON, DC

by
Haley & Aldrich, Inc.
McLean, Virginia

for
McKissack & McKissack
Washington, DC

File No. 40223-002
July 2015

HALEY & ALDRICH, INC.
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24 July 2015
File No. 40223-002

McKissack & McKissack
901 K Street, NW 6TH Floor
Washington, DC 20001

Attention: Mark Babbitt
Vice President & Regional Practice Leader Infrastructure

Subject: ASTM Phase I Environmental Site Assessment and Subsurface Sampling
District of Columbia Parcel at Buzzard Point, Square 0603S, Lot 0800
Washington, DC

Ladies and Gentlemen:

The enclosed report presents the results of a Phase I environmental site assessment (Phase I assessment) with Phase II subsurface sampling conducted at the above-referenced District of Columbia ("DC") site, Square 0603S, Lot 0800, in Washington, DC (herein referred to as the "subject site"). A Phase I assessment was conducted by Haley & Aldrich, Inc. (Haley & Aldrich) for seven parcels at Buzzard Point proposed for redevelopment as a professional soccer stadium, in accordance with our proposal to McKissack & McKissack dated 28 June 2013 ("Agreement"). The results of Phase II subsurface sampling, performed to evaluate the potential impact of "recognized environmental conditions" (RECs), are also included in this report.

Our conclusions regarding the presence and potential impact of RECs on the subject site are intended to help the user evaluate the "business environmental risk" associated with the subject site, as defined in the ASTM E 1527-05 Standard and discussed in Section 1.1 of this report.

Thank you for the opportunity to perform these services for you. Please do not hesitate to contact us if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Karin S. Holland
Senior Technical Specialist

David A. Schoenwolf, P.E.
Senior Vice President

Enclosures

REPORT ON
ASTM PHASE I ENVIRONMENTAL SITE ASSESSMENT AND SUBSURFACE SAMPLING
DISTRICT OF COLUMBIA PARCEL AT BUZZARD POINT, SQUARE 0603S, LOT 0800
WASHINGTON, DC

by

Haley & Aldrich, Inc.
McLean, Virginia

The undersigned declare the following:

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 CFR Part 312, §312.10.

We have the specific qualifications based on education, training, and experience to assess the nature, history, and setting of the subject site and "develop opinions and conclusions regarding conditions indicative of releases or threatened releases." We have developed and performed the "all appropriate inquiries" (AAI) in conformance with the standards and practices set forth in 40 CFR Part 312.

Karin Holland
Senior Sustainability Specialist

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

for

McKissack & McKissack, Inc.
Washington, DC

File No. 40223-002
July 2015

Executive Summary

Haley & Aldrich, Inc. (Haley & Aldrich) performed a Phase I environmental site assessment (Phase I assessment) of the District of Columbia property (herein referred to as the "subject site") in Washington, DC. The scope of work is described and conditioned by our proposal dated 28 June 2013. As indicated in our proposal, this Phase I assessment was performed in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-05 Standard) as referenced in 40 Code of Federal Regulations (CFR) Part 312 [the All Appropriate Inquiries (AAI) Rule]. Deviations from this Standard, and/or data gaps and their significance are described in Section 1.5 of this report. Phase II subsurface sampling was also conducted to evaluate issues identified during the Phase I portion of the assessment. Our conclusions are intended to help the user evaluate the "business environmental risk" associated with the subject site, as defined in the ASTM E 1527-05 Standard and discussed in Section 1.1 of this report.

The subject site is bounded by R Street, SW to the north, an un-improved portion of Potomac Avenue, SW and properties owned by Rollingwood Real Estate and Super Salvage, Inc. to the south, 1st Street, SW to the east and 2nd Street, SW to the west. The subject site is currently used for truck parking and wood storage.

The objective of a Phase I assessment is to identify known and suspect "recognized environmental conditions" (RECs), historical RECs (HRECs), and *de minimis* conditions associated with the subject site, as defined in the ASTM E 1527-05 Standard and in Section 1.1 of this report. The objective of the Phase II subsurface sampling is to provide a preliminary evaluation of RECs identified during the Phase I portion of the assessment, including order of magnitude cost and schedule impacts on the proposed development.

The ASTM E 1527-05 Standard requires an environmental professional's opinion of the potential impacts of RECs, HRECs, and *de minimis* conditions identified on a site during a Phase I assessment. Our opinion is rendered with respect to a REC's potential (high, medium, or low) to require remedial response based on prevailing agency requirements and our understanding that the subject site is one of seven parcels being evaluated for potential redevelopment as a professional soccer stadium. Our opinion regarding a REC's potential impact on the subject site (high, medium, low, or unknown) is based on the scope of our work, the information obtained during the course of our work, the conditions prevailing at the time our work was performed, the applicable regulatory requirements in effect at the time our work was performed, and/or our experience evaluating similar sites, and our understanding of the client's intended use for the subject site.

Data gaps were not identified for the purpose of this report.

RECOGNIZED ENVIRONMENTAL CONDITIONS

The ASTM E 1527-05 Standard defines a REC as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property." A material threat is defined by the ASTM E 1527-05 Standard as "a physically observable or obvious threat

which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment."

This Phase I assessment has revealed eight SRECs and two HRECs. Details regarding the nature of these RECs and our opinion regarding potential impacts are provided below.

KNOWN OR SUSPECT RECOGNIZED ENVIRONMENTAL CONDITIONS

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs that have been identified as being present with respect to the subject site are referred to as Known Recognized Environmental Conditions (KRECs), and those RECs that have been identified as being likely present with respect to the subject site are referred to as Suspect Recognized Environmental Conditions (SRECs). KRECs were not identified in this Phase I assessment. The Phase I assessment identified eight SRECs.

Suspect Recognized Environmental Conditions

SREC #1: Elevated concentrations of arsenic and polycyclic aromatic hydrocarbons (PAHs) at the subject site

Potential Impact: Medium

Explanation: Arsenic was detected at concentrations above soil screening levels in the three soil samples collected at the subject site (GSS-603-800-1, GSS-603-800-2 and GSS-603-800-3), as shown in Table I. The reported concentrations of arsenic in soil above the soil screening levels may be within naturally occurring background at the subject site; however further analysis would be required to determine whether arsenic levels are natural or are due to activities at the subject site or neighboring properties. Furthermore, reported detection limits for benzo(a)pyrene and dibenz(a,h)anthracene were greater than soil screening levels in sampled soil, as illustrated in Table I. Elevated concentrations were associated with sample dilution. Further analysis would be required to determine associated PAH impacts.

The following SRECs were observed on the adjacent Super Salvage, Inc. property south of the subject site during a site visit by Haley & Aldrich for the comprehensive Phase I assessment of Buzzard Point in August 2013 and from a Phase II subsurface investigation performed by Haley & Aldrich in April 2015.

SREC #2: Impacts in northern portion of adjacent property along subject site boundary

Potential Impact: High

Explanation: Haley & Aldrich collected two soil and two groundwater samples (GTW-605-802-6 and GTW-605-802-7) along the boundary of the subject site and the property adjacent to the south. Arsenic and total petroleum hydrocarbons diesel-range organics (TPH-DRO) were detected at concentrations above soil screening levels. In addition, lead and methylene chloride were detected at concentrations above the groundwater screening level. A potential exists for these soil and groundwater impacts to migrate to the subject site.

SREC #3: Concrete staining in area of an AST

Potential Impact: Medium

Explanation: Concrete staining on paving next to an AST was observed in the northern portion of the property. The concrete paving was in relatively good condition during the site visit. However a large quantity of scrap metal and other waste had been dumped immediately adjacent to the AST preventing the Haley & Aldrich representative from confirming the condition of the concrete beneath this waste. Haley & Aldrich collected two soil and one groundwater samples in the vicinity of heavy staining in April 2015. Arsenic, lead, polychlorinated biphenyls (PCBs), ethylbenzene, and TPH-DRO were detected at concentrations above soil screening levels. In addition, antimony, arsenic, lead, and methylene chloride were detected at concentrations above groundwater screening levels. A potential exists for these soil and groundwater impacts to migrate to the subject site.

SREC #4: Potentially unlined/unpaved sump
Potential Impact: Medium
Explanation: On-site stormwater and spills are captured and pumped to a sump in the southwestern portion of the property adjacent to the south of the subject site before being disposed off-site by a licensed contractor. The sump contained large quantities of oily liquid during the site visit and it was not possible to ascertain whether the sump was lined and/or confirm the integrity of the lining. The site representative could not confirm the status of the sump lining. Haley & Aldrich collected two soil samples in the vicinity of the sump in April 2015. Arsenic, lead, benzo(a)pyrene, and TPH-DRO were detected at concentrations above applicable soil screening levels. A potential exists for these soil impacts to migrate to the subject site.

SREC #5: Heavy staining of concrete
Potential Impact: Medium
Explanation: Heavy concrete staining was observed at many locations at the property. The concrete was in moderate to good condition where visible. In other areas, for example the area surrounding the sump pump, the staining was too thick to confirm the integrity of the concrete. Haley & Aldrich collected one soil sample in the vicinity of heavy staining in April 2015. Arsenic was detected at a concentration above the applicable soil screening level. A potential exists for soil impacts to migrate to the subject site.

SREC #6: Oil layer in secondary containment under aboveground storage tanks (ASTs)
Potential Impact: Medium
Explanation: A thick layer of oil was observed at the bottom of the AST tanks in the eastern portion of the property. It is understood that the bottom of the containment is paved with concrete. However, the integrity of the concrete could not be confirmed. Haley & Aldrich collected three soil and two groundwater samples in the vicinity of heavy staining in April 2015. Arsenic and TPH-DRO were detected at concentrations above applicable soil screening levels. In addition, arsenic was also detected at concentrations above applicable groundwater screening levels. A potential exists for these soil and groundwater impacts to migrate to the subject site.

The following SREC was observed on the Rollingwood Real Estate property adjacent to the south of the subject site during site visits by Haley & Aldrich for the comprehensive Phase I assessment of Buzzard Point in August 2013 and from a Phase II subsurface investigation performed by Haley & Aldrich in September 2014.

SREC #7:	Impacts in the eastern portion of the property
Potential Impact:	Medium
Explanation:	A soil sample obtained from test boring collected by Haley & Aldrich from beneath the eastern portion of the property in September 2014 revealed a PAH, benzo(a)pyrene, and arsenic above applicable soil screening levels. In addition, free-phase oil was observed in groundwater at this location from a depth of 7.6 feet bgs to 20.9 feet bgs. TPH-DRO also exceeded applicable groundwater concentrations at this location. Additional soil sampling by Haley & Aldrich in April 2015 at this adjacent property revealed the presence of arsenic and TPH-DRO in soil at concentrations above associated soil screening levels. Furthermore, lead and methylene chloride were detected at concentrations above applicable groundwater screening level. The impacts might be associated with the potentially unlined/unpaved sump described above (SREC #4) and have the potential to migrate to the subject site.

The following SREC was identified based on results from Phase II subsurface sampling performed on an adjacent property to the east of the subject site in June 2014.

SREC #8:	Petroleum impacts in soil at Square 0661, Lot 805, owned by Potomac Electric Power Company (PEPCO)
Potential Impact:	Low
Explanation:	TPH-DRO were detected at a concentration of 38.3 mg/kg in a composite soil sample, GTW-661-COMP-805-1, collected at 0 to 2 feet below ground surface in the southeastern corner of Square 0661, Lot 805 in June 2014. This concentration is above applicable soil screening levels. Soil and groundwater were not sampled at deeper levels at this location and therefore the vertical extent of impact in soil is currently not known. A potential therefore exists for hydrocarbons to have migrated into deeper soil and groundwater, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

HISTORICAL RECs

The ASTM E 1527-05 Standard defines an HREC as an environmental condition "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently."

This Phase I assessment has revealed the following two HRECs.

HREC #1: LUST case # 92076 on the Rollingwood Real Estate property adjacent to the south of the subject site is associated with a gasoline LUST that historically impacted soil and groundwater under the subject site. The status of the LUST release is listed as closed. Based on its status, impacts from the LUST do not present a threat to human health or the environment under current conditions and it is unlikely that the LUST will require additional regulatory action.

HREC #2: LUST case # 96030 at the Super Salvage, Inc. property immediately south of the subject site and related to a tank containing gasoline was reported to be impacting soil and was granted regulatory closure. Based on its status and impacts being limited to soil, impacts from the LUST do not present a threat to human health or the environment under current site conditions and it is unlikely that the LUST will require additional regulatory action.

DE MINIMIS CONDITIONS

The ASTM E 1527-05 Standard defines *de minimis* conditions as those conditions which "do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." The ASTM E 1527-05 Standard notes that "conditions determined to be *de minimis* are not recognized environmental conditions."

This Phase I assessment revealed no *de minimis* conditions.

SUMMARY AND RECOMMENDATIONS

In summary, several RECs were identified during this Phase I assessment and subsequent Phase II sampling. Phase II subsurface sampling described in this report did not delineate the extent of petroleum and metal impacts detected in soil or groundwater at the subject site, and based on the concentrations detected, it is our opinion that additional action may be required under current conditions at the subject 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 II. The soil screening levels used for evaluation of impacts at the subject 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.

The remainder of this report contains additional information regarding the Phase I assessment, the resulting findings summarized above, and limitations affecting this report.

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1. Introduction

This report presents the results of a Phase I environmental site assessment (Phase I assessment) and Phase II subsurface sampling conducted at the District of Columbia parcel at Buzzard Point, Square 0603S, Lot 0800 in Washington, DC (herein referred to as the "subject site"). A Phase I assessment was conducted by Haley & Aldrich, Inc. (Haley & Aldrich) for seven parcels at Buzzard Point proposed for redevelopment as a professional soccer stadium, in accordance with our proposal to McKissack & McKissack dated 28 June 2013 ("Agreement", Appendix A). Phase II subsurface sampling was also conducted on the subject site in accordance with an agreement dated 28 October 2013 between McKissack & McKissack and Haley & Aldrich and executed 30 October 2013 ("Agreement", Exhibit 1) by McKissack & McKissack. This report was prepared in response to a request from McKissack & McKissack to provide a separate stand-alone Phase I assessment for the subject site. This Phase I assessment was performed in conformance with the scope and limitations of the American Society of Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-05 Standard) to comply with 40 Code of Federal Regulations (CFR) Part 312 (the All Appropriate Inquiries [AAI] Rule).

1.1 OBJECTIVE

The objective of a Phase I assessment is to identify known and suspect "recognized environmental conditions" (RECs), historical RECs (HRECs), and *de minimis* conditions associated with the subject site by evaluating subject site history, existing observable conditions, current subject site use, and current and former uses of adjoining properties as well as potential releases at surrounding properties that may impact the subject site. RECs are defined in the ASTM E 1527-05 Standard as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water at the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." A material threat is defined by the ASTM E 1527-05 Standard as "a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment."

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs identified as being present with respect to the subject site are referred to as Known Recognized Environmental Conditions (KRECs), and those RECs identified as being likely present with respect to the subject site are referred to as Suspect Recognized Environmental Conditions (SRECs). The ASTM E 1527-05 Standard defines HRECs as environmental conditions "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently."

The objective of the Phase II subsurface sampling was to provide a preliminary evaluation of RECs identified during the Phase I portion of the assessment, including order of magnitude cost and schedule implications on the proposed development. Our conclusions are intended to help the user evaluate the "business environmental risk" associated with the subject site, defined in the ASTM E 1527-05 Standard as "a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited

to those environmental issues required to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations..."

The completion of this Phase I assessment is only one component of the process required to satisfy the AAI Rule. In addition, the user must adhere to a set of user responsibilities as defined by the ASTM E 1527-05 Standard and the AAI Rule. User responsibilities are discussed in Section 5.3 of this report. A user seeking protection from Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) liability as an innocent landowner, bona fide prospective purchaser, or contiguous property owner must complete all components of the AAI process in addition to meeting ongoing obligations. AAI components, CERCLA liability relief, and ongoing obligations are discussed in the AAI Rule and in Appendix XI of the ASTM E 1527-05 Standard.

1.2 SITE IDENTIFICATION

The subject site is owned by the District of Columbia and is used for truck parking and wood storage. The subject site is bounded by R Street, SW to the north, an un-improved portion of Potomac Avenue, SW and properties owned by Rollingwood Real Estate and Super Salvage, Inc. to the south, 1st Street, SW to the east and 2nd Street, SW to the west, as shown on the Project Locus, Figure 1.

1.3 SCOPE OF SERVICES

Haley & Aldrich performed the following scope of services to complete this Phase I assessment. These services were performed either by, or under the direct supervision of, an environmental professional as defined by the AAI Rule.

1. Conducted visual observations of site conditions, and of abutting property use, to evaluate the nature and type of activities that have been or are being conducted at and adjoining to the subject site, in terms of the potential for release or threat of release of hazardous substances or petroleum products.

2. Reviewed federal, state, tribal, and local environmental database information within the ASTM-specified distance from the subject site using a database service to access records. Used 7.5-minute topographic maps to evaluate the subject site's physical setting.

3. Reviewed District environmental files pertaining to the subject site and nearby sites with the potential to impact the subject site.

4. Reviewed previous reports prepared for the subject site.

5. Reviewed the following sources of historical use information: Sanborn maps, aerial photographs and topographic maps.

6. Contacted District agencies regarding the subject site and surrounding properties and structures.

7. Interviewed the key site manager and property tenant representatives.

8. Performed Phase II subsurface sampling and analysis.

9. Interpreted the information and data assembled as a result of the above work tasks, and formulated conclusions regarding the potential presence and impact of RECs, including HRECs.

1.4 NON-SCOPE CONSIDERATIONS

The ASTM E 1527-05 Standard includes the following list of "additional issues" that are non-scope considerations outside of the scope of the ASTM Phase I assessment practice: asbestos-containing materials, radon, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, bio-agents, and mold. These items were not included in this Phase I assessment of the subject site.

A limited assessment of the presence of polychlorinated biphenyls (PCBs) is included in the ASTM work scope. Accordingly, our assessment of the presence of PCBs is limited to those potential sources specified in the ASTM E 1527-05 Standard as "electrical or hydraulic equipment known or likely to contain PCBs…to the extent visually and or physically observed or identified from the interview or records review."

1.5 EXCEPTIONS AND DEVIATIONS

1.5.1 Deviations

Haley & Aldrich completed this Phase I assessment in substantial conformance with the ASTM E 1527-05 Standard. In our opinion, no additions were made to or deviations and deletions made from the ASTM work scope in completing this Phase I assessment.

1.5.2 Data Gaps

Data gaps were not identified during the Phase I and Phase II sampling.

1.5.3 Limitations

Our work for this project was performed in accordance with the standards and practices set forth in 40 CFR Part 312 and is consistent with the ASTM E 1527-05 Standard for Phase I Environmental Site Assessments. Several organizations other than ASTM, such as professional associations Geoprofessional Business Association (GBA) and AGWSE, have also developed guidelines or standards for environmental site assessments. The Phase I assessment presented in this report may vary from the specific guidelines or standards required by other organizations.

This Phase I assessment was prepared pursuant to an Agreement dated 9 July 2013 between McKissack & McKissack and Haley & Aldrich, which Agreement is attached hereto and is made a part of this report. The Phase II subsurface sampling was performed pursuant to an Agreement dated 28 October 2013 between McKissack & McKissack and Haley & Aldrich and executed 30 October 2013. All uses of this report are subject to, and deemed accepting of, the conditions and restrictions contained in these Agreements. The observations and conclusions described in this report are based solely on the Scope of Services provided pursuant to these Agreements. Haley & Aldrich has not performed any additional observations, investigations, studies, or other testing not specified in these Agreements. Haley & Aldrich shall not be liable for the existence of any condition the discovery of which would have required the performance of services not authorized under these Agreements.

This report is prepared for the exclusive use of McKissack & McKissack and their prime contract holder, the District of Columbia Department of General Services (DGS) in connection with the proposed development of the subject site. There are no intended beneficiaries other than McKissack & McKissack.

Haley & Aldrich shall owe no duty whatsoever to any other person or entity on account of the Agreements or the report. Use of this report by any person or entity other than McKissack & McKissack or the DGS for any purpose whatsoever is expressly forbidden unless such other person or entity obtains written authorization from McKissack & McKissack and from Haley & Aldrich. Use of this report by such other person or entity without the written authorization of McKissack & McKissack and Haley & Aldrich shall be at such other person's or entity's sole risk, and shall be without legal exposure or liability to Haley & Aldrich.

Use of this report by any person or entity, including by McKissack & McKissack, for a purpose other than for with the proposed development of the subject site is expressly prohibited unless such person or entity obtains written authorization from Haley & Aldrich indicating that the report is adequate for such other use. Use of this report by any person or entity for such other purpose without written authorization by Haley & Aldrich shall be at such person's or entity's sole risk and shall be without legal exposure or liability to Haley & Aldrich.

This report reflects subject site conditions observed and described by records available to Haley & Aldrich as of the date of report preparation. The passage of time may result in significant changes in subject site conditions, technology, or economic conditions, which could alter the findings and/or recommendations of the report. Accordingly, McKissack & McKissack and any other party to whom the report is provided recognize and agree that Haley & Aldrich shall bear no liability for deviations from observed conditions or available records after the time of report preparation.

Use of this report by any person or entity in violation of the restrictions expressed in this report shall be deemed and accepted by the user as conclusive evidence that such use and the reliance placed on this report, or any portions thereof, is unreasonable, and that the user accepts full and exclusive responsibility and liability for any losses, damages, or other liability which may result.

2. Site Description

2.1 SITE OWNERSHIP AND LOCATION

2.1.1 Name of Site Owners

The District of Columbia owns the subject site

2.1.2 Name of Site Operator

According a Super Salvage, Inc. representative interviewed during the site visit, Super Salvage, Inc. and another unknown operator use the subject site for truck parking and storage of wood.

2.1.3 Project Locus Map

The United States Geologic Survey (USGS) topographic map for the subject site is the Washington West, District of Columbia Quadrangle, dated 1983 (see Figure 1). The USGS topographic map was used as the source for subject site setting information.

2.2 SITE AND VICINITY DESCRIPTION

Figure 2 is a Site Plan of the subject site and shows relevant features of the subject site and immediately adjoining properties, as described below. The site comprises truck parking and wood storage areas.

The area in the vicinity of the subject site is generally characterized as urban industrial and commercial.

- **North:** Lyon Bakery, Georgetown Flooring (a carpet warehouse) and Capitol Building Supply (a commercial business)
- **South:** a property owned by Rollingwood Real Estate used to store and refurbish bicycles for the Washington DC Capital Bike Share Program, as well as a property owned by Super Salvage, Inc. operating a salvage yard for diverse metal structures.
- **West:** Ft. McNair (a US military facility)
- **East:** a property owned by Potomac Electric Power Company (PEPCO) and is used as a parking lot, as well as a property owned by the District of Columbia Department of Transportation and used for storing sand to the northeast.

2.3 PHYSICAL SETTING

The subject site geology and hydrology were evaluated based on the results of the Phase II sampling (see Section 7 of this report) performed by Haley & Aldrich subsequent to the Phase I assessment, available public information or references, and our experience and understanding of subsurface conditions in the subject site area.

2.3.1 Topography

Topographically, the subject site and its vicinity is relatively flat. The subject site is at an elevation of approximately 21 feet above sea level (based on the Environmental Resources Data report).

2.3.2 Geology

According to information obtained during Haley & Aldrich's Phase II subsurface sampling and analysis, the subject site is generally underlain by fill material comprised of poorly graded sand with gravel and small quantities of construction debris to a depth of 10 feet below ground surface (bgs). Soil was not collected below this depth. According to information obtained from the EDR report, bedrock beneath the subject site consists of a stratified sequence of Cretaceous–aged sedimentary rock.

2.3.3 Hydrology

Based on surface topography, surface water from the subject site appears to flow in a southerly direction.

Also based on topography and the location of nearest water bodies (the Anacostia River, located approximately 0.3 miles east and 0.4 miles south and the Potomac River located approximately 0.3 miles west of the subject site), regional groundwater flow is anticipated to be tidally influenced. Hydrogeologic investigations were not performed at the subject site during this Phase I assessment; therefore, it is unknown to what extent localized variations in groundwater depth and flow occur on the subject site.

According to the Flood Insurance Rate Map (FIRM) supplied by EDR, the subject site is located within a floodplain. There is no known monitoring or pumping wells located on the property.

3. Previous Reports

The following reports previously prepared for the subject site were reviewed for this Phase I assessment. Information contained in these reports is included herein and summarized below. Copies of pertinent sections of these reports are included in Appendix B.

- "Phase I Environmental Site Assessment, Buzzard Point, Squares 609 & 611, 2nd Street and V Street, SW, Washington, DC," prepared by URS for PEPCO Holdings Inc., dated 4 April 2005.

  "Phase I Environmental Site Assessment, Buzzard Point, 2nd Street and V Street, SW, Washington, DC," prepared by Advantage Environmental Consultants, LLC (AEC), for The John Akridge Companies, Inc., dated 10 June 2005.

No previous reports associated with the subject site were provided.

Properties adjacent to the south: These lots operated as a metal scrap yard since the 1960s. The URS and AEC 2005 Phase I reports identified these lots on the RCRA Small Quantity Generator, LUST, and UST databases. One 2,000 gallon UST was permanently out of use. The LUST case was granted regulatory closure. No additional details were provided.

4. Site History

Past usage of the subject site and/or adjoining properties was assessed through a review of Sanborn maps dated 1928, 1959, 1977, 1984, 1988, 1990, 1991, 1992, 1994, and 1998; a review of aerial photographs dated 1944, 1949, 1951, 1957, 1963, 1968, 1970, 1977, 1983, 1988, 1994, 1998, 2000, 2005, 2007, 2008, 2009, 2011 and 2012; and topographic maps dated 1885, 1894, 1947, 1951, 1956, 1965, 1971, 1972, 1983 and 1994 prepared for the subject site (Appendix C).

By 1944, a small structure and open space were identified at the subject site. By 1949, residential properties were observed at on the subject site. Grading of the residential properties was observed by 1957. No changes in land use were observed on subsequent photos and maps. The table below provides a detailed summary of pertinent information from the historical sources reviewed:

Dates	Description of Subject Site	Description of Adjoining Properties	Sources
1944-1948	A small structure and open space were identified at the subject site.	North: A commercial/industrial structure identified as a dairy. According to the 1959 Sanborn Map, the southern portion of the dairy processed butter, eggs, poultry and produce. South: by 1944, residential structures were identified south of the subject site. Small commercial/industrial structures were also identified east of the residential structures East: residential properties. Grading activities were observed to the northeast. West: a commercial/industrial property appears to have been developed, and is identified as a temporary office building owned by the US Government according to the 1959 Sanborn map.	1944 aerial photo, and 1959 Sanborn Map
1949-1956	By 1949, residential properties were located on the subject site.	No changes in land use were observed on adjacent properties.	1949 and 1951 aerial photos

Dates	Description of Subject Site	Description of Adjoining Properties	Sources
1957- 2012	Grading of the residential properties was observed by 1957. No changes in land use were identified on subsequent photos and maps. According to the 1984 to 1998 Sanborn Maps, the subject site forms part of a scrap metal yard owned by Onec.	North: Grading of the southern part of the commercial/industrial structure was observed by the late 1950s. By 1963, a commercial building was constructed on part of the graded land that was formerly a commercial/industrial structure. According to the 1984 Sanborn Map, this commercial property is owned by Onec. South and southeast: By 1957, one of the commercial/industrial structures is no longer present. A pile of large equipment was observed in the central portion of the commercial/industrial lot. This property is identified as a scrap metal yard owned by Onec on the 1984 Sanborn Map. East: by 1957, grading activities were observed. A parking lot is observed by the late 1960s. By 2009, a small structure was shown in the eastern portion of this property. A structure was observed on the property north of the parking lot by the late 1980s. This structure is later identified as storing sand on the 1992 Sanborn map. West: the portion of the commercial/industrial property adjacent to the subject site was no longer present and the footprint of this structure has been graded by the early 1980s. A parking lot was observed on the graded area by the early 2000s.	1957, 1963, 1968, 1970, 1977, 1983, 1988, 1994, 1998, 2000, 2005, 2007, 2008, 2009, 2011 and 2012 aerial photos and 1984, 1988, 1990, 1991 and 1992 Sanborn Maps

Notes:

1. Unless otherwise noted above, per the ASTM standard, sources were reviewed dating back to 1940 or first developed use, whichever is earlier, and at five-year intervals if the use of the property has changed within that time period.

Copies of historical references reviewed are included in Appendix B.

5. Environmental Records Review

5.1 STANDARD ENVIRONMENTAL RECORDS REVIEW

Haley & Aldrich used the electronic database service Environmental Date Resources to complete the environmental records review. The database search was used to identify properties that may be listed in the referenced agency records, located within the ASTM-specified approximate minimum search distances as shown in the table below. Section 5.1.1 presents a description of each database searched.

Database Searched	Approximate Minimum Search Distance	Subject Site Listed?	Number of Sites within Search Distance
NPL Sites	1 mile	No	1
Delisted NPL Sites	0.5 mile	No	0
CERCLIS Sites	0.5 mile	No	1
CERCLIS-NFRAP Sites	0.5 mile	No	3
Federal ERNS	Site only	No	0
RCRA non-CORRACTS TSD Facilities	0.5 mile	No	0
RCRA CORRACTS TSD Facilities	1 mile	No	1
RCRA Generators	Site & Adjoining	Yes	1
Federal Institutional Controls/Engineering Controls	Site Only	No	0
State and Tribal Equivalent NPL Sites	1 mile	No	0
State and Tribal Equivalent CERCLIS Sites	0.5 mile	No	0
State and Tribal Registered Storage Tanks	Site & Adjoining	No	1
State and Tribal Landfills and Solid Waste Disposal Sites	0.5 mile	No	0
State and Tribal Leaking Storage Tanks	0.5 mile	Yes	3
State and Tribal Institutional Controls/Engineering Controls	Site Only	No	0
State and Tribal Voluntary Cleanup Sites	0.5 mile	No	1
State and Tribal Brownfield Sites	0.5 mile	Yes	13
DC Historical USTs	0.25 mile	Yes	7

The Environmental Data Resources (EDR) report also contains search results of other State environmental databases that are relevant to the subject site.

Haley & Aldrich also searched the Orphan Site List provided in the EDR report for the subject site and sites adjoining the subject site. Orphan sites are those that, due to incorrect or incomplete addresses, could not be mapped. Neither the subject site not the adjoining properties were identified on the Orphan Site List. The complete environmental database report is provided in Appendix D.

5.1.1 Descriptions of Databases Searched

Numerous regulatory databases were searched during this Phase I assessment. Each database reviewed is described in the EDR report presented in Appendix D. Those databases required by the ASTM E 1527-05 Standard are identified below.

1. **NPL Sites:** The National Priorities List (NPL) is a list of contaminated sites that are considered the highest priority for cleanup by the U.S. Environmental Protection Agency (USEPA).

2. **Delisted NPL Sites:** The Delisted National Priorities List (NPL) is a list of formal NPL sites formerly considered the highest priority for cleanup by the USEPA that met the criteria of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) for deletion from the NPL because a no further response was appropriate.

3. **CERCLIS Sites:** The Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) list identifies sites which are suspected to have contamination and require additional investigation to assess whether they should be considered for inclusion on the NPL.

4. **CERCLIS-NFRAP Sites:** CERCLIS-NFRAP status indicates that a site was once on the CERCLIS List but has No Further Response Actions Planned (NFRAP). Sites on the CERCLIS-NFRAP List were removed from the CERCLIS List in February 1995 because, after an initial investigation was performed, no contamination was found, contamination was removed quickly, or the contamination was not significant enough to warrant NPL status.

5. **Federal ERNS:** The Federal Emergency Response Notification System (ERNS) list tracks information on reported releases of oil and hazardous materials.

6. **RCRA non-CORRACTS TSD facilities:** The Resource Conservation and Recovery Act (RCRA) non-CORRACTS TSD Facilities List tracks facilities which treat, store, or dispose of hazardous waste and are not associated with corrective action activity.

7. **RCRA CORRACTS TSD facilities:** The RCRA CORRACTS TSD Facilities list catalogues facilities that treat, store, or dispose of hazardous waste and have been associated with corrective action activity.

8. **RCRA Generators:** The RCRA Generator list is maintained by the USEPA to track facilities that generate hazardous waste.

9. **Federal Institutional Controls/Engineering Controls:** The Federal Institutional Control list and Engineering Control list are maintained by the USEPA. Some Institutional Control and

Engineering Control information may not be made publicly available and therefore will not be included on this registry.

10. **State and Tribal Equivalent NPL/CERCLIS Sites:** The (ASTM E 1527-05 Standard) requires searching "State and Tribal Equivalent NPL Sites." A state equivalent to the Federal NPL list is not maintained in District of Columbia. The subject site is not within tribal jurisdiction.

11. **State and Tribal Equivalent CERCLIS Sites:** The (ASTM E 1527-05 Standard) requires searching "State and Tribal Equivalent CERCLIS Sites." A state equivalent to the Federal CERCLIS list is not maintained in District of Columbia. The subject site is not within tribal jurisdiction.

12. **State and Tribal Registered Storage Tanks:** The District of Columbia Department of the Environment maintains a list of aboveground and underground storage tanks. The subject site is not within tribal jurisdiction.

13. **State and Tribal Landfills and Solid Waste Disposal Sites:** The District of Columbia Solid Waste Disposal Division is responsible for waste disposal at facilities located in Virginia. The subject site is not within tribal jurisdiction.

14. **State and Tribal Leaking Storage Tanks:** The District of Columbia Department of the Environment maintains an inventory of reported leaking underground storage tank incidents. The subject site is not within tribal jurisdiction.

15. **State and Tribal Voluntary Cleanup Sites:** The District of Columbia Department of Health maintains a list of Voluntary Cleanup sites. The subject site is not within tribal jurisdiction.

16. **State and Tribal Brownfield Sites:** The District of Columbia Department of the Environment maintains a list of Brownfield sites which includes properties where redevelopment or re-use may be compromised by the presence or presumed presence of hazardous materials or petroleum. The subject site is not within tribal jurisdiction.

17. **Other Databases Searched (Historical Cleaners and Auto Stations):** EDR Proprietary Records include Historical Cleaners, a database that consists of potential dry cleaner sites; and Historical Auto Stations, available listings of potential gas station/filling station/service station sites.

5.1.2 Detailed Description of Relevant Subject Site Listings

The EDR report did not identify any database listings in searched databases (including more databases than listed above) at the subject site.

5.1.3 Detailed Descriptions of Relevant Nearby Site Listings

The EDR report identified database listings in searched databases (including more databases than listed above) within the prescribed search radii. The majority of the database listings were USTs and LUST sites. Based on the urban area of the site, characterized by subsurface building levels, subway tunnels, and utilities that create barriers to groundwater flow, and based on the assumption that the groundwater under the subject site is tidally influenced, only those sites in the immediate vicinity of the subject site would be anticipated to have the potential to affect the subject site. These sites are listed below.

Attis located at 1714 2nd Street, SW (Map ID # A3), located immediately south and cross-gradient of the subject site, is listed on the UST database. The 3,500-gallon tank contained gasoline. The entry is listed as Permanently Out of Use. AT&T is also located at 1714 2nd Street, SW (Map ID # A4) and is listed on the LUST (case # 92076) and Brownfield databases. The site owned and operated a 3,500 gallon gasoline UST. A release from the UST was reported in July 1992 and impacted soil and groundwater. The status of the release is listed as closed. Based on its status, impacts from the LUST do not present a threat to human health or the environment under current conditions and it is unlikely that the LUST will require additional regulatory action.

Super Salvage, Inc. located at 1711 1st Street, SW (Map ID # C9, C10 and C11), immediately south and cross-gradient of the subject site, is listed on the LUST (case # 96030), UST and RCRA-CESQC databases. A tank containing gasoline was reported to be leaking in October 1995 and reportedly impacted soil. The status of this release is listed as Closed. A 2,000-gallon gasoline located at the site is listed as Permanently Out of Use. Additionally, this entity is listed as a Conditionally Exempt Small Quantity Generator for storing ignitable hazardous wastes, as well as waste cadmium, lead, benzene, methyl ethyl ketone, tetrachloroethylene, and trichloroethylene. No violations have been reported associated with this listing. Based on its status and impacts being limited to soil, impacts from the LUST do not present a threat to human health or the environment under current site conditions and it is unlikely that the LUST will require additional regulatory action.

An entry located at 1700 1st Street, SW (Map ID # C10) located immediately east and cross-gradient of the subject site, is listed on the Brownfield database. No additional details are provided.

5.2 ADDITIONAL ENVIRONMENTAL RECORDS REVIEW

To supplement the (ASTM E 1527-05 Standard) environmental record sources, we contacted the following state and local government agencies, and/or reviewed the following additional sources:

5.2.1 D.C. Department of the Environment

Additional environmental records were requested for this assessment through a Freedom of Information Act (FOIA) request to the D.C. Department of the Environment (DCDE). To date, no response has been received from the FOIA request. Due to the information obtained through interviews with key subject site personnel, and other records reviews, it does not appear that responses to the FOIA requests should affect our conclusions regarding the site. However, if a response is received that affects our conclusions regarding the subject site, we will provide an addendum to this report.

5.2.2 D.C. Fire and EMS Department

Additional environmental records were requested for this assessment through a FOIA request to the DC Fire and EMS Department. This department responded to our request on 27 December 2013. According to the files held by this department, operations taking place at the subject site and adjoining properties are unlikely to be impacting the subject site. A copy of the response from the DC Fire and EMS Department is included in Appendix D.

5.3 USER RESPONSIBILITIES

The AAI Rule requires that the user of the report consider the following:

- Whether the user has specialized knowledge about previous ownership or uses of the subject site that may be material to identifying RECs;

- Whether the user has determined that the subject site's Title contains environmental liens or other information related to the environmental condition of the property, including engineering and institutional controls and Activity and Use Limitations (AULs), as defined by ASTM;

- Whether the user is aware of commonly known or reasonably ascertainable information about the subject site including whether or not the presence of contamination is likely on the subject site and to what degree it can be detected; and

- Whether the user has prior knowledge that the price of the subject site has been reduced for environmentally related reasons.

We requested such information for inclusion in this report. Though neither the AAI Rule nor the ASTM E 1527-05 Standard requires that this information be provided to the environmental professional(s), failure on the part of the user to obtain such information for their own records, should it be reasonably ascertainable, may invalidate the user's compliance with the AAI Rule for CERCLA liability protection in the future.

6. Site Reconnaissance and Key Personnel Interview(s)

A site visit to observe site conditions was conducted by Karin Holland and Christian-Noel Tschibelu of Haley & Aldrich on 28 August 2013. District of Columbia representatives were not available to conduct the site visit. Access to the subject site was provided by Steve Middleton of Super Salvage. Buildings are not present at the subject site. Haley & Aldrich observed the exterior portions of the subject site, including the property boundaries, and observed adjoining property conditions from the subject site boundaries and/or public thoroughfares. No weather-related conditions or other conditions that would limit our ability to observe the subject site or adjoining properties occurred during our subject site visit. Site photographs are provided in Appendix E. The findings of the subject site visit are discussed below.

ASTM E 1527-05 Standard Section 10.8 requires that, prior to the subject site visit**,** the current subject site owner or key site manager and user, if different from the current owner or key site manager, be asked if there are any helpful documents that can be made available for review. These consist of environmental site assessment reports, audits, permits, tank registrations, Material Safety Data Sheets, Community Right-to-Know plans, safety plans, hydrogeologic or geotechnical reports, or hazardous waste generator reports. We made such a request but were not provided with any documents.

6.1 SUBJECT SITE OBSERVATIONS

6.1.1 Current Use of the Property and General Description of Structures

The subject site comprises only outdoor areas that are used for truck parking and wood storage.

6.1.2 Potable Water Supply and Sewage Disposal System or Septic Systems

The subject site did not seem to be connected to a potable water supply or a sewage disposal system.

6.1.3 Use and Storage of Petroleum Products and Hazardous Materials

Petroleum products and/or hazardous materials were not observed to be used, stored, and/or disposed of at the subject site.

6.1.4 Disposal of Petroleum Products and Hazardous Materials

Disposal of petroleum products and hazardous materials were not observed at the subject site.

6.1.5 Odors

No odors were detected at the subject site.

6.1.6 PCBs Associated with Electrical or Hydraulic Equipment

Due to the nature of activities, PCB-containing materials are unlikely to be present at the subject site.

6.1.7 Unidentified Substance Containers

Unidentified substance containers were not identified at the subject site.

6.1.8 Heating and Cooling System

The subject site did not appear to be connected to heating or cooling systems.

6.1.9 Stains or Corrosion on Floors, Walls, or Ceilings

Buildings are not present at the subject site. Therefore, stains or corrosions were not observed on floors, walls or ceilings.

6.1.10 Floor Drains and Sumps

Floor drains and sumps were not observed at the subject site.

6.1.11 Hydraulic Elevators

No hydraulic elevators were observed or reported at the subject site.

6.1.12 Vehicle Maintenance Lifts

No hydraulic vehicle maintenance lifts were observed or reported at the subject site.

6.1.13 Emergency Generators and Sprinkler System Pumps

No emergency generators and sprinkler system pumps were observed or reported at the subject site.

6.1.14 Catch Basins

No catch basins were observed or reported at the subject site.

6.1.15 Dry Wells

Dry wells were not observed or reported at the subject site.

6.1.16 Pits, Ponds, Lagoons, and Pools of Liquid

Pits, Ponds, Lagoons, and Pools of Liquid were not observed or reported at the subject site.

6.1.17 Stained Soil or Pavement

Stained soil or pavement was not observed at the subject site.

6.1.18 Stressed Vegetation

Evidence of stressed vegetation was not observed at the subject site.

6.1.19 Solid Waste and Evidence of Waste Filling

Solid waste storage and evidence of waste filling was not observed at the subject site.

6.1.20 Wastewater and Stormwater Discharge

Evidence of wastewater and stormwater discharge was not observed at the subject site.

6.1.21 Monitoring, Water Supply, or Irrigation Wells

Monitoring, water supply, and irrigation wells were not observed or reported at the subject site.

6.1.22 Sanitary Sewer and Septic Systems

Septic systems were not observed or reported at the subject site.

6.2 ADJOINING PROPERTY OBSERVATIONS

Properties adjoining the subject site were generally observed to be light industrial or commercial in nature.

7. Subsurface Exploration

In order to evaluate subsurface conditions of the subject site and assess whether current and former operation at and adjacent to the subject site are impacting the subject site, Haley & Aldrich conducted Phase II subsurface sampling at the subject site. The approximate locations of explorations are shown on Figure 3.

7.1 DIRECT PUSH SAMPLING AND MONITORING INSTALLATIONS 10 APRIL 2015

Soil investigation activities were conducted at the subject site in order to evaluate subsurface conditions and assess whether current and/or former operations at and adjacent to the subject site have impacted soil quality. These investigation activities were conducted at the Site on 10 April 2015 at the identified REC locations.

Direct push reports and observation well installation reports are included in Appendix F.

7.1.1 Soil Sampling

Soil samples were collected during advancement of direct-push borings (GSS-603-800-1, GSS-603-800-2 and GSS-603-800-3). Borings were advanced 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 for analysis to Pace Analytical Services, Inc., (Pace) under standard chain of custody procedures. Soil samples were analyzed for one or more of the following: total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), VOCs, polychlorinated biphenyls (PCBs) and metals.

7.2 SUBSURFACE FINDINGS

Subsurface investigations described in this report were not intended to define the lateral extent of petroleum impacts to soil or groundwater at the subject site. The objective was to explore KRECs and SRECs to evaluate current conditions to assess the general magnitude of potential impacts.

7.2.1 Soil Results

Soil analytical results are summarized in Table I, along with regulatory screening levels for comparison. Laboratory analytical reports are included in Appendix G.

Soil screening levels were selected for the protection of human health based on the understanding that the subject 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 subject 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, were not reported but had applicable detection limits greater than the soil screening levels.

8. Findings and Conclusions

Haley & Aldrich, Inc. (Haley & Aldrich) performed a Phase I environmental site assessment (Phase I assessment) of the District of Columbia property (herein referred to as the "subject site") in Washington, DC. The scope of work is described and conditioned by our proposal dated 28 June 2013. As indicated in our proposal, this Phase I assessment was performed in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-05 Standard) as referenced in 40 Code of Federal Regulations (CFR) Part 312 [the All Appropriate Inquiries (AAI) Rule]. Deviations from this Standard, and/or data gaps and their significance are described in Section 1.5 of this report. Phase II subsurface sampling was also conducted to evaluate issues identified during the Phase I portion of the assessment. Our conclusions are intended to help the user evaluate the "business environmental risk" associated with the subject site, as defined in the ASTM E 1527-05 Standard and discussed in Section 1.1 of this report.

The subject site is bounded by R Street, SW to the north, an un-improved portion of Potomac Avenue, SW and properties owned by Rollingwood Real Estate and Super Salvage, Inc. to the south, 1st Street, SW to the east and 2nd Street, SW to the west. The subject site is currently used for truck parking and wood storage.

The objective of a Phase I assessment is to identify known and suspect "recognized environmental conditions" (RECs), historical RECs (HRECs), and *de minimis* conditions associated with the subject site, as defined in the ASTM E 1527-05 Standard and in Section 1.1 of this report. The objective of the Phase II subsurface sampling is to provide a preliminary evaluation of RECs identified during the Phase I portion of the assessment, including order of magnitude cost and schedule impacts on the proposed development.

The ASTM E 1527-05 Standard requires an environmental professional's opinion of the potential impacts of RECs, HRECs, and *de minimis* conditions identified on a site during a Phase I assessment. Our opinion is rendered with respect to a REC's potential (high, medium, or low) to require remedial response based on prevailing agency requirements and our understanding that the subject site is one of seven parcels being evaluated for potential redevelopment as a professional soccer stadium. Our opinion regarding a REC's potential impact on the subject site (high, medium, low, or unknown) is based on the scope of our work, the information obtained during the course of our work, the conditions prevailing at the time our work was performed, the applicable regulatory requirements in effect at the time our work was performed, and/or our experience evaluating similar sites, and our understanding of the client's intended use for the subject site.

Data gaps were not identified for the purpose of this report.

RECOGNIZED ENVIRONMENTAL CONDITIONS

The ASTM E 1527-05 Standard defines a REC as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property." A material threat is defined by the ASTM E 1527-05 Standard as "a physically observable or obvious threat which is reasonably likely to lead to a release that, in the opinion of the environmental professional, is threatening and might result in impact to public health or the environment."

This Phase I assessment has revealed eight SRECs and two HRECs. Details regarding the nature of these RECs and our opinion regarding potential impacts are provided below.

KNOWN OR SUSPECT RECOGNIZED ENVIRONMENTAL CONDITIONS

Consistent with ASTM E 1527-05 Section 12.5 (Report Format), and for the purposes of this assessment, those RECs that have been identified as being present with respect to the subject site are referred to as Known Recognized Environmental Conditions (KRECs), and those RECs that have been identified as being likely present with respect to the subject site are referred to as Suspect Recognized Environmental Conditions (SRECs). KRECs were not identified in this Phase I assessment. The Phase I assessment identified eight SRECs.

Suspect Recognized Environmental Conditions

SREC #1: Elevated concentrations of arsenic and polycyclic aromatic hydrocarbons (PAHs) at the subject site

Potential Impact: Medium

Explanation: Arsenic was detected at concentrations above soil screening levels in the three soil samples collected at the subject site (GSS-603-800-1, GSS-603-800-2 and GSS-603-800-3), as shown in Table I. The reported concentrations of arsenic in soil above the soil screening levels may be within naturally occurring background at the subject site; however further analysis would be required to determine whether arsenic levels are natural or are due to activities at the subject site or neighboring properties. Furthermore, reported detection limits for benzo(a)pyrene and dibenz(a,h)anthracene were greater than soil screening levels in sampled soil, as illustrated in Table I. Elevated concentrations were associated with sample dilution. Further analysis would be required to determine associated PAH impacts.

The following SRECs were observed on the adjacent Super Salvage, Inc. property south of the subject site during a site visit by Haley & Aldrich for the comprehensive Phase I assessment of Buzzard Point in August 2013 and from a Phase II subsurface investigation performed by Haley & Aldrich in April 2015.

SREC #2: Impacts in northern portion of adjacent property along subject site boundary

Potential Impact: High

Explanation: Haley & Aldrich collected two soil and two groundwater samples (GTW-605-802-6 and GTW-605-802-7) along the boundary of the subject site and the property adjacent to the south. Arsenic and total petroleum hydrocarbons diesel-range organics (TPH-DRO) were detected at concentrations above soil screening levels. In addition, lead and methylene chloride were detected at concentrations above the groundwater screening level. A potential exists for these soil and groundwater impacts to migrate to the subject site.

SREC #3: Concrete staining in area of an AST

Potential Impact: Medium

Explanation: Concrete staining on paving next to an AST was observed in the northern portion of the property. The concrete paving was in relatively good condition during the site visit. However a large quantity of scrap metal and other waste had been dumped immediately adjacent to the AST preventing the Haley & Aldrich representative from confirming the condition of the concrete beneath

this waste. Haley & Aldrich collected two soil and one groundwater samples in the vicinity of heavy staining in April 2015. Arsenic, lead, polychlorinated biphenyls (PCBs), ethylbenzene, and TPH-DRO were detected at concentrations above soil screening levels. In addition, antimony, arsenic, lead, and methylene chloride were detected at concentrations above groundwater screening levels. A potential exists for these soil and groundwater impacts to migrate to the subject site.

SREC #4: Potentially unlined/unpaved sump
Potential Impact: Medium
Explanation: On-site stormwater and spills are captured and pumped to a sump in the southwestern portion of the property adjacent to the south of the subject site before being disposed off-site by a licensed contractor. The sump contained large quantities of oily liquid during the site visit and it was not possible to ascertain whether the sump was lined and/or confirm the integrity of the lining. The site representative could not confirm the status of the sump lining. Haley & Aldrich collected two soil samples in the vicinity of the sump in April 2015. Arsenic, lead, benzo(a)pyrene, and TPH-DRO were detected at concentrations above applicable soil screening levels. A potential exists for these soil impacts to migrate to the subject site.

SREC #5: Heavy staining of concrete
Potential Impact: Medium
Explanation: Heavy concrete staining was observed at many locations at the property. The concrete was in moderate to good condition where visible. In other areas, for example the area surrounding the sump pump, the staining was too thick to confirm the integrity of the concrete. Haley & Aldrich collected one soil sample in the vicinity of heavy staining in April 2015. Arsenic was detected at a concentration above the applicable soil screening level. A potential exists for soil impacts to migrate to the subject site.

SREC #6: Oil layer in secondary containment under aboveground storage tanks (ASTs)
Potential Impact: Medium
Explanation: A thick layer of oil was observed at the bottom of the AST tanks in the eastern portion of the property. It is understood that the bottom of the containment is paved with concrete. However, the integrity of the concrete could not be confirmed. Haley & Aldrich collected three soil and two groundwater samples in the vicinity of heavy staining in April 2015. Arsenic and TPH-DRO were detected at concentrations above applicable soil screening levels. In addition, arsenic was also detected at concentrations above applicable groundwater screening levels. A potential exists for these soil and groundwater impacts to migrate to the subject site.

The following SREC was observed on the Rollingwood Real Estate property adjacent to the south of the subject site during site visits by Haley & Aldrich for the comprehensive Phase I assessment of Buzzard Point in August 2013 and from a Phase II subsurface investigation performed by Haley & Aldrich in September 2014.

SREC #7:	Impacts in the eastern portion of the property
Potential Impact:	Medium
Explanation:	A soil sample obtained from test boring collected by Haley & Aldrich from beneath the eastern portion of the property in September 2014 revealed a PAH, benzo(a)pyrene, and arsenic above applicable soil screening levels. In addition, free-phase oil was observed in groundwater at this location from a depth of 7.6 feet bgs to 20.9 feet bgs. TPH-DRO also exceeded applicable groundwater concentrations at this location. Additional soil sampling by Haley & Aldrich in April 2015 at this adjacent property revealed the presence of arsenic and TPH-DRO in soil at concentrations above associated soil screening levels. Furthermore, lead and methylene chloride were detected at concentrations above applicable groundwater screening level. The impacts might be associated with the potentially unlined/unpaved sump described above (SREC #4) and have the potential to migrate to the subject site.

The following SREC was identified based on results from Phase II subsurface sampling performed on an adjacent property to the east of the subject site in June 2014.

SREC #8:	Petroleum impacts in soil at Square 0661, Lot 805, owned by Potomac Electric Power Company (PEPCO)
Potential Impact:	Low
Explanation:	TPH-DRO were detected at a concentration of 38.3 mg/kg in a composite soil sample, GTW-661-COMP-805-1, collected at 0 to 2 feet below ground surface in the southeastern corner of Square 0661, Lot 805 in June 2014. This concentration is above applicable soil screening levels. Soil and groundwater were not sampled at deeper levels at this location and therefore the vertical extent of impact in soil is currently not known. A potential therefore exists for hydrocarbons to have migrated into deeper soil and groundwater, and due to the tidal nature of underlying groundwater, to have subsequently migrated under the subject site.

HISTORICAL RECs

The ASTM E 1527-05 Standard defines an HREC as an environmental condition "which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently."

This Phase I assessment has revealed the following two HRECs.

HREC #1: LUST case # 92076 on the Rollingwood Real Estate property adjacent to the south of the subject site is associated with a gasoline LUST that historically impacted soil and groundwater under the subject site. The status of the LUST release is listed as closed. Based on its status, impacts from the LUST do not present a threat to human health or the environment under current conditions and it is unlikely that the LUST will require additional regulatory action.

HREC #2: LUST case # 96030 at the Super Salvage, Inc. property immediately south of the subject site and related to a tank containing gasoline was reported to be impacting soil and was granted regulatory closure. Based on its status and impacts being limited to soil, impacts from the LUST do not present a threat to human health or the environment under current site conditions and it is unlikely that the LUST will require additional regulatory action.

DE MINIMIS CONDITIONS

The ASTM E 1527-05 Standard defines *de minimis* conditions as those conditions which "do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies." The ASTM E 1527-05 Standard notes that "conditions determined to be *de minimis* are not recognized environmental conditions."

This Phase I assessment revealed no *de minimis* conditions.

SUMMARY AND RECOMMENDATIONS

In summary, several RECs were identified during this Phase I assessment and subsequent Phase II sampling. Phase II subsurface sampling described in this report did not delineate the extent of petroleum and metal impacts detected in soil or groundwater at the subject site, and based on the concentrations detected, it is our opinion that additional action may be required under current conditions at the subject 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 II. The soil screening levels used for evaluation of impacts at the subject 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.

9. Credentials

This Phase I assessment report was prepared by Karin Holland under the direct supervision of David Schoenwolf. Qualification information for the project personnel is provided below.

KARIN HOLLAND
Senior Specialist

Ms. Holland received a Bachelor of Arts degree in Natural Sciences from the University of Cambridge, United Kingdom in 2002 and a Master of Science degree in Law and Environmental Science from the University of Nottingham, United Kingdom in 2003. Ms. Holland is involved in a variety of projects including environmental site assessments, soil management, and field sampling events. Her responsibilities with Phase I Environmental Site Assessments include site history research, interaction with clients and state regulatory agencies, interpretation and evaluation of environmental conditions, and development of recommendations for future investigations.

DAVID SCHOENWOLF, P.E.
Principal Consultant | Senior Vice president

Mr. Schoenwolf has over 36 years of experience in the engineering and environmental consulting practice. Mr. Schoenwolf has been an Officer-in-charge and project manager for geotechnical engineering and environmental evaluations for a broad range of projects. His scope of projects has ranged from preliminary feasibility studies, environmental site assessments, and master plan site development studies to complete design investigations for major projects including preparing geotechnical data and interpretive reports; preparing contract documents, technical specifications, and reviewing contractor submittals; instrumentation monitoring; and construction consulting. He is a registered professional engineer in the District of Columbia.

References

1. Topographic Map, Washington West, District of Columbia Quadrangle, United States Geological Survey 7.5 minute series, dated 1983.

2. Haley & Aldrich, Inc., site visit conducted by Karin Holland and Christian-Noel Tschibelu on 28 August 2013.

3. Tat-Lin Angus of PEPCO, Terrance Jones of Akridge and John Keller of Super Salvage, Inc. interviews with Haley & Aldrich, Inc., on 28 August 2013.

4. Environmental Date Resources, Database Report, dated July 2013.

5. "Phase I Environmental Site Assessment, Buzzard Point, Squares 609 & 611, 2nd Street and V Street, SW, Washington, DC," prepared by URS, prepared for PEPCO Holdings Inc., dated 4 April 2005.

6. "Phase I Environmental Site Assessment, Buzzard Point, 2nd Street and V Street, SW, Washington, DC," prepared by Advantage Environmental Consultants, LLC (AEC), prepared for The John Akridge Companies, Inc., dated 10 June 2005.