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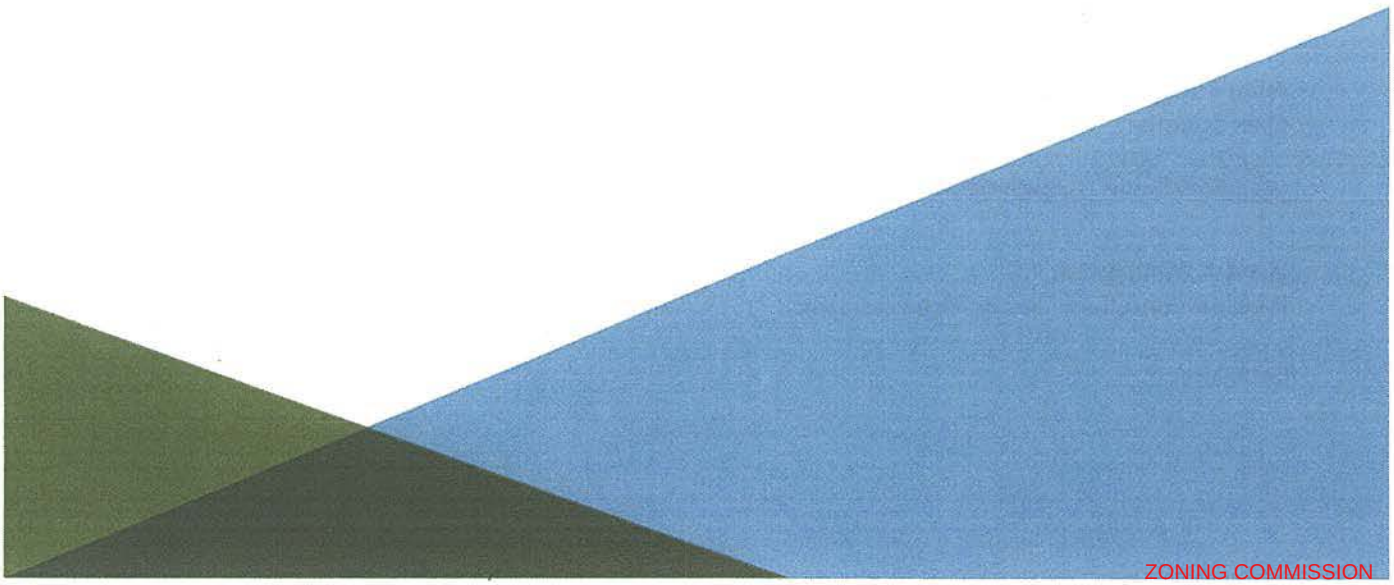
DUST AND ODOR CONTROL PLAN
D.C. UNITED SOCCER STADIUM DEVELOPMENT
WASHINGTON, D.C.

By:
Haley & Aldrich, Inc.
McLean, Virginia

For:
D.C. United Stadium Development and Operations
Washington, D.C.

File No. 40223-112
November 2016



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Rev. 15 November 2016
6 October 2016
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D.C. United
Stadium Development and Operations
2400 East Capital Street, SE
Washington, D.C. 20003

Attention: Mr. Troy D. Scott

Subject: Dust and Odor Control Plan
D.C. United Soccer Stadium Development
Washington, D.C.

Dear Mr. Scott:

Haley & Aldrich, Inc. prepared this revised Dust and Odor Control Plan (DOCP) for use during soil remediation and construction of the proposed D.C. United Soccer Stadium (Stadium Development), in the Buzzard Point neighborhood, located in southwest Washington, D.C. (Site). This DOCP was prepared at the request of the Department of Energy and Environment (DOEE) as indicated in their 1 October 2015 Voluntary Cleanup Action Plan Approval Letter for VCP 2015-031, and includes revisions made to the 6 October 2016 DOCP to address comments received from DOEE and the Air Quality Division. Please do not hesitate to contact us if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Anita Broughton, CIH
Chief Scientist

Beth Breitenbach, P.G.
Senior Project Manager

David A. Schoenwolf, P.E.
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1. Introduction

This revised Dust and Odor Control Plan (DOCP) is being submitted as part of the Voluntary Clean Up Program, VCP Case No. VCP 2015-031 for the D.C United Soccer Stadium Development, herein collectively referred to as the "Site". It was prepared at the request of the Department of Energy and Environment (DOEE) in their 1 October 2015 Voluntary Cleanup Action Plan Approval Letter for VCP 2015-031, and includes revisions made to the 6 October 2016 DOCP to address comments received from DOEE and the Air Quality Division. This DOCP will be implemented during soil remediation and construction-related ground disturbance activities at the Site to ensure fugitive dust is being controlled to protect public health.

1.1 SITE LOCATION

The Site is in an area of Washington, D.C. referred to as Buzzard Point as shown on Figure 1. It comprises approximately 13 acres, and formerly consisted of eight individual parcels located in the vicinity of Potomac Avenue, SW and 1st Street, SW. The Site is bounded by Potomac Avenue, SW and R Street, SW to the north, 2nd Street, SW to the west, T street, SW to the South and Half Street, SW to the east as shown on Figure 2. Property to the north is occupied by a residential community, to the east is occupied by a concrete plant, to the west is occupied by Fort McNair, and to the south is occupied by a parking lot and substation.

1.2 PURPOSE AND OBJECTIVES

The purpose of the DOCP is to ensure fugitive dust generated from soil remediation and construction-related ground disturbance activities at the Site is being controlled to protect public health. Therefore, the DOCP describes air monitoring and associated action levels to protect public health, specifically nearby off-Site residents located north of the Site. Similar on-Site air monitoring and associated action levels to protect the on-Site construction worker are described in the Site-specific Health and Safety Plan (HASP); these on-Site monitoring activities and action levels to evaluate whether mitigative measures are necessary for worker protection are not the subject of this DOCP.

There are four primary objectives of this DOCP including:

- Meet DOEE requirements;
- Comply with DCMR Rules 20-605 (Control of Fugitive Dust), 20-900 (On-road Engine Idling and Nonroad Diesel Engine Idling), and 20-903 (Odorous and Other Nuisance Air Pollutants);
- Evaluate the effectiveness of, and need for, additional dust suppression/control measures; and
- Document fugitive dust concentrations during construction-related ground disturbance activities at the Site, as part of the D.C. United Soccer Stadium Development project.

1.3 PREVIOUS SITE INVESTIGATION ACTIVITIES AND HUMAN HEALTH RISK ASSESSMENT RESULTS

Documented Site investigation activities began at the Site in 1990. These activities included the collection and analysis of soil, soil gas, and groundwater samples. A summary of the Site investigation activities conducted to date are presented in the report entitled "Human Health Risk Assessment and Water Protection Level Evaluation" (HHRA and WPL Evaluation report) for the Site.

The sample and analytical data from the Site investigation activities were used in the HHRA and WPL Evaluation report to assess potential exposure to on-Site and off-Site human receptors, including future on-Site construction workers and off-Site residents during Site redevelopment. Potential exposure to these receptors include inhalation of fugitive dust and volatile organic compounds (VOCs) emanating into ambient air from on-Site soil during the time the Site is undergoing soil remediation and construction activities. After on-Site construction activities, approximately one to three feet of imported fill material will be placed above the surface soil and beneath turf in the soccer playing field, and the remainder of the Site will be covered with either on-Site buildings, pavement, or landscaped areas. It was, therefore, assumed that after Site redevelopment, fugitive dust or volatilization will not occur from exposed soil, so the on-Site receptors and off-Site resident will not have exposure to Site-related chemicals of potential concern (COPCs) after Site redevelopment.

Based on the results of the HHRA, it was concluded that mitigation or remediation is warranted to protect the construction worker and off-Site resident during Site redevelopment based on potential exposures associated with the generation of fugitive dust. Making conservative assumptions regarding potential fugitive dust concentrations on- and off-Site from on-Site construction activities, it was assumed that 1 mg/m^3 (as PM10 – see Section 2) of fugitive dust could be generated during on-Site construction activities. The above-noted fugitive dust concentration is considered to be protective to both the on-Site construction worker and off-Site resident after conducting the recommended on-Site remedial soil excavation activities. Assuming no soil remediation is conducted, the acceptable fugitive dust concentration (as PM10) for the off-Site residents would need to be maintained at or less than 0.1 mg/m^3 to protect the off-Site resident (i.e., to achieve an acceptable total hazard index of 1, as shown in Table 1). This fugitive dust concentration, 0.1 mg/m^3, is further discussed in Section 2.2 and was identified as the fugitive dust action level as described in Section 2.3.

Potential exposure to VOCs emanating into ambient air from on-Site soil did not pose an unacceptable risk to either the on-Site construction worker or off-Site resident. Converting the estimated ambient vapor concentrations from units of micrograms per cubic meter (ug/m^3) to parts per million (ppm) as shown in Table 2, indicates that the conservatively estimated ambient air concentration for total VOCs during Site construction is 0.00064 ppm.

2. Health Protective Thresholds for Fugitive Dust

As noted above, soil disturbance during construction activities has the potential to generate fugitive dust that may migrate off-Site. Sensitive off-Site receptors have been identified as the off-Site resident that lives in proximity to the Site, and fugitive dust monitoring is proposed herein. No monitoring for ambient VOC concentrations is proposed. As noted in Section 1, the conservatively estimated ambient air concentration for total VOCs during Site construction is 0.00064 ppm. This concentration is considered low, does not pose an unacceptable health risk, and is not discernable using typically used portable ambient air VOC monitors. For instance, the resolution for the MiniRAE 3000 for total VOC concentrations up to 1,000 pm is 0.1 ppm, significantly higher than the total estimated VOC concentration of 0.00064 ppm.

The fugitive dust particle sizes that are likely responsible for adverse health effects because of their ability to reach the lower regions of the respiratory tract is particle sizes equal to and less than 10 micrometers (μm) in diameter (0.0004 inches or approximately one-seventh the width of a human hair). These particle sizes are commonly referred to as PM10. Two criteria were identified as acceptable fugitive dust thresholds, as PM10, for this DOCP. These include the National Ambient Air Quality Standard (NAAQS) and acceptable PM10 thresholds based on the results of the HHRA (described in Section 1.3).

2.1 NATIONAL AMBIENT AIR QUALITY STANDARD

The U.S. Environmental Protection Agency's (EPA's) NAAQS for PM10 is 0.15 mg/m^3 (150 $\mu g/m^3$), measured as a daily concentration (24-hour average). As described in EPA's Fact Sheet entitled "Final Revisions to the National Ambient Air Quality Standards for Particle Pollution (Particulate Matter)", potential health effects from exposure to PM10 include: "aggravated asthma; chronic bronchitis; reduced lung function; irregular heartbeat; heart attack; and premature death in people with heart or lung disease".

2.2 HUMAN HEALTH RISK ASSESSMENT

Soil remediation will be conducted at the Site, based on the recommendations presented in the HHRA and WPL Evaluation report, and will be conducted prior to on-Site construction activities. A fugitive dust concentration of 1 mg/m^3 (as PM10) is considered to be protective to the off-Site resident after conducting the recommended on-Site remedial soil excavation activities. Assuming no soil remediation is conducted, the acceptable fugitive dust concentration (as PM10) for the off-Site residents would need to be maintained at or less than 0.1 mg/m^3 as a 24-hour average to protect the off-Site resident.

2.3 SELECTED PUBLIC HEALTH ACTION LEVEL

It is proposed herein that a conservative action level (AL) of 0.1 mg/m^3, the lowest of the concentrations presented above, be used as the PM10 action level at the perimeter of the Site, not to be exceeded over a sustained period of time, herein identified as 15 consecutive minutes. This AL provides protection during remediation activities and is 10 times lower than the acceptable concentration during subsequent construction-related activities. It is also less than the NAAQS 24-hour average PM10 standard. Imposing a 15-minute response time also provides a level of safety for meeting the 24-hour average assumption inherent in deriving the NAAQS and HHRA PM10 thresholds.

2.4 PERIMETER AIR MONITORING PROGRAM OVERVIEW

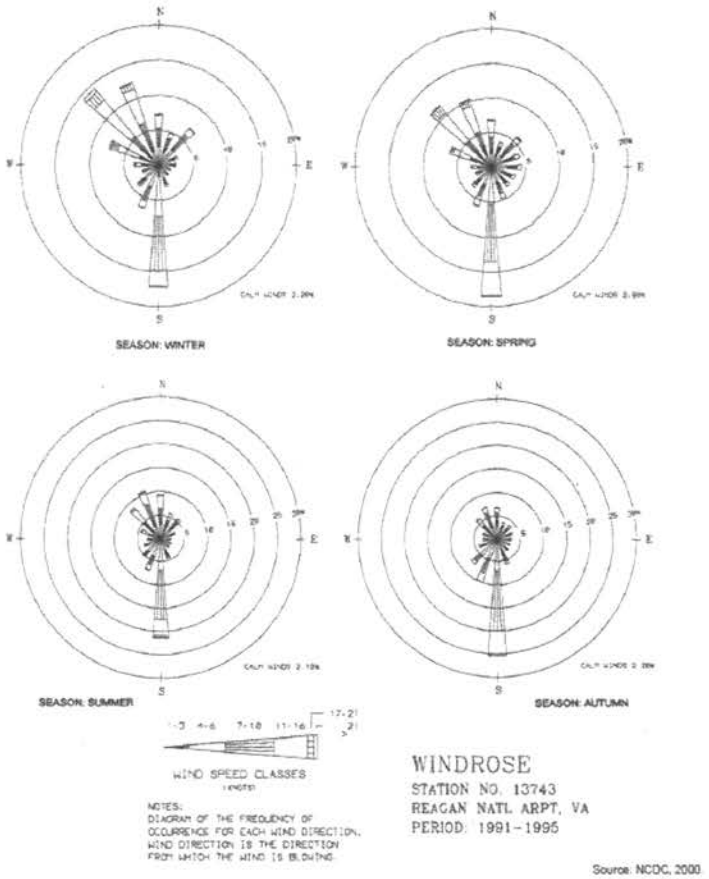
During ground disturbance activities associated with remediation and construction activities at the Site, steps will be taken to minimize fugitive dust emissions and protect human health within the surrounding community. Continuous monitoring of PM10 along the Site perimeter will be conducted during the time the on-Site remediation and construction activities are occurring to assess whether fugitive dust may be migrating off-Site.

An air monitoring professional will be assigned to the Site during ground disturbance activities. The air monitoring professional will conduct monitoring activities at the Site perimeter as described herein. The required notifications and control measures, if the AL is exceeded, are described in further detail in the following sections.

2.4.1 Predominant Wind Direction

Wind patterns were reviewed from data collected in proximity to the Site. This data, presented below as wind roses, show a 5-year seasonal wind pattern for the Reagan National Airport in Washington D.C.

Figure 3-3
5-Year Seasonal Windroses for Reagan National Airport
(1991 - 1995)



Source: NCDC, 2000

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Wind roses present information regarding the distribution of wind speed and direction at a particular location, where the wind direction depicted by the longest spoke on the wind rose is the direction of greatest frequency. A review of the above wind roses indicates two dominant wind directions, depending on the season. In the Winter and Spring, the dominant wind direction is from the south and northwest (generally away from the off-Site residents), and in the Summer and Autumn, the dominant wind direction is from the south. As noted in Section 1.1, property to the north of the Site is occupied by of a residential community, to the east is occupied by a concrete plant, to the west is occupied by Fort McNair, and to the south is occupied by a parking lot and substation.

2.4.2 Air Monitoring Locations

Based on the location of the most sensitive receptors and the dominant wind directions, Site perimeter air monitoring locations will be located as described below and shown on Figure 3:

- Station 1. Northwestern Site Boundary – Corner of R Street SW and 1st Street SW
- Station 2. Eastern Site Boundary – East of the Cement Plant, along Half Street
- Station 3. Southern Site Boundary – Corner of 1st Street SW and T Street SW
- Station 4. West Site Boundary – Corner of 2nd Street SW and S Street SW

The prevailing wind direction will be recorded each day prior to ground disturbance activities and periodically during the day to identify which stations are considered up- and down-wind for that day. This information will be used to assist with data interpretation.

2.4.3 Air Monitoring Data Interpretation

Perimeter air monitoring will be conducted during the ground disturbance activities to document ambient rolling 15-minute average PM10 concentrations at the Site perimeter, to assess visible dust conditions at the Site, and to compare these concentrations to the established action level criteria for the Site. This will include real-time air monitoring for the documentation of general and transient conditions during ground disturbance activities using measurement data from upwind and downwind stations:

- Upwind Station(s) – The upwind perimeter air monitoring station(s) is the monitor situated in an area upwind of the work areas based on observed daily wind direction. The upwind monitor(s) is in a location that is not affected by Site emissions from the soil disturbance activity.

- Downwind Station(s) - The downwind perimeter air monitoring station(s) is the monitor situated downwind of the work areas based on observed daily wind direction.

Decisions regarding exceedances of the PM10 concentration action level will be made based on the difference between upwind and downwind PM10 concentrations for activities attributed to on-Site activities. The following technical guidance will be followed regarding fugitive dust monitoring and associated actions:

Action Level	Response
Downwind PM10 concentration is 100 µg/m^3 (0.1 mg/m^3) greater than the upwind PM10 concentration (rolling 15-minute average) or persistent visible fugitive dust is leaving the Site due to on-Site activities	Contact Site superintendent or designee, and implement dust suppression/control measures (see Section 5).
Stop Work Limit	**Response**
If dust suppression/control measures are not reducing downwind PM10 concentrations to less than 100 µg/m^3 (0.1 mg/m^3) greater than the upwind PM10concentration (rolling 15-minute average) with suppression/control measures in place or persistent visible fugitive dust is leaving the Site due to on-Site activities	Contact Site superintendent or designee, stop work activities that are generating excessive fugitive dust, review suppression/control measures, and modify work activities and/or dust suppression/control measures, as deemed necessary.
Sampling Period	**Daily Sampling Duration**
Rolling 15-minute average PM10 concentration	During work hours, 8 – 10 hours/day

Should dust suppression/control measures be initiated based on the air monitoring results, work can resume once dust suppression/control measures are successful in:

- Reducing the downwind PM10 concentration to less than 100 µg/m^3 above the upwind concentration for 15 minutes, and
- Preventing persistent visible dust from migrating beyond the Site.

3. Perimeter Air Monitoring Equipment and Documentation

The perimeter air monitoring program for this Site is intended to produce sufficient information to control the potential health risk associated with fugitive emissions from the Site during remedial soil excavation and construction activities. Site personnel will use stand-mounted PM10 monitoring equipment at four identified perimeter stations and review results to assess the need to implement fugitive dust suppression/control measures on a real-time basis.

3.1 AIR MONITORING EQUIPMENT

Each of the air monitoring stations identified in Section 2.6 will a contain stand-mounted aerosol meter (TSI DustTrak II Model 8530, or equivalent device) used to provide field measurements of particulate matter as PM10 in ambient air. This direct reading instrument, TSI DustTrak II Model 8530, provides essentially real time analyses of particle matter less than 10μm in diameter (PM10) using internally mounted laser photometry for quantification. It draws a sample with a default, factory-set, flow rate of 3.0 liters per minute (L/min); has a measurement range from 0.001 to 400 mg/m^3; and a resolution of ±0.1% of reading or 0.001 mg/m^3, whichever is greater. These specifications provide appropriate sensitivity for the Site applications. Wind direction, wind speed, and temperature will also be measured using an on-Site meteorological station or location-specific mobile application from AccuWeather or similar source. When a mobile application is used, the wind direction will be verified by on-Site observations using a windsock or similar device.

In addition, although, not the subject of this DOCP, on-Site air monitoring using hand-held air monitoring equipment will be used as described in the Site-specific HASP to evaluation whether mitigative measures are necessary for worker protection. This equipment includes a hand-held respirable dust monitor (similar aerosol meter as identified herein) to monitor ambient respirable dust concentrations (PM10) and a hand-held organic vapor analyzer equipped with a photoionization detector (PID) or equivalent to monitor ambient concentrations of organic vapors.

3.2 CALIBRATION AND QUALITY ASSURANCE/QUALITY CONTORL

A multi-point calibration of the TSI DustTrak II Model 8530 over the full concentration range is conducted on an annual basis. The Site air monitoring professional will ensure that these direct reading instruments are calibrated, and that a calibration check is conducted on a daily basis, and the instruments are maintained in accordance with the manufacturer's specifications.

Each instrument (TSI DustTrak II Model 8530, or equivalent) will be field checked and calibrated at the air monitoring station at the beginning of each monitoring day, when Site intrusive activities take place, and during the day, if necessary. The calibration will be conducted with a zero (or particulate-free) test sample, by placing the appropriate HEPA particulate filter supplied by the manufacturer for this purpose over the sample inlet. After setting the zero point, the instrument is, according to the manufacturer's instructions, ready for the analyses of particles. The data output for the TSI DustTrak II Model 8530 will be observed and the response recorded in the field logbook that is maintained on-Site throughout the duration of Site activities.

If the Site air monitoring professional determines that the instrument has a problem, the unit will be repaired or replaced. If an instrument fails this QA/QC procedure and cannot be quickly corrected, the Site superintendent will be immediately notified. The Site air monitoring professional will then take

immediate measures to remedy the situation, which may include a stopping work order until the instrumentation issues are resolved.

3.3 DOCUMENTATION

Instrument calibration will be recorded each day for the instrumentation at each station. The Site air monitoring professional will identify and record wind direction at the Site each monitoring day before and periodically during the daily monitoring period.

Data records will be referenced to perimeter air monitoring station, time and date of reading, wind direction, and the initials of the field technician. PM10 concentrations will be measured on a continuous basis at each station and will be reported as rolling 15-minute averages. An alarm (e.g. audible alarm) will provide notification if a monitor is measuring concentrations equal to or greater than the AL (i.e. 100 ug/m^3 greater than background). The instrument monitoring results will be downloaded and reviewed by the Site air monitoring professional to ensure the rolling 15-minute average PM10 concentrations at the Site are less than the AL or stop work limit (see Section 2.7).

The following information will be recorded for each instrument reading of a rolling 15-minute average PM10 concentration measured greater than the AL:

- Date and time of reading;
- Reading location (air monitoring station);
- Concentration reading; and
- On-site construction activities.

4. Odors

In the event that an odor complaint is received, it will immediately be reported to Mr. Kokeb Tarekegn of DOEE (202.535.1771; kokeb.tarekegn@dc.gov) and the Site air monitoring professional will immediately assess Site conditions and attempt to identify the probable cause or causes of the odor. The threshold for odors is based on the detection of odors from emissions associated with Site activities and the presence of odors at nuisance levels off-Site (indicated by odor complaints from Site personnel, the public and/or DOEE investigations).

The table below lists the threshold along with information on what constitutes an exceedance of the odor threshold and possible subsequent response actions.

Action Level	**Averaging Time**	**Frequency of Exceedance Triggering Action**	**Defined Exceedance**	**Detection Limit**	**Actions to be taken by Air Monitoring Professional**
Reported Odor	Any	Odors of sufficient frequency, duration, intensity and odor characteristic (e.g. offensiveness to be a nuisance off-Site)	Detection of nuisance odors off-Site	Public, Agency or Site personnel complaints	1. Log the complaint or detection of odors. 2. Investigate the compliant to determine the source, extent and severity of the odor. 3. Implement corrective actions if necessary. 4. If the odor problem is not resolved quickly then consider whether to: a. cease activity associated with odor generation, on at least a temporary basis; and/or b. place additional intermediate controls to reduce odorous emissions to ambient air.

5. Dust Suppression/Control Measures and Corrective Actions

Administrative and engineering controls (dust suppression and control measures) will be implemented to prevent public exposure to excessive fugitive dust, odors, and diesel emissions created by Site remediation and development activities. The dust suppression and control measures will be consistent with those fugitive dust controls described in DCMR Rule 20-605; the time that diesel-fueled vehicles are allowed to idle while operating on-Site will be consistent with DCMR Rule 20-900.

5.1 DUST CONTROL

Soil disturbance may generate airborne dust. Under certain atmospheric conditions, this dust may become a nuisance or a hazard to nearby public receptors. Soil disturbance of dry earth and heavy equipment operation at the Site will likely release fugitive dust into the air. Airborne dust will be monitored visually and with direct-reading instruments during soil disturbance activities and strict dust control will be implemented.

The contractor will implement appropriate procedures in consultation with the Site air monitoring professional to control fugitive dust generation during soil disturbance activities. The Site air monitoring professional will recommend implementing dust control (e.g., watering or procedural change) where appropriate, and will have the authority to stop work in the event that Site activities generate fugitive dust concentrations in excess of the Action Level (AL) or persistent visible fugitive dust is leaving the Site due to on-Site activities. Should dust suppression activities not be considered effective due to excessive wind disturbance of bare soil at the Site, mechanical soil disturbance activities (e.g., vehicle traffic, excavation) will cease until winds subside to a level when dust suppression activities related to on-Site activities can be effectively implemented to meet the action criteria.

Dust can generally be mitigated by covering stockpiled soils and applying water on the surface of active work areas as needed. If water is used for dust mitigation, Best Management Practices (BMPs) to control runoff from the Site must be used so that contaminants will not leave the Site during storms or excessive water application. Stockpiles will also be covered overnight and during non-working hours.

Dust generation during development activities will be minimized as necessary by implementing the measures to control dust emissions during and after work, including but not limited to:

- Covering the stockpiles not being actively worked on with plastic sheeting;
- Prompt clean-up of any dirt, earth or other materials onto public paved road;
- Applying water spray to the actively worked soils; and
- Temporarily suspending dust generating Site activities until the problem has been resolved.

Water will be used as a dust suppressant. The water will be available from either an on-Site source, via a water truck, or a metered discharge from a fire hydrant located proximate to the Site. The contractor will control fugitive dust generation by spraying water prior to daily work activities, during excavation/loading activities (as necessary to maintain concentrations below the AL), and at truck staging locations. Watering equipment will be continuously available to provide proper dust control. BMPs to control runoff from the Site will also be used so contaminants do not leave the Site during storms or excessive water application.

5.2 VEHICLE OPERATION

Diesel-fueled vehicles shall be operated to control diesel emissions while the engine is idling and in a manner to avoid contaminated material spillage from vehicles leaving the Site. Procedures will also be implemented as described in the Erosion and Sediment Control Plan for the Site (prepared by the contractor, Turner Construction Company) to meet the requirements of DCMR Rule 20-605.1.d.

5.2.1 Diesel-fueled Vehicle Operation

Diesel-fueled vehicles will be operated on-Site primarily for the movement, loading, and unloading of equipment and soil during on-Site remediation and construction activities. Pursuant to DCMR Rule 20-900, on-Site diesel-fueled vehicles will not idle more than 3 consecutive minutes, unless under the following conditions:

- When idling is necessary to ensure safe operation of the equipment and safety of the operator;
- While in a queue with other vehicles during which the vehicles must intermittently move forward to perform their work, the vehicles in the queue can idle for no more than fifteen minutes when queueing; and
- When operating heating equipment when the ambient air temperatures is less than or equal to 32 degrees Fahrenheit, the vehicle will not idle for more than 5 consecutive minutes.

5.2.2 Transportation of Contaminated Soil

Care shall be exercised to avoid contaminated material spillage from vehicles leaving the Site. Trucks carrying waste shall be enclosed so fugitive dust and odors are not generated during transportation along the haul route. Open trucks that may produce dust or odors during transportation shall not be permitted to transport waste from the Site. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be removed promptly. The contractor will be responsible for controlling the fugitive soil and dust around the Site on a daily basis. Proper housekeeping will be enforced to avoid creating hazards to pedestrian and vehicular traffic.

5.3 ODOR CONTROL

Odor suppression techniques will be employed when necessary during development activities where nuisance odors may be generated (e.g., grading, trenching, stockpiling, loading, and transportation) to mitigate impacts to nearby public receptors (e.g., businesses and residential communities). The appropriate means and methods include, but are not limited to:

- Covering soils within the excavation and on stockpiles;
- Covering the stockpiles not being actively worked on with plastic sheeting;
- Applying water spray to the actively worked soils; and

- Temporarily suspending odor generating Site activities until the problem has been resolved.

5.4 CORRECTIVE ACTIONS

Based upon perimeter PM10 monitoring data described in the previous sections, visual observation of dust leaving the Site, and assessment of odor complaints, the need for dust suppression procedures or other mitigative measures will be determined by the Site air monitoring professional. The ground disturbance activities will be conducted in a manner that reduces the potential for generation of fugitive dust and nuisance odors.

If, after implementation of dust suppression techniques or other mitigative measures, downwind PM10 concentrations are more than 100 $\mu g/m^3$ greater than upwind PM10 concentration, persistent visible fugitive dust is leaving the Site, or nuisance odors persist, work will be suspended until appropriate corrective measures are identified and implemented to remedy the situation and the Site superintendent will be notified.

6. Data Summaries and Records

Records collected and data reports generated during the air monitoring activities include:

- Recorded PM10 measurements from the perimeter aerosol meters;
- Daily field reports; and
- Biweekly air monitoring memoranda.

The recorded PM10 measurements from the perimeter aerosol meters will be retained by Haley & Aldrich for 10 years after completing the subject air monitoring activities at the Site. These records will be made available to DOEE, upon request.

Daily field reports will be prepared by the Site air monitoring professional to document the perimeter air monitoring activities and results for the day. The summaries will include:

- A summary of the on-Site activities and activities adjacent to the Site (e.g., equipment calibration, air monitoring durations);
- Observed meteorological conditions (wind direction, wind speed, and temperature);
- Duration of air monitoring activities;
- The rolling 15-minute average PM10 concentration measurements that are greater than the AL;
- Dates, times, and locations of air monitoring stations associated with rolling 15-minute average PM10 concentrations greater than the AL;
- Figure depicting the air monitoring station locations;
- Summary of observed visible dust conditions migrating off-Site;
- Summary of odor complaints and actions taken, and the outcomes from those actions;
- Site photographs, if deemed relevant; and
- Summary of dust suppression activities or other mitigative measures taken for on-Site activities.

Biweekly air monitoring memoranda will be prepared to summarize the air monitoring results, and will provide a summary of the following information:

- Rationale for conducting the air monitoring activities;
- Conducted air monitoring activities;
- Air monitoring criteria;
- Locations of air monitoring stations;
- Wind direction for each monitoring day;
- Particulate monitoring results;
- Visual fugitive dust emissions;
- Odors;
- Dust suppression activities or other mitigation measures taken to control on-Site activities; and
- Average daily PM10 concentrations.

The biweekly air monitoring memoranda will be posted at a readily accessible location in the community and on a bulletin board immediately adjacent to the Site.

Table 1

Acceptable Fugitive Dust Thresholds Assuming Soil Remediation and No Soil Remediation
D.C. United Soccer Stadium
Washington, D.C.

	Baseline Risk (assuming no soil remediation)	
Assumed Fugitive Dust Concentration	1 mg/m3	**0.1 mg/m3**
Exposure Pathway for Off-Site Resident	(non-cancer hazard index)	(non-cancer hazard index)
Particulate Inhalation	10	1
Ambient Vapor Inhalation	0.1	0.1
Total Hazard Index	10	**1**
Total Hazard Index Goal	1	**1**
	Total hazard index > goal; remediation warranted	Total hazard index = goal; **0.1 mg/m^3** selected as the **fugitive dust action level**

NOTES:

The above fugitive dust concentrations are discussed in Section 1.3.

The lower of the above fugitive dust concentrations, 0.1 mg/m3, is further discussed in Section 2.2. This concentration was identified as the fugitive dust action level for the proposed perimeter air monitoring activities (see Section 2.3).

Table 2
Estimated Ambient Vapor Concentrations
D.C. United Soccer Stadium
Washington, D.C.

CASRN	Chemical of Potential Concern (COPC)	EPC Vapor (ug/m3)	MW	ppm
79-01-6	Trichloroethylene	3.69E-03	131.39	6.9E-07
75-01-4	Vinyl Chloride	1.77E-02	62.499	7.0E-06
630-20-6	1,1,1,2-Tetrachloroethane	3.13E-03	167.85	4.6E-07
79-34-5	1,1,2,2-Tetrachloroethane	2.41E-03	167.85	3.5E-07
120-82-1	1,2,4-Trichlorobenzene	3.27E-04	181.45	4.4E-08
95-63-6	1,2,4-Trimethylbenzene	6.30E-01	120.2	1.3E-04
95-50-1	1,2-Dichlorobenzene	1.30E-04	147	2.2E-08
108-67-8	1,3,5-Trimethylbenzene	3.23E-01	120.2	6.6E-05
106-46-7	1,4-Dichlorobenzene	1.48E-04	147	2.5E-08
78-93-3	Methyl Ethyl Ketone (2-Butanone)	4.29E-02	72.108	1.5E-05
591-78-6	2-Hexanone	3.32E-04	100.16	8.1E-08
135-98-8	Butylbenzene, sec-	3.76E-02	134.22	6.9E-06
108-10-1	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	1.19E-02	100.16	2.9E-06
67-64-1	Acetone	1.32E-01	58.081	5.6E-05
71-43-2	Benzene	4.94E-03	78.115	1.5E-06
74-83-9	Bromomethane	5.27E-02	94.939	1.4E-05
75-15-0	Carbon Disulfide	7.43E-03	76.139	2.4E-06
67-66-3	Chloroform	6.46E-04	119.38	1.3E-07
74-87-3	Chloromethane (Methyl Chloride)	2.03E-03	50.488	9.9E-07
156-59-2	cis-1,2-Dichloroethylene	2.92E-02	96.944	7.4E-06
110-82-7	Cyclohexane	2.41E-03	84.163	7.0E-07
99-87-6	Cymene (p-Isopropyltoluene) (surrogate = Cumene)	7.96E-02	120.2	1.6E-05
100-41-4	Ethylbenzene	4.46E-01	106.17	1.0E-04
98-82-8	Isopropylbenzene	2.88E-01	120.2	5.9E-05
25155-15-1	Isopropyltoluene (surrogate = Cymene)	2.91E-04	120.2	5.9E-08
108-87-2	Methyl cyclohexane	5.31E+00	84.163	1.5E-03
1634-04-4	Methyl tert-Butyl Ether (MTBE)	7.96E-03	88.151	2.2E-06
75-09-2	Methylene Chloride	7.16E-02	84.933	2.1E-05
104-51-8	Butylbenzene, n-	5.21E-02	134.22	9.5E-06
103-65-1	Propylbenzene	6.83E-02	120.2	1.4E-05
100-42-5	Styrene	8.38E-03	104.15	2.0E-06
98-06-6	Butylbenzene, tert-	4.10E-02	134.22	7.5E-06
127-18-4	Tetrachloroethylene	4.91E-01	165.83	7.3E-05
108-88-3	Toluene	8.31E-02	92.142	2.2E-05
156-60-5	trans-1,2-Dichloroethylene	8.50E-04	96.944	2.1E-07
75-69-4	Trichlorofluoromethane (CFC-11)	1.25E-01	137.37	2.2E-05
76-13-1	Trifluorotrichloroethane (Freon 113)	3.35E-03	187.38	4.4E-07
1330-20-7	Xylenes	3.21E-03	106.17	7.4E-07
91-57-6	2-Methylnaphthalene	1.34E+00	142.2	2.3E-04
83-32-9	Acenaphthene	4.27E-01	154.21	6.8E-05

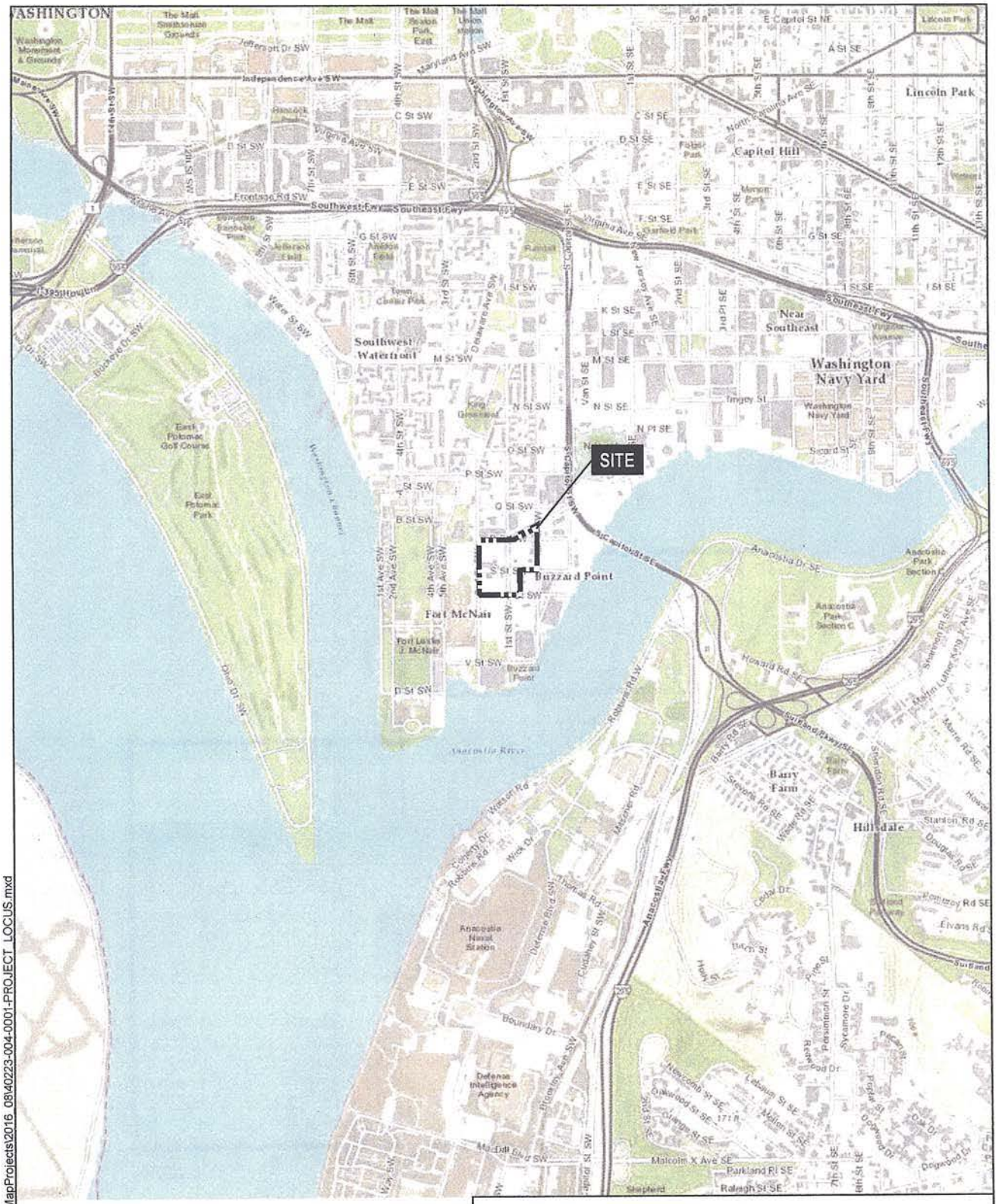
Table 2

Estimated Ambient Vapor Concentrations
D.C. United Soccer Stadium
Washington, D.C.

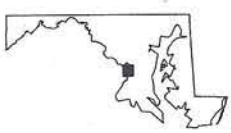
CASRN	Chemical of Potential Concern (COPC)	EPC Vapor (ug/m3)	MW	ppm
208-96-8	Acenaphthylene	NV	na	na
120-12-7	Anthracene	2.47E-01	178.24	3.4E-05
56-55-3	Benz[a]anthracene	NV	na	na
50-32-8	Benzo[a]pyrene	NV	na	na
205-99-2	Benzo[b]fluoranthene	NV	na	na
191-24-2	Benzo(g,h,i)perylene	NV	na	na
207-08-9	Benzo[k]fluoranthene	NV	na	na
218-01-9	Chrysene	NV	na	na
53-70-3	Dibenz[a,h]anthracene	NV	na	na
206-44-0	Fluoranthene	NV	na	na
86-73-7	Fluorene	2.04E-01	166.22	3.0E-05
193-39-5	Indeno[1,2,3-cd]pyrene	NV	na	na
91-20-3	Naphthalene	3.15E-02	128.18	6.0E-06
85-01-8	Phenanthrene	NV	na	na
129-00-0	Pyrene	1.74E-01	202.26	2.1E-05
1336-36-3	Polychlorinated Biphenyls	NV	na	na
7440-36-0	Antimony	NV	na	na
7440-39-3	Barium	NV	na	na
7440-41-7	Beryllium	NV	na	na
7440-70-2	Calcium	NV	na	na
7440-47-3	Chromium, Total	NV	na	na
7440-50-8	Copper	NV	na	na
7439-89-6	Iron	NV	na	na
7439-92-1	Lead	NV	na	na
7439-95-4	Magnesium	NV	na	na
7439-97-6	Mercury	NV	na	na
7440-02-0	Nickel	NV	na	na
7440-09-7	Potassium	NV	na	na
7782-49-2	Selenium	NV	na	na
7440-22-4	Silver	NV	na	na
7440-23-5	Sodium	NV	na	na
7440-28-0	Thallium	NV	na	na
7440-62-2	Vanadium	NV	na	na
7440-66-6	Zinc	NV	na	na
TOTAL				**6.4E-04**

NOTES:

EPC = Exposure Point Concentration
MW = Molecular Weight
ppm = parts per million



MAP SOURCE: ESRI SITE COORDINATES : 38°52'06.68"N , 77°00'44.12"W



HALEY ALDRICH

BUZZARD POINT DC UNITED SOCCER STADIUM
STADIUM DEVELOPMENT AREA
WASHINGTON D.C.

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2,000 FT
OCTOBER 2016

FIGURE 1

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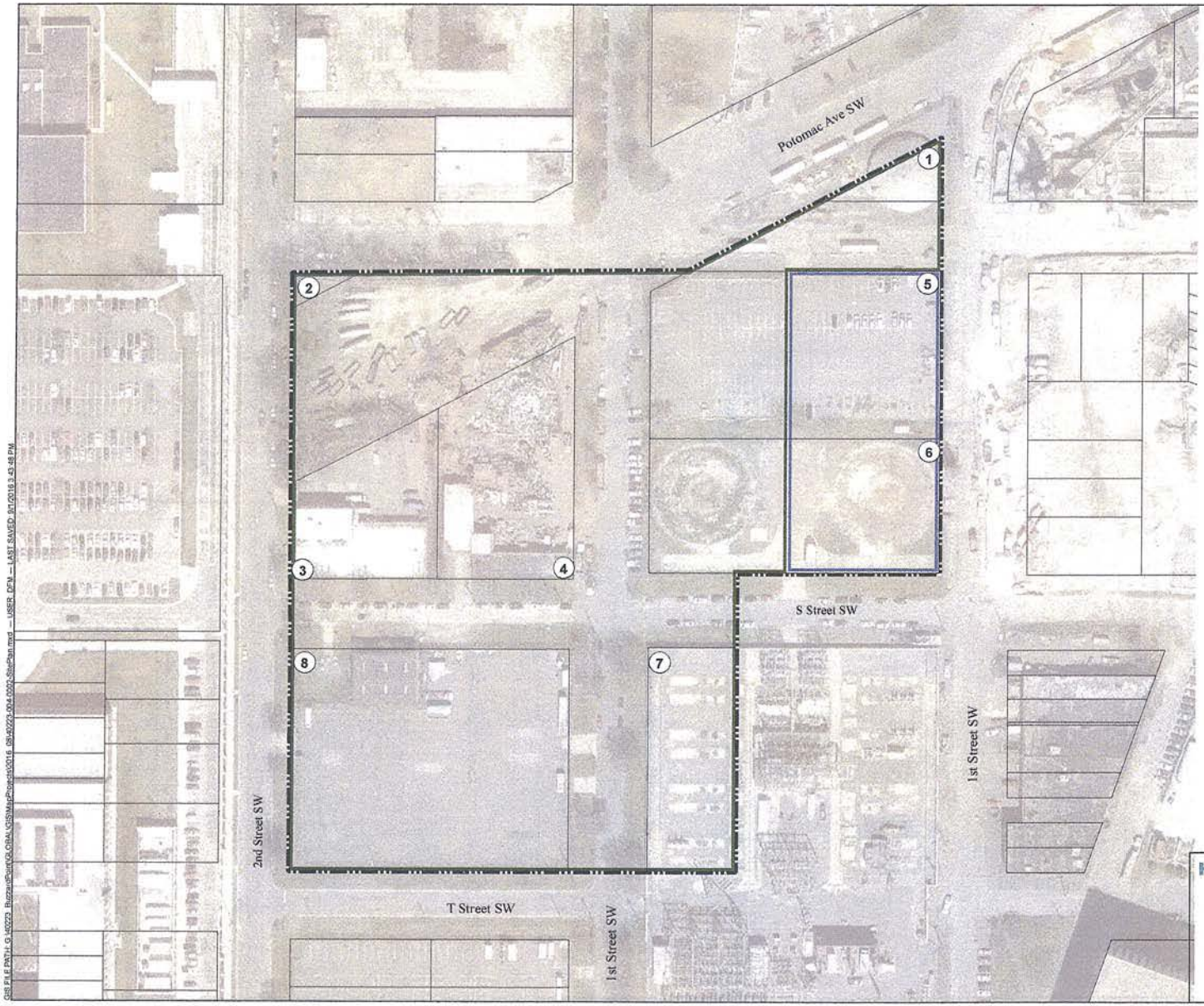

LEGEND

- CITY PARCEL LINE
- ANCILLARY DEVELOPMENT BOUNDARY
- STADIUM DEVELOPMENT BOUNDARY
- SITE BOUNDARY

NOTES:

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. BASE IMAGE BASED ON PICOMETRY DATED; APRIL 2015.

PROPERTY OWNERS

1. OWNED BY DISTRICT OF COLUMBIA
SQUARE 0661, LOT 0800

2. OWNED BY DISTRICT OF COLUMBIA
SQUARE 0603S, LOT 0800

3. FORMERLY OWNED BY ROLLINGWOOD REAL ESTATE, LLC. (EIN)
1714 2ND STREET, SW
SQUARE 0605, LOT 0007

4. FORMERLY OWNED BY SUPER SALVAGE, INC.
1711 1ST STREET, SW
SQUARE 0605, LOT 0802

5. FORMERLY OWNED BY POTOMAC ELECTRIC POWER COMPANY
SQUARE 0661, LOT 0805

6. FORMERLY OWNED BY POTOMAC ELECTRIC POWER COMPANY
SQUARE 0661, LOT 0804

7. FORMERLY OWNED BY POTOMAC ELECTRIC POWER COMPANY
P/O SQUARE 0665, LOT 0024

8. FORMERLY OWNED BY SW LAND HOLDER LLC (AKRIDGE)
SQUARE 0607, LOT 0013

N

0 120 240
SCALE IN FEET

HALEY ALDRICH

BUZZARD POINT DC UNITED SOCCER STADIUM
STADIUM DEVELOPMENT AREA
WASHINGTON D.C.

SITE PLAN

OCTOBER 2016

FIGURE 2