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Prepared for:
HRP Potomac, LLC
c/o Hilco Redevelopment Partners
Alexandria, Virginia

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SOIL AND GROUNDWATER MANAGEMENT PLAN

1400 NORTH ROYAL STREET, ALEXANDRIA, VIRGINIA

RAMBOLL

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1. INTRODUCTION

On behalf of HRP Potomac, LLC (HRP Potomac; "Owner"), Ramboll Americas Engineering Solutions, Inc. (Ramboll) has prepared this Soil and Groundwater Management Plan (the "Plan") for the former Potomac River Generating Station located at 1400 North Royal Street in Alexandria, Virginia (the "Site") (**Figure 1**); this plan may be revised, as appropriate, as work proceeds to provide additional detail and/or to address any changes in planned activities.

This Plan has been developed to establish environmental controls for planned future site remediation and redevelopment activities, characterization and appropriate re-use or off-site disposal of site soils, screening of imported fill materials, and treatment and discharge of dewatering fluids. The Plan includes information about soil and groundwater characterization, provisions for stockpiling and on-site re-use of soil or off-site transport and disposal of soil, and provisions for characterization, treatment and discharge of construction dewatering fluids. The Plan also describes the general processes that will be used to document the management of soil during construction and procedures for addressing unanticipated environmental conditions.

The Site consists of approximately 18.8 acres of land located at the intersection of Bashford Lane and North Royal Street and was historically operated as a coal-fired electrical power plant. HRP Potomac acquired the Site in the fall of 2020. HRP Potomac plans to redevelop the property as mixed-used development. The redevelopment will include demolition of existing site structures, installation of below-grade parking facilities, and construction of above-grade buildings, roads, open spaces, and pedestrian thoroughfares. It is anticipated that a mix of commercial and residential uses will exist after redevelopment is complete; however, at the time of writing, redevelopment plans for the site have not yet been finalized. As such, this plan may be updated as development plans are refined.

2. BACKGROUND

The Site was developed as a coal-fired power-generation facility in the 1940s and was operated until 2012. Prior to the development as a power plant facility, the Site was mostly vacant but was occupied circa the 1920s to 1940s at the northern end by the Potomac River Clay Works and at the southern end by the American Chlorophyll Company and Green Colors Manufacturing. HRP Potomac acquired the Site in the fall of 2020 and plans to redevelop the property for mixed-used development.

Existing Site buildings and structures are currently vacant and are planned for demolition; major buildings and structures include a multi-story main power plant building constructed with a basement (Main Plant Building); a covered utility corridor (historically referred to as the "Precipitator Area"); and five coal-fired steam boilers and turbine generators (Units 1 to 5). Supporting inactive features include former air emissions equipment, a former (unlined) coal pile area, a clay-lined sediment basin, water treatment facilities, one bottom ash and two fly ash silos, administration offices, an analytical laboratory, and storage facilities and ancillary buildings (**Figure 2**).

2.1 Overview of Site Conditions

Site conditions are being evaluated under two programs with oversight by the Virginia Department of Environmental Quality (VDEQ). An historical release of petroleum (Pollution Complaint No. 2013-3154) associated with two former 25,000-gallon fuel oil underground storage tanks (USTs) is being addressed pursuant to the VDEQ Petroleum Storage Tank Program. Separately, the overall site is being evaluated under the Virginia Voluntary Remediation Program (VRP).

An overview of prior environmental investigation, monitoring, and remedial activities conducted at the Site is provided below.

2.1.1 Prior Investigation and Remediation Activities

Numerous historical site investigation and remediation activities have been summarized in prior documents including the following key documents:

- Corrective Action Plan (GES and Geosyntec, September 2014)
- Corrective Action Plan – Part II (GES and Geosyntec, December 2014)
- Corrective Action Plan Addendum (Ramboll, September 2021)
- Groundwater Monitoring Reports prepared by Geosyntec and Ramboll
- Preliminary Site Characterization Report (Ramboll, March 2022)
- Oversight of Railroad Track Removal Activities (Ramboll, March 2022)
- Preliminary Human Health Risk Assessment (Ramboll, January 24, 2024)

In addition, in February 2023, Ramboll conducted additional investigation activities using laser induced fluorescence (LIF) to supplement existing information regarding the extent of residual LNAPL in site soils in the area of the former USTs. The data collected during the investigation were utilized along with other existing information to inform the development of a Remedial Action Plan (RAP) for the Site, which was prepared under separate cover.

2.1.2 Current Site Conditions

Based on the above investigation activities, an understanding of the current Site conditions is provided below.

An area of petroleum impacted soil and groundwater is present in the vicinity of the former No. 2 heating oil USTs near the east side of the main plant building. Soils containing residual light non-aqueous phase liquid (LNAPL) are present in the vicinity of the former USTs. Based on studies completed to date, remaining LNAPL appears to be potentially mobile in the immediate vicinity of the former tanks, which were abandoned in place, but LNAPL does not appear to be migrating. Results of groundwater monitoring indicate groundwater conditions are stable, and concentrations of COCs in groundwater at the point of discharge to the Potomac River are less than the remediation goals and District of Columbia Department of Energy and Environment (DC DOEE) Surface Water Quality Standards. It is anticipated that residually-impacted soils will be removed during future excavation activities. The site RAP provides additional detail relating to the nature and extent of residual petroleum impacts.

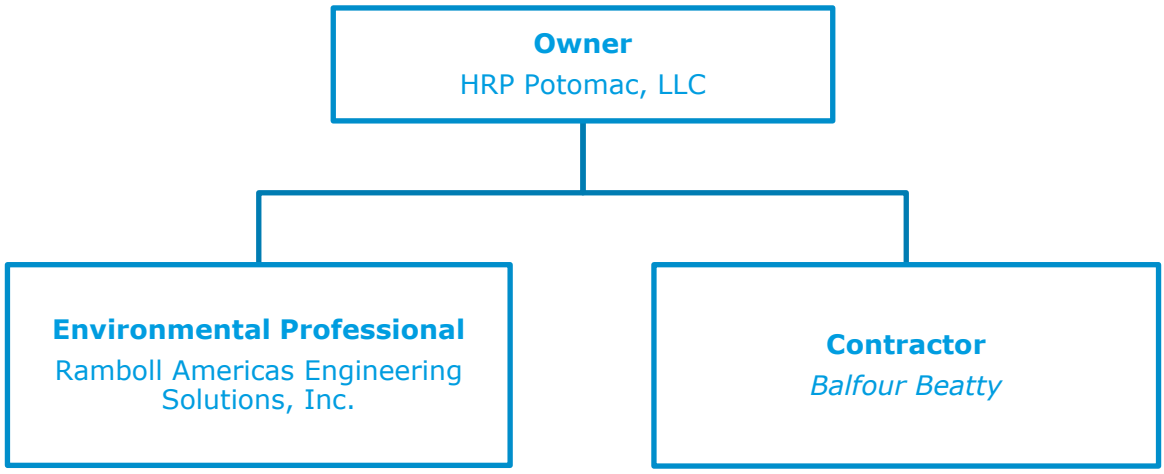
Outside of the area of petroleum impacts noted above, the Preliminary SCR identified various constituents in site soil. These constituents include metals (iron, manganese, thallium, aluminum, arsenic, cobalt, copper, and vanadium), semi-volatile organic compounds (SVOCs) (1-methylnaphthalene, 2-methylnaphthalene, benzo(a)pyrene, dibenzofuran, and naphthalene), and volatile organic compounds (VOCs) (1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, naphthalene, and ortho-xylene). Based on the preliminary HHRA findings, certain Site soils may present an unacceptable exposure risk to a hypothetical future residential child or recreator child receptor. Unacceptable risk was not identified for adult residents or recreators, composite workers or construction workers[1]. Potential risks for hypothetical future residents and recreators will be addressed as part of remediation and redevelopment work.

The Preliminary SCR identified the presence of hydrazine and various dissolved-phase and/or total phase metals in site groundwater. Based on the preliminary HHRA, residential, composite worker or recreator exposure to site groundwater is not anticipated as groundwater at or near the site is not utilized as a source of potable water and groundwater beneath the site flows eastward toward the Potomac River. Based on the results of the preliminary HHRA, groundwater beneath the site does not pose an unacceptable risk to construction workers.

[1] The preliminary HHRA did not include an evaluation of the vapor intrusion pathway as current data are not representative of future (post-development) site conditions. As such, the vapor intrusion pathway will be further evaluated following the completion of earthwork.

3. ROLES AND RESPONSIBILITIES

The key roles for this project include Owner, Contractor, and Environmental Professional as shown on the following project organizational chart:



Project Organizational Chart

3.1 Plan Implementation

The Contractor and Environmental Professional are jointly responsible for implementing this plan. All construction personnel will be provided access to a copy of the Plan, which will be maintained electronically and on-site in an area accessible to all personnel. In addition, all site construction personnel will be advised of the requirements and provisions of the Plan.

The Contractor and Environmental Professional are jointly responsible for ensuring that all personnel working on the project have been provided access to a copy of this Plan for review and understand how to implement the provisions of this plan. The Contractor and Environmental Professional shall perform routine checks to ensure that the provisions of this plan are properly implemented and to confirm worker understanding of the plan elements.

The Contractor is responsible for preparing and following a site-specific Health and Safety Plan (HASP) based on the known contamination in the soil and groundwater at the Site. The HASP is to be followed by all employees working for the Contractor at the Site. The HASP will include air monitoring for the health and safety of workers and guidelines for dust control. The HASP will be used during all excavation and regrading activities performed by the Contractor (i.e., excavation and relocation of fill materials at the Site, and stockpiling of excavated soil). Copies of the HASP should be available and readily accessible on-site during earthwork activities. The Contractor is responsible for air monitoring as required by the Contractor's HASP.

3.2 Documentation

During excavation and construction activities, documentation and accurate recordkeeping are critical. Daily field logs, chain-of-custody documentation, and soil import and export logs will be maintained as follows.

3.2.1 Field Documentation

During excavation/handling of soil, logs of daily activities will be maintained by both the Contractor and Environmental Professional (when on site). Daily field logs will include a record of activities completed each day as well as a record of deviations from the procedures outlined in this or other Plans or procedures. Daily field logs will include records of field screening equipment maintenance, field screening equipment calibration records, field screening documentation, logs detailing import of clean fill to the Site or export of soil from the Site, and daily River and sorbent boom inspections. Field measurements, inspections, and observations will be recorded in the daily field logs or activity-specific field data sheets by the Environmental Professional. To the extent possible, field documentation will be recorded electronically to reduce the potential for transcription errors. Where recording of daily field notes in an electronic format is not possible, written field logs will be scanned and uploaded to electronic file storage at a minimum of once per week to minimize the potential for loss of paper documentation.

3.2.2 Manifesting/Disposal Tracking

Media disposed of off-site will be manifested in accordance with applicable law. Appropriate receiving facilities for materials to be transported off-site for reuse, recycling, or disposal will be identified by the Contractor. The Contractor will also be responsible for preparing the waste disposal or material shipping paperwork. Waste manifests or material shipping paperwork will be signed by a representative or authorized agent for the Owner prior to the transportation of Site soil or water off site. The Contractor or their designee will maintain a daily record of manifests/shipping paperwork for exported material at the site. Contractor shall provide copies of draft shipping paperwork/waste manifests to the Environmental Professional for review and approval prior to material being shipped from the Site. Copies of final waste manifests, shipping paperwork, bills of lading or other appropriate documentation confirming the ultimate reuse, recycling, or disposal of soils will be collected and maintained by the Contractor in the project file and shared with the Environmental Professional and Owner.

3.3 Stop Work Authority and Procedures

All Site workers are responsible for reviewing and understanding the requirements identified in this Plan. All site workers will be afforded STOP WORK authority in the event that conditions are identified that warrant further evaluation or consideration. In the event that conditions described in Section 3.3.1 below or other conditions of potential concern are identified, Stop Work authority shall be applied. In the event of a Stop Work event, the individual observing a condition of concern shall alert other workers within the area of the Stop Work concern and report the condition or concern to the Contractor, Environmental Professional, and Owner. If safe to do so, workers may collect photographic documentation of the observed condition or use real-time monitoring equipment to evaluate conditions (e.g., a screening for volatile organic vapors). Work will not resume in that area of the Site until approval is received from the Environmental Professional or Owner.

Upon notification of any of the conditions described in Section 3.3.1, the Environmental Professional will oversee the documentation of the concern and the collection of additional information, as

appropriate. Such information may include details regarding the nature and extent of any observed impact, screening data (e.g., screening of soils for the presence of volatile organic vapors using a photoionization detector [PID] or similar), and/or the collection of soil samples for laboratory analysis, or other information.

3.3.1 Stop Work Conditions

Based on available data, obvious soil impacts will be encountered in known areas in proximity to the two USTs (**Figure 3**). Site workers will remain alert for any of the following potential indicators of possible impact when handling soil outside of known areas of contamination:

- Visual - Observation of potential petroleum-stained soil, free product, or other apparent unnatural discoloration that may indicate the need for closer inspection (outside of areas of known petroleum impact).
- Olfactory – petroleum or other chemical odors (outside of areas of known petroleum impact).
- Presence of elevated organic vapor readings based on field screening with a photoionization detector (PID) (10 parts per million or greater above background).
- Unanticipated Structures – Encounter of unanticipated tanks or other structures in the subsurface.
- Unsafe conditions – observations of unsafe or potentially unsafe conditions.
- Generation of visible dust during earthwork.
- Exceedance of action levels established in the perimeter Dust Monitoring Plan for the site.
- Observation of sheen or other indication of impact in the Potomac River adjacent the site.

The Environmental Professional will note any elevated PID readings, soil discoloration, or odors and notify the excavation/construction supervisors as well as Owner of areas of concern for potential environmental risks. Based on field observations, soil screening results, and site conditions, to the extent reasonably possible excavated soil/material will be classified according to categories outlined in Section 4.2 below and stockpiled as outlined in Section 4.4 below. Category designations will be confirmed based on soil verification sampling procedures outlined in Section 4.6.1 below prior to re-use on-Site or off-site reuse, recycling, or disposal.

The appropriate material, soil, and/or water handling and management decision processes will be initiated as described in the following section.

4. SOIL MANAGEMENT AND HANDLING PROCEDURES

4.1 Regulatory Framework

The VDEQ has published general guidance for reuse of contaminated soil as fill material during site redevelopment, found in VDEQ Memo No. LPR-SW-04, 2012, "Management and Reuse of Contaminated Media," prepared by VDEQ's Division of Land Protection and Revitalization (DLPR) (VDEQ 2012) as authorized by Virginia Administrative Code (VAC) §§10.1-1404 and 1405 allowing the Director to grant variances to the Virginia Solid Waste Management Regulations (VSWMR), including a variance for the appropriate reuse of contaminated media on the site of the development as allowed under 9 VAC 20-81-95.C.7.d. The variance is based on a tiered hierarchical approach using risk-based screening levels. Developers may screen soils against generic screening levels or may develop site-specific risk-based screening levels. General restrictions include the following:

- Media shall be placed such that it does not spill or erode onto another property;
- Best management practices (BMPs) for erosion and sediment control shall be followed;
- Local ordinances shall be followed; and
- A *Contaminated Media Use Form* shall be submitted to VDEQ's DLPR regional office.

Based on the proximity to the Potomac River (i.e., within 200 feet of surface water currently used as a drinking water source and/or within a 25-year floodplain as defined by FEMA and/or local planning officials), soils placed within Sensitive Ecosystem Areas will be required to meet risk-based criteria established to be protective of ecological receptors and/or groundwater resources.

4.2 Soil Categorization

During site redevelopment activities, it is anticipated that the following types of soils will be encountered (**Figure 3**):

- Category 1: Soils Meeting Residential Use Criteria (i.e., soils for which concentrations of constituents of concern are below the VDEQ residential exposure criteria or for which a hazard quotient less than 0.1 and a target cancer risk of less than 1 in 100,000 are verified). Category 1 soils may be re-used at the site, where needed, without restriction, including in utility corridors and landscaped areas.

- Category 2: Impacted Non-Hazardous Soils. Soils impacted with petroleum or other constituents at levels exceeding the VDEQ residential use criteria, but that do not contain free-phase LNAPL, are not hazardous, and do not require management under the Toxic Substances Control Act (TSCA) will be temporarily stockpiled and may be used as backfill in areas of the site not designated as sensitive ecological areas (**Figure 4**) either 1) at depths greater than three (3) feet below ground surface (bgs) in areas that at the completion of redevelopment will be landscaped or vegetated and not covered with an impervious surface or 2) at any depth in areas that at the completion of redevelopment will be beneath buildings or other paved surfaces where direct exposure to the soil by future hypothetical residents or recreators would not occur. Based on the results of the risk assessment, site soils do not present an unacceptable risk to construction or utility workers; as such, these soils are safe for use within future subsurface utility corridors.

- Category 3: Petroleum Saturated Soils. Known petroleum impacted soils containing LNAPL are present in the area of the former heating oil USTs. Excavated soils containing free-phase LNAPL will not be relocated for reuse at the Site. Excavated soils containing free-phase LNAPL will be direct loaded into trucks or separately stockpiled, and subsequently disposed off-site at a qualified disposal or soil recycling facility. The anticipated extent of LNAPL impacted soils will be defined in the RAP for the site.

- Category 4: Hazardous or TSCA-Regulated Soils. Based on testing performed to date, soils qualifying as hazardous waste or requiring disposal under the Toxic Substances Control Act (TSCA) are not anticipated. However, if future testing identifies soils requiring disposal as hazardous waste or as TSCA waste, such material will be segregated from the above categories and handled separately in accordance with environmental regulations.

The areal extent of each soil Category based on currently available data is depicted on **Figure 3**. Additional pre-development and pre-excavation soil characterization sampling will be completed, which will provide further horizontal and vertical delineation of the extent of each soil Category at the Site. Once additional sampling is completed, soil Categories will be reviewed and updated, and revised versions of this figure will be prepared in conjunction with the development plans.

4.3 Unanticipated Environmental Conditions

Contractor shall stop work and notify the Environmental Professional and Owner in the event that unanticipated environmental conditions are encountered at the Site. The Environmental Professional shall determine whether observed conditions require immediate action to mitigate risk to human health or the environment and will notify the Owner of encountered conditions. The Environmental Professional will confer with the Owner regarding appropriate additional screening or sampling based on observed conditions. The Environmental Professional and Owner will notify the Contractor when requisite screening and/or sampling of the affected area is complete and when work can resume.

4.4 Stockpile Management

Stockpiles of soil material will be positioned on portions of the site and each stockpile will be clearly labeled as to its contents to avoid confusion by site workers. The locations of each stockpile and its contents will also be maintained in the Environmental Professional's notes. Stockpiles will be maintained with a 2:1 or lesser grade slope and will not exceed 35 feet in height. Stockpiles will not be positioned within 20 feet of surface water bodies, storm drains, or site boundaries. Soil stockpiles will be surrounded by a berm with hay bales, silt socks, silt fencing or similar soil erosion and sediment control best management practices (BMPs) as outlined in the Construction Stormwater Pollution Prevention Plan (SWPPP). At a minimum, stockpiles of Category 3 and 4 soils will be covered with polyethylene sheeting at the end of each workday or during timeframes exceeding four hours over which the stockpile is not in active use. Polyethylene sheeting will be well secured.

4.5 On-Site Soil Re-Use

Category 1 and Category 2 soils will be eligible for re-use on-site as described in Section 4.2. Specifically, Category 1 soils can be reused on Site without restriction, and Category 2 soils can be reused below a surface cap consisting of either (1) 3 feet of Category 1 soil or (2) an impervious

surface such as asphalt or concrete pavement, including building slabs, parking areas, roadways, sidewalks, etc[2].

4.6 Export of Site Soils

The Environmental Professional or their designee shall be responsible for tracking shipments of soil exported from the site. As part of their duties the Environmental Professional or their designee will ensure that trucks adhere to the following guidelines:

- Loads will be fully covered before the truck is placed into motion.
- Tires will be cleaned of excess dirt in by mechanical or other means and in accordance with the Construction SWPPP.

The following requirements will apply to soils exported from the site:

- **Category 1: Soils Meeting Residential Use Criteria.** Category 1 soils will be reused on Site wherever feasible; Category 1 soils that are not reused on-site will be transported off-site for reuse, recycling, or disposal at an appropriate receiving facility. Additional testing of Category 1 soils may be performed, as required by the end receiving facility to facilitate waste acceptance. Loading of Category 1 soils will be performed under the oversight of the Contractor or their designee. The designee shall record the following information for each truck exporting Category 1 soil from the site:
    - Vehicle ID number or license plate No.
    - Hauling Company
    - Time
    - Date
    - Approximate volume of soil loaded.
    - Manifest number (as applicable)
    - End reuse, disposal, or recycling facility
- **Category 2: Impacted Non-Hazardous Soils.** Category 2 soils that are not re-used on-site will be disposed off-site at a qualified landfill facility. Additional testing of Category 2 soils may be performed, as required by the end receiving facility to facilitate waste acceptance. Loading of Category 2 soils will be performed under the oversight of the Environmental Professional or their designee. The designee shall record the following information for each truck exporting Category 2 soil from the site:
    - Vehicle ID number or license plate No.
    - Hauling Company
    - Time
    - Date

[2] Based on the results of the risk assessment, site soils do not present an unacceptable risk to construction workers; as such, these soils are safe for use within future subsurface utility corridors.

- Approximate volume of soil loaded.
- Manifest number (as applicable)
- End disposal or recycling facility

- **Category 3: <u>Petroleum Saturated Soils</u>.** Category 3 soils will be disposed off-site at an appropriately licensed soil recycling or disposal facility and will be transported under a non-hazardous waste manifest. Additional sampling of Category 3 soils will be performed to qualify the soils for acceptance at an off-site facility[3]. Loading of Category 3 soils into trucks will be completed under the oversight of the Environmental Professional or their designee. The designee shall record the following information for each truck exporting Category 3 soils from the site:
  - Vehicle ID number or license plate No.
  - Hauling Company
  - Time
  - Date
  - Approximate volume of soil loaded.
  - Manifest number
  - End disposal or recycling facility
- **Category 4: <u>Hazardous or TSCA-Regulated Soils</u>.** Category 4 soils will be disposed off-site at an appropriately licensed soil recycling or disposal facility and will be transported under a hazardous waste manifest. Additional sampling of Category 4 soils will be performed to qualify the soils for acceptance at an off-site facility[4]. Loading of Category 4 soils into trucks will be completed under the oversight of the Environmental Professional or their designee. The designee shall record the following information for each truck exporting Category 4 soils from the site:
  - Vehicle ID number or license plate No.
  - Hauling Company
  - Time
  - Date
  - Approximate volume of soil loaded.
  - Manifest number
  - End disposal or recycling facility

[3] The end receiving facility will mandate the specific parameters that must be tested and the number of samples to be collected.

[4] The end receiving facility will mandate the specific parameters that must be tested and the number of samples to be collected.

4.6.1 Soil Characterization Sampling

Additional characterization soil samples will be collected prior to excavation and stockpiling activities to verify soil category classifications for Category 1 and Category 2 soils. A minimum of one composite soil sample shall be collected for every 2,000 cubic yards (c.y.) of soil. For soils that will be exported from the Site, soil characterization parameters and sampling frequency will be collected as determined by the receiving facility.

Based on analytical results for samples collected to date, soil characterization samples will be analyzed for the following parameters via USEPA SW-846 methods, pending approval from VDEQ or receiving facility requirements:

- Total Petroleum Hydrocarbons (TPH) – Gasoline Range Organics (GRO)
- TPH – Diesel Range Organics (DRO)
- Target analyte list (TAL) metals
- Volatile organic compounds (VOCs).[5]
- Semi-volatile organic compounds (SVOCs)
- pH

Soils may additionally be analyzed for the presence of leachable Resource Conservation and Recovery Act (RCRA) metals using the toxicity characteristic leaching procedure (TCLP) if initial soil results indicate the presence of RCRA metals at concentrations 20 times greater than the permissible TCLP concentration under RCRA, and for polychlorinated biphenyls (PCBs) in certain areas of the site not previously evaluated for the presence of PCBs.

4.7 Soil Import

The Contractor shall review the Import Fill Environmental Specification and complete a Fill Import Checklist (included as **Appendix B**) for material imported to the project Site. Soils not imported from a quarry site and certified to be clean will require sampling and laboratory analysis. The sample frequency for imported clean fill is specified in the Fill Import Checklist. Such soil samples will be analyzed for the following parameters at a minimum:

- Volatile organic compounds (VOCs) by USEPA method 8260
- Semi-volatile organic compounds (SVOCs) by USEPA method 8270
- TPH-gasoline-range organics (GRO) and diesel-range organics (DRO) – by USEPA method 8015
- TAL metals by USEPA method 6010 or 6020
- Polychlorinated biphenyls (PCBs) by USEPA method 8082

Analysis for other parameters, such as per- and poly-fluoroalkyl substances (PFAS), may also be required based on the nature of the originating site and sampling results for the parameters listed above.

[5] Soils will be tested for VOCs only if field screening indicates the presence of organic vapors in excess of five (5) parts per million (ppm) above background.

5. DEWATERING ACTIVITIES AND STORMWATER MANAGEMENT

5.1 Construction Dewatering and Disposal

Based on current plans for construction, groundwater will be encountered during excavation for the construction of the subgrade parking garage and will require local dewatering. The Contractor tasked with excavation will be responsible for localized dewatering activities, including appropriate permitting, on-site treatment and discharge or off-site disposal or treatment. If free product or a petroleum sheen is observed in the excavation area, and the dewatering system does not include treatment for petroleum, the Contractor shall notify the Environmental Professional and a vacuum truck shall be used to properly collect any product prior to transport to an approved and permitted off-site receiving facility. Alternatively, treatment to remove the petroleum may be added to the dewatering system.

Activities will comply with procedures outlined in the forthcoming Construction SWPPP and associated Sediment and Erosion Control Plan, to be prepared by the Contractor, as well as the forthcoming Construction Stormwater Permit, to be obtained by the project Contractor in accordance with 9 VAC 25-880.

5.2 LNAPL Monitoring Procedures

Existing data for the Site indicate that although residual LNAPL remains present at the Site, the LNAPL is not migrating and has limited mobility, and thus is not recoverable. However, it is possible that soil disturbance in the area of the petroleum release or demolition of subsurface structures and removal of impervious surfaces could result in the mobilization of residual LNAPL. As such, the Environmental Professional will conduct regular visual inspections of the riverbank for seeps and regular well gauging of sentinel monitoring wells (TW-02, TW-03, TW-04, TW-05, TW-06) during soil disturbance activities in the area of known petroleum impacts (i.e., in the vicinity of Soil Category 3: Petroleum Saturated Soils depicted on **Figure 3**) to monitor for mobilized residual LNAPL. The Environmental Professional will report any observed sheen on the River immediately to the Contractor who will report the sheen to the National Response Center or by dialing 911 to report the incident; the Environmental Professional shall report any observed sheens/free product in sentinel monitoring wells to the Owner within 24 hours.

5.3 Provisions for Protection of Surface Water

To preemptively prevent potential LNAPL migration to surface water during soil disturbance activities, the Contractor shall coordinate with the Owner and the Environmental Professional the deployment of a sorbent boom along the bank of the Potomac River near the Site, to occur ahead of on-site soil disturbance activities in the area of known petroleum impacts. Daily visual inspections of the integrity of the sorbent boom shall be included in the visual inspections of the riverbank as described in Section 5.2. The Environmental Professional will determine if the sorbent boom needs to be repaired or replaced during the work based on these visual inspections and will implement needed activities to ensure the Potomac River remains protected throughout soil disturbance activities.

In addition, out of use subsurface utility lines that may connect with the Potomac River and requiring partial removal or cutting will be capped or abandoned by filling with grout or another approved method immediately following breach of the pipe to prevent migration of stormwater or groundwater to the River.

5.4 Sediment and Erosion Control

Soil erosion and sediment control best management practices will be used and maintained, as necessary, to secure the work area and soil stockpiles, and to prevent migration of sediment in stormwater, in accordance with a Construction Stormwater Pollution Prevention Plan (SWPPP) and associated Sediment and Erosion Control Plan. A copy of the Construction SWPPP will be maintained on-site and inspection records will be maintained, as required.

6. DUST & ODOR MITIGATION AND MONITORING

To minimize generation of dust, typical dust control best management practices (BMPs) will be implemented at the site in addition to compliance with applicable requirements of the VDEQ. A Dust Monitoring Plan has been prepared for the site and will be implemented during demolition activities and earth disturbance activities. In addition, this section includes procedures relating to the mitigation of odors. These procedures include the following:

6.1 Stockpiled Category 1 or 2 Soils or Imported Clean Fill

- Apply water spray on an as needed basis to ensure that the stockpile surface remains moist.
- Stockpiles that will remain in place for greater than two weeks will be stabilized by seeding, covering, or in accordance with the Construction SWPPP and site Erosion & Sediment Control Plan to mitigate dust generation.
- Wind breaks or barriers may also be installed.

6.2 Odor Mitigation

- Contractor is responsible for application of an approved odor and vapor suppressant foam to control odors from soils in the petroleum impacted area, or other portions of the site, as needed during excavation activities. Contractor shall submit a Safety Data Sheet for the proposed suppressant to the Environmental Professional and Owner for review and approval prior to on-site application.

6.3 Material Transfer Points

- Limit the material drop distance to no more than 3 feet.
- Utilize a water spray, as necessary to mitigate dust generation when transferring soil materials.

6.4 Vehicular Traffic

- Follow procedures outlined in the forthcoming Construction SWPPP, including removal of soil from truck tires prior to leaving the work site, covering loads prior to leaving the work site, etc.
- Wash, sweep, or vacuum streets at a frequency necessary to eliminate material that is visible within the streets.
- Establish vehicle speed limits of no more than 5 mph on unpaved surfaces or 10 mph on paved surfaces.

6.5 Miscellaneous

- Utilize a water spray, as needed to control visible dust in disturbed areas of the construction site.
- Re-seed disturbed areas that will not otherwise be paved on constructed upon as soon as reasonably possible following completion of grading activities.

- Consider temporary work stoppages if wind strength is sufficient to generate visible dust that cannot be controlled using the above mitigation measures.

6.6 Dust Monitoring

Perimeter dust monitoring will be conducted throughout site disturbance activities in accordance with the Perimeter Dust Monitoring Plan (DMP) prepared by Ramboll.

7. FIELD OBSERVATIONS AND DOCUMENTATION

During excavation and construction activities, documentation and accurate recordkeeping are critical. Daily field logs, chain-of-custody documentation, soil import fill checklists, and soil export logs will be maintained by the Contractor and Environmental Professional (as applicable, described above). Daily field logs include a record of activities completed each day as well as a record of deviations from the procedures outlined in this SGMP and in other plans and procedures. Field measurements and field observations will be recorded in the daily field logs or activity-specific field data sheets. To the extent possible, field documentation will be recorded electronically to reduce the potential for transcription errors. Where recording of daily field notes in an electronic format is not possible, written field logs will be scanned and uploaded to electronic file storage at a minimum of once per week to minimize the potential for loss of paper documentation.

Monthly status reports will be prepared by the Contractor and by the Environmental Professional and submitted to the Owner.

8. REPORTING

During construction, monthly summary status reports will be prepared by the Contractor and by the Environmental Professional and submitted to the Owner. Additionally, following completion of construction, one final report each will be prepared by the Contractor and by the Environmental Professional and will include the elements outlined below:

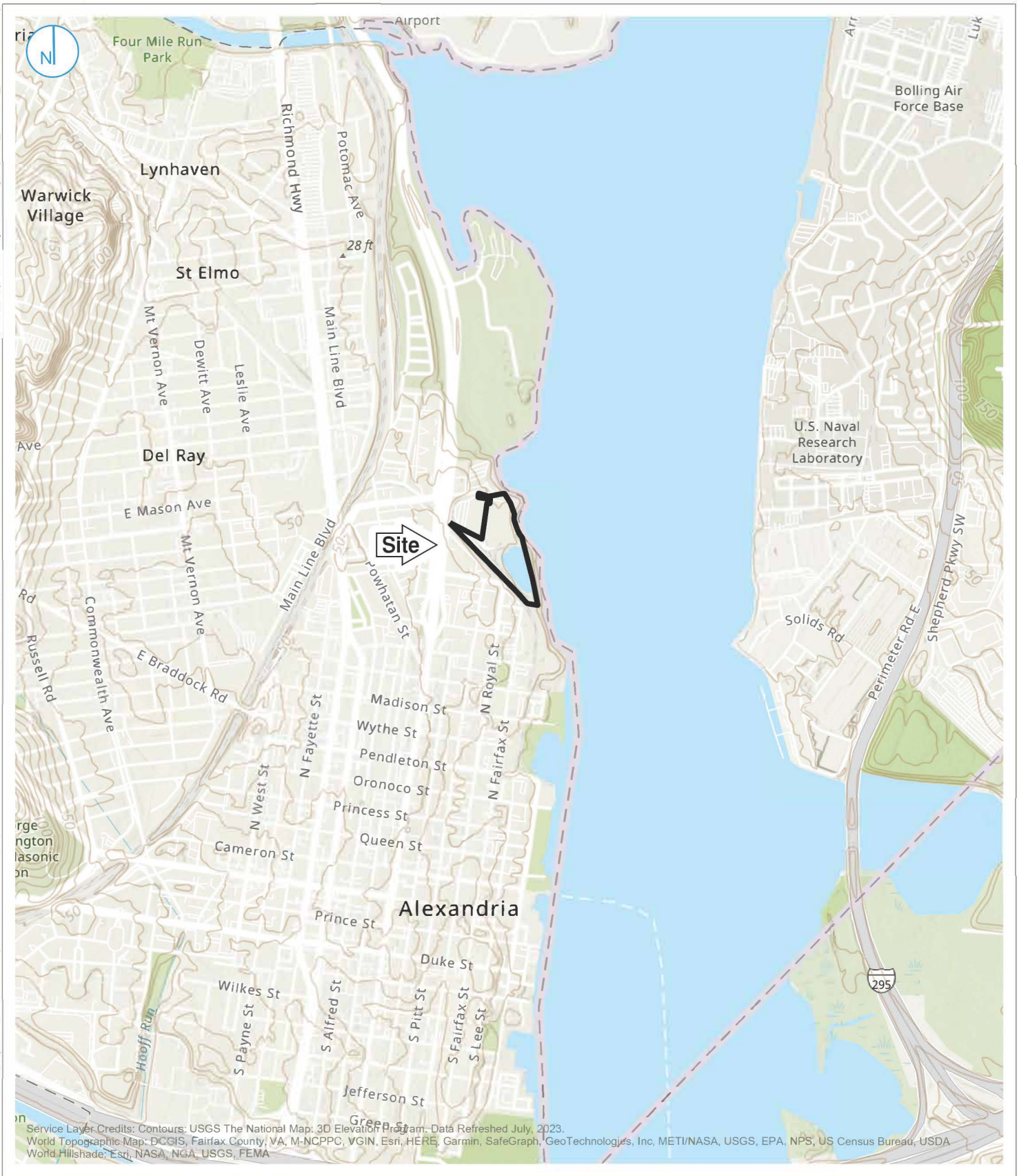
Contractor

- Copies of daily field logs including activities conducted, dust or odor mitigation activities, results of site inspections and other pertinent information.
- Soil cut and fill volumes and tracking information relating to the re-use of Category 2 soils at the site.
- Records of all analytical testing performed for imported fill characterization.
- Weight tickets for imported soil and documentation indicating where on-site the clean fill materials were placed and other required clean fill documentation as described in Appendix B.
- A summary of dewatering activities, including the results of any analytical testing.
- Any other pertinent information relating to activities performed by the Contractor or key observations made.

Environmental Professional

- A summary of LNAPL removal activities, if any.
- A summary of soil categorization across the site, including cut and fill volumes and the final destination of different soil cells (i.e., moved from X location to be re-used at Y location on-Site, disposed of off-site, etc.)
- Records of all analytical testing performed for soil characterization.
- A summary of soil removal activities including copies of waste manifests executed by the receiving facility and associated weight tickets confirming appropriate off-site management of impacted soils.
- Results of post excavation soil sampling activities, if any.
- A summary of imported clean fill material approvals and use.
- Information regarding the application of odor suppressant.
- Copies of daily field logs.
- Any other pertinent information relating to activities performed by the Environmental Professional or key observations made.

FIGURES



Service Layer Credits: Contours: USGS The National Map: 3D Elevation Program. Data Refreshed July, 2023.
World Topographic Map: DCGIS, Fairfax County, VA, M-NCPPC, VGIN, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA
World Hillshade: Esri, NASA, NGA, USGS, FEMA

Map Scale: 1:24,000 | Map Center: 77°2'26"W 38°49'4"N

PROJECT: 1690022371 | DATED: 10/4/2023 | DESIGNER: MBAUER
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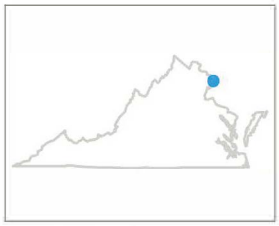
SITE LOCATION MAP

FIGURE 1



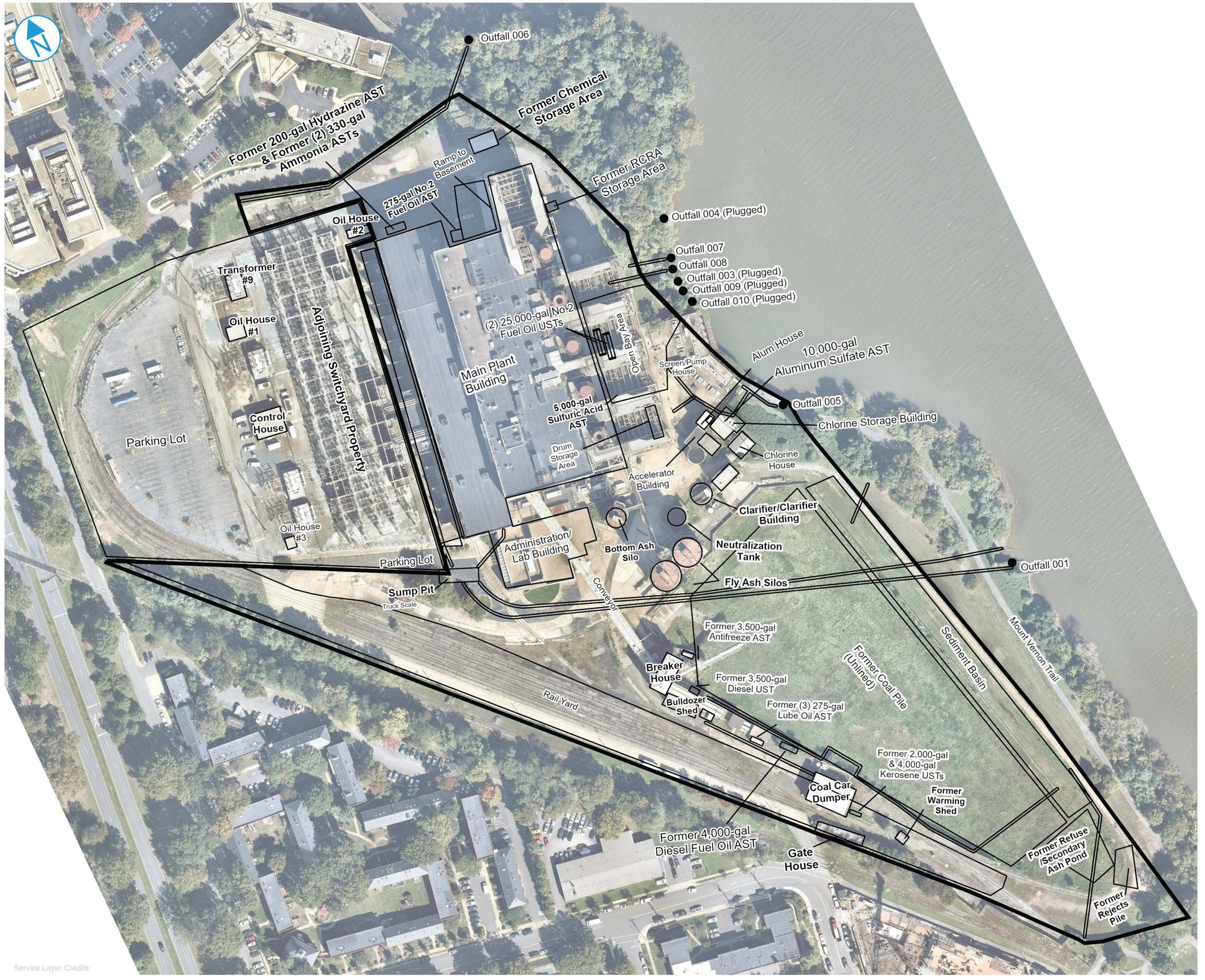
KEY MAP (not to scale)

0 500 1,000 Feet

Former Potomac River Generating Station
1400 North Royal Street
Alexandria, Virginia 22314

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL



Site Features
Outfall Locations
Site Boundary

0 200 400 Feet

SITE LAYOUT MAP

Former Potomac River Generating Station
1400 North Royal Street
Alexandria, VA 22314

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
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PROJECT: 1690022371 | DATED: 1/8/2024 | DESIGNER: SOSTERTAG C:\Users\sostertag\OneDrive - Ramboll\Documents\GIS Projects\1690022371_HRP_PRGS\GIS\HRP PRGS DMP HHRA EMP RAP SEP Reports.aprx\Ramboll_SGMP Anticipated Maximum Aeral Extent of Soil Categories

Notes

The maximum anticipated areal extent of each soil Category is depicted herein based on multiple lines of evidence. This is a preliminary, conservative estimate, therefore no Category 1 soils are depicted. It is anticipated that additional pre-development and pre-excavation soil characterization sampling will be completed to assist in the preparation of a Soil Excavation Plan, which will provide further horizontal and vertical delineation of the extent of each soil Category. Once additional sampling is completed, soil Categories will be reviewed and updated, and revised versions of this figure will be prepared in conjunction with the Contractor.

0 100 200 Feet

ANTICIPATED MAXIMUM AREAL EXTENT OF SOIL CATEGORIES

Former Potomac River Generating Station
1400 North Royal Street
Alexandria, VA 22314

FIGURE 3

RAMBOLL AMERICAS
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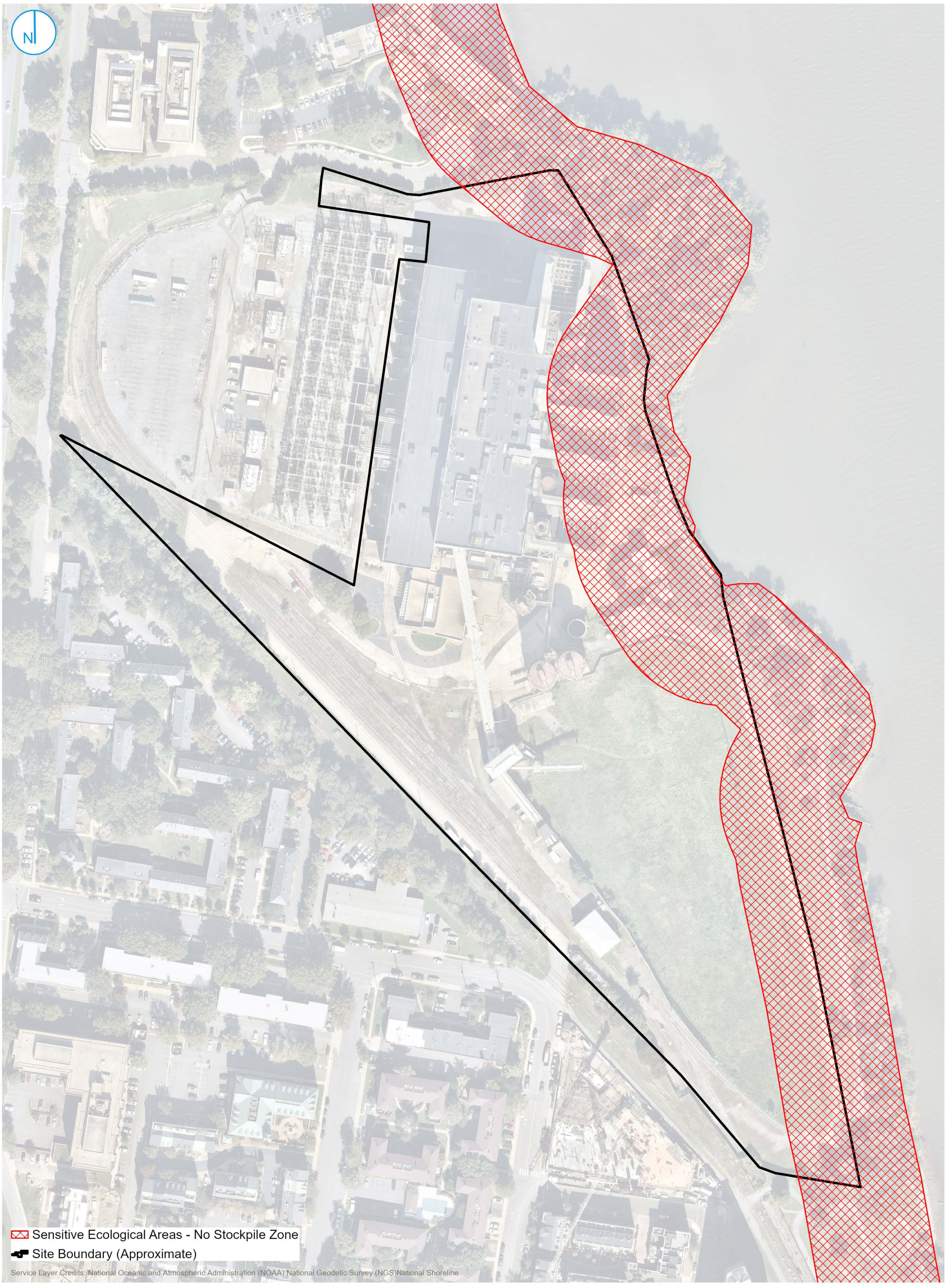


Notes

Sensitive ecological areas are based on a 200 foot buffer from the Potomac River Shoreline.
To the extent practicable, soils should not be stockpiled in these portions of the site.
Soils placed within these areas will be required to meet risk-based criteria established to be protective of ecological receptors and/or groundwater resources.

0 100 200 Feet

SENSITIVE ECOLOGICAL AREAS
NO STOCKPILE ZONES

Former Potomac River Generating Station
1400 North Royal Street
Alexandria, VA 22314

FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

APPENDIX A
REFERENCES

REFERENCES

Ramboll. 2022a. 2021 Annual CAP Implementation Monitoring Report: Former Potomac River Generating Station. February 2.

Ramboll. 2022b. 2022 Annual CAP Implementation Monitoring Report: Former Potomac River Generating Station. May 16.

Ramboll. 2022c. Oversight of Railroad Track Removal Activities. March 11.

Ramboll. 2022d. Preliminary Site Characterization Report: Former Potomac River Generating Station. March 23.

Ramboll. 2022e. Semi-Annual CAP Implementation Monitoring Report: Former Potomac River Generating Station. August 26.

Ramboll. 2023. 2023 Semi-Annual CAP Implementation Monitoring Report: Former Potomac River Generating Station. August 22.

Ramboll. 2023. Preliminary Human Health Risk Assessment: Former Potomac River Generating Station. October.

Virginia Department of Environment Quality (VDEQ) Division of Land Protection and Revitalization. 2012. "Memo No. LPR-SW-04: Management and Reuse of Contaminated Media," July 17.

APPENDIX B
IMPORT FILL ENVIRONMENTAL SPECIFICATION AND IMPORT FILL CHECKLIST

IMPORTED FILL ENVIRONMENTAL SPECIFICATION

PURPOSE AND APPLICABILITY

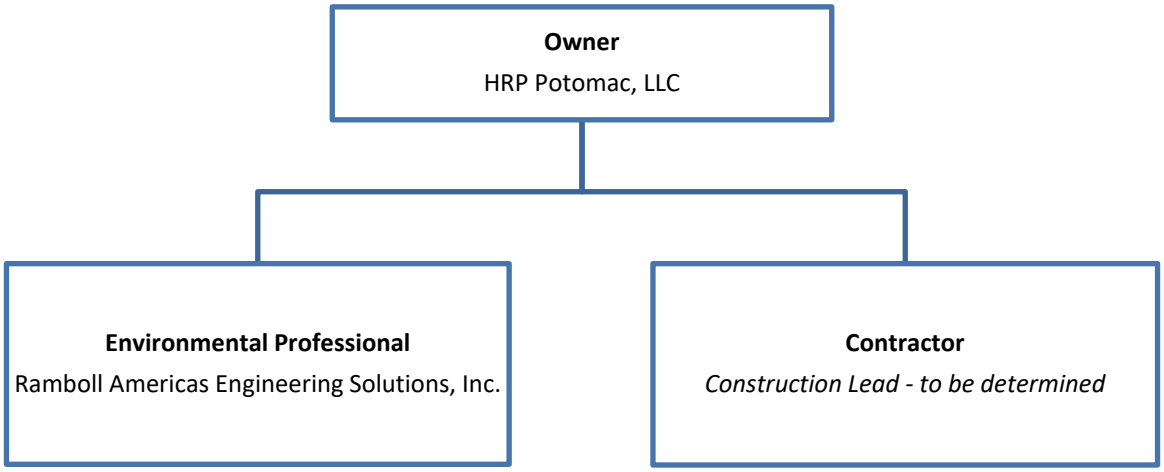
This environmental specification for imported fill provides requirements for the identification of reputable suppliers/sources for certified clean fill or regulated fill (donor sites) imported to the site and for proper placement and compaction of backfill materials utilized within the project area to raise the grade.

The objective of this specification is to describe the process to be followed and criteria to be met to ensure that imported fill material meets Residential Use Criteria (defined in Section 3) prior to import in accordance with the Owner's requirements.

Contractors may be required to meet additional requirements (e.g., geotechnical) for imported fill, which may be specified in other documents. This procedure is focused on soil quality with respect to chemical exposure risk.

ROLES AND RESPONSIBILITIES

Roles and responsibilities associated with the implementation of this specification are described below.



Project Organizational Chart

Contractor Responsibilities

- The Contractor is responsible for identifying one or more appropriate donor sites for required imported fill and for completing and providing required submittals defined herein to the Environmental Professional and Owner for review at least five business days prior to proposed import. The *Fill Import Checklist* specifies the analyte list and number of samples for characterizing fill materials. Requests to import fill in volumes greater than initially requested and approved from a given source may require additional sampling and analysis of proposed fill material and an additional 5-business day review period.
- Contractor is responsible for providing this specification to all subcontractors engaged in activities covered under this specification and ensuring compliance with this specification.
- The Contractor is responsible for inspecting each shipment of imported fill to ensure that the material appears to meet the specifications below.
- The Contractor is responsible for providing inbound weight tickets for each load of imported fill to the Environmental Professional on at least a daily basis. Weight tickets shall specify the source location from which the fill is being imported and the volume of material.
- The Contractor shall submit to the Owner and Environmental Professional a Weekly Data Package including, at a minimum, the following information:
    - a set of survey drawings and typewritten field notes
    - Calculated volume of material placed each area in cubic yards, and based on truck tickets from the donor site.
    - A table summarizing the volume of placed soil vs. the amount of soil from that donor site approved for import.
    - A summary of the number of truckloads deposited in each fill area on each working day since the last report was generated (tracked by donor site).

Environmental Professional Responsibilities

- The Environmental Professional is responsible for reviewing submittals to evaluate whether proposed fill meets the requirements for Clean Fill and for notifying the Consultant whether proposed fill material is accepted for import by the Owner.
- Submittals for approval of a proposed clean source shall be reviewed for completeness within one business day following receipt from the Contractor. If the submittal is determined to be incomplete, the Environmental Professional will communicate remaining information needs with the Contractor.
- Following review of a complete submittal, the Environmental Professional will provide a recommendation to the Owner as to whether the fill may be utilized on-site. Following Owner approval, the Environmental Consultant will promptly notify the Contractor of approval.

- The Environmental Professional will maintain documentation relating to imported clean fill including:
    - A copy of the completed Fill Import Checklist and supporting information provided by the Contractor,
    - An indication as to whether the fill was approved for use on-site and the volume approved, including documentation of Owner approval,
    - The volume/weight of fill material imported to the site, including copies of weight tickets,
    - The date and time of each imported truckload of material, and,
    - The location(s) of use of the approved fill material at the site.
- The Environmental Professional shall provide copies of inbound weight tickets for imported fill material to the Owner on a daily basis.

Owner Responsibilities

- The Owner is responsible for evaluating information provided by the Contractor and Environmental Professional and authorizing materials for import into the project area in writing prior to import.

GENERAL CONDITIONS TO BE MET

All fill material imported to the site will be required to meet the following provisions.

- Imported fill material must be approved by the Owner and Environmental Professional (defined in Section 3) prior to import. Material imported without the express written authorization of the Owner will be at the Contractor's sole responsibility, and costs for conditions resulting from this importation, including, but not limited to testing or removal of material, are the Contractor's sole responsibility.
- Contractor shall complete and submit to the Owner and Environmental Professional a completed Fill Import Checklist for each volume of fill proposed for import onto the Site.
    - In the case of imported material from a Virginia Non-Coal Quarry/Mine, the Contractor (defined in Section 3) must complete only Question 1-4 of the Fill Import Checklist (attached) and provide required documentation specified on the Fill Import Checklist.
    - If material is not from a licensed Quarry/Mine it will require Project-Specific environmental testing as defined by the Fill Import Checklist, and the Contractor must also address all questions on the Fill Import Checklist.
- Approvals to import fill will be for a specified volume of material from each donor site.
- The following materials will not be considered for import:
    - Material that meets the definition of solid or hazardous waste,
    - Fill that has been blended, mixed or treated with the purpose of reduction of contaminants,
    - Asphalt, mine spoils, material with free liquids, slag, coal ash, or acid producing soils, and,
    - Fill containing extraneous debris or solid waste.

- Material that has been the affected by an environmental discharge will not be considered for import unless testing has been performed which documents material meets the VDEQ Residential Use criteria in accordance with the Owner's requirements outlined herein and in the attached Fill Import Checklist.
- Placement of clean fill in or on Waters of the Commonwealth of Virginia is not addressed in this specification.

DEFINITIONS

Clean Fill – Material must be uncontaminated, non-water-soluble, non- decomposable, inert solid material that meets Residential Use Criteria as defined herein.

Donor Site – Source location of proposed import fill material

Receiving Site – 1400 North Royal Street, Alexandria, Virginia

Residential Use Criteria – whichever is the lower of the numeric values specified by the Virginia Department of Environmental Quality (VDEQ) Virginia Unified Risk Assessment Model (VURAM) residential exposure scenario or the United States Environmental Protection Agency (USEPA) residential regional screening levels (RSLs) corresponding with a hazard quotient of 0.1 and a target cancer risk of 1 in 100,000 (1E-05).

Virginia Non-Coal Quarry/Mine – Permitted facility providing commercial virgin mined/quarried material.

REFERENCES

Title 9 Virginia Administrative Code (VAC) Chapter 20, Section 81-660 (9VAC20-81-660). Soil contaminated with petroleum products.

Ramboll Americas Engineering Solutions, Inc. 2024. *1400 North Royal Street, Alexandria, Virginia Fill Import Checklist.*

RAMBOLL

Fill Import Checklist

1400 North Royal Street, Alexandria, Virginia
Fill Import Checklist

Contractor's Submittal Number:	
Date:	
Name/Company of Contractor:	
Name/Company of Preparer:	
Preparer Contact Information	

INSTRUCTIONS

Contractor shall send this completed fill import checklist along with specified required documentation as noted below to HRP Potomac, LLC (HRP Potomac, "Owner"), contact Laura Pasquine (LPasquine@hilcoglobal.com) and Danny Pettway (DPettway@hilcoglobal.com). Answer all questions completely, add comments or attach supplemental documentation as required. Incomplete submittals will be returned.

Refer to Imported Fill Environmental Specification before completing this Fill Import Checklist for definitions of key terms and supplemental information.

If the source is a licensed quarry or mine, complete information through Question 4 and provide required documentation only. No further information is required. For other sources of clean fill material, all sections of the checklist must be completed.

REQUIRED INFORMATION

General Information

1. The source of the material (Donor Site)

   ☐ Name of facility:

   ☐ Street Address, City, State, County, Zip Code:

   ☐ Block and Lot:

   ☐ Check box if prior Fill Import Checklist(s) have been submitted for this Donor Site for this project.

   ☐ Check box if Donor Site is a Department of Transportation project and attach any supplemental forms or contracts.

2. Specify the total quantity of material requested for import approval.

   ☐ _____tons, or

   ☐ _____cubic yards

3. Provide a description of how and where (if known) the material intended for import is to be used on the project including where geographically on the site and the anticipated depth.

   ☐

4. Is the identified fill material source a licensed quarry or mine?

   ☐ Yes - Provide a statement that the source site has not been subject to a discharged hazardous substance at any time, including PFAS, and a copy of the quarry/mine license (skip remaining items).

   ☐ No – Testing will be required. Complete the remainder of this checklist and attach all supporting documentation.

Sampling Information for Non-Quarry/Mine Materials

5. What is the current use of the proposed fill source site?

6. What is the historical use of the proposed fill source site?

7. Has testing been performed in accordance with the below Sampling Frequency and Analysis?

PROJECT-SPECIFIC REQUIRED SAMPLING FREQUENCY

Volume of Fill (cubic yards)	Number of Samples
Less Than 250	2 grab samples and 2 composites
250 – 2,500	3 grab samples and 3 composites
Every additional 1,000 or part thereof over 2,500	1 addtl' grab & 1 addtl' composite.

Grab sample:

- Target Compound List (TCL) Volatile Organic Compounds (VOCs) using USEPA SW846 Method 8260D, collected in accordance with USEPA Method 5035; and,
- Total petroleum hydrocarbons (TPH) – gasoline range organics (GRO) by USEPA Method 8015.

Composite sample:

- TCL Semi-Volatile Organic Compounds (SVOCs) by USEPA SW-846 Method 8270E;
- TPH – diesel range organics (DRO) by USEPA SW846 Method 8015;
- Polychlorinated biphenyls (PCBs) by USEPA SW846 Method 8082A;
- Target Analyte List (TAL) metals by USEPA SW846 Methods 6020B and 7471B (mercury); and,
- Total cyanide by USEPA SW846 Method 9012B.

☐ Yes - Proceed to question 6. Analysis for other parameters, such as per- and poly-fluoroalkyl substances (PFAS), may be required based on the nature of the originating site and sampling results for the parameters listed above.

☐ No – Additional testing may be required.

8. Compare results of testing to Residential Use Criteria as defined in the Imported Fill Specification. Attach a tabular data summary comparing analytical results to the Residential Use criteria, laboratory analytical data report(s), chain of custody documentation and electronic data deliverables, or an Excel spreadsheet of data.

   Are concentrations in all samples below Residential Use Criteria?

   ☐ Yes - Proceed to question 7.

   ☐ No - Material is <u>not</u> suitable for import to this project Site.

9. Certify that the fill material does not contain extraneous debris or solid waste, and does not contain free liquids.

   ☐ Certification attached (Proceed to question 8).

10. Attach a map showing sample locations and IDs and, if collected, provide GPS coordinates for each soil sub-sample. Indicate if samples were collected in-situ or from a stockpile and provide sufficient site features or cross streets to locate samples. If samples are collected from stockpile, each stockpile must be identified on the map and labelled with the estimated cubic yardage.

☐ Map attached (Proceed to question 9)

11. Describe number and type of samples collected.

☐ Number of Grab Samples:

☐ List Parameters Tested:

☐ Number of Composite Samples:

☐ List Parameters Tested:

12. Provide name, company and contact information for the person who collected the samples:

☐ Name of Sampler:

☐ Company:

☐ Contact Information:

13. Provide the name, address and certification number of the laboratory performing the analysis:

☐ Name of Laboratory:

☐ Address:

☐ Certification Number:

SOIL SAMPLE COLLECTION PROCEDURES

Soil samples should be collected from throughout the stockpiles at varying locations and depths or, for in-situ sampling, from throughout the area and over the depth of the proposed fill source area. Standard soil sample collection procedures and good field practices should be employed when collecting soil samples.

The general procedure for the collection of soil samples is outlined below:

Proposed Import of up to 250 cubic yards of fill:

Collect eight (8) discrete soil sub-samples of the proposed fill material:

- Field screen each of the eight sub-samples for the presence of volatile organic vapors using a photoionization detector (PID).
- Collect a discrete soil sample for analysis of VOCs and TPH-GRO from the two sub-samples exhibiting the greatest indication of impact based on organic vapor screening, and olfactory and/or visual indication of potential impact. If none of the sub-samples exhibit indication of impact, randomly select one sub-sample from sub-samples 1 to 4 and one sub-sample from sub-samples 5 to 8 from which to collect discrete soil samples for analysis of VOCs and TPH-GRO. Package each of the two discrete sub-samples into laboratory-provided containers using TerraCores® or EnCores® in general accordance with USEPA method 5035 and submit to the analytical laboratory for analysis of VOCs and TPH-GRO.
- Combine sub-samples 1 to 4 and separately combine sub-samples 5 to 8 to create two composite soil samples. Collect soil from each of the two composite soil samples into laboratory-provided containers for analysis of the remaining parameters identified in the table above.

Proposed import of volume between 250 cubic yards and 2,500 cubic yards:

Collect twelve (12) equal volume sub-samples and field screen each sample for the presence of volatile organic vapors using a photoionization detector (PID).

- Field screen each of the 12 sub-samples for the presence of volatile organic vapors using a PID.
- Collect a discrete soil sample for analysis of VOCs and TPH-GRO from the three sub-samples exhibiting the greatest indication of impact based on organic vapor screening, and olfactory and/or visual indication of potential impact. If none of the sub-samples exhibit indication of impact, randomly select one sub-sample from sub-samples 1 to 4, one sub-sample from sub-samples 5 to 8, and one sub-sample from sub-samples 9 to 12 from which to collect discrete soil samples for analysis of VOCs and TPH-GRO. Package each of the three discrete sub-samples into laboratory-provided containers using TerraCores® or EnCores® in general accordance with USEPA method 5035 and submit to the analytical laboratory for analysis of VOCs and TPH-GRO.
- Combine sub-samples 1 to 4 and separately combine sub-samples 5 to 8 and 9 to 12 to create three composite soil samples. Collect soil from each of the three composite soil samples into laboratory-provided containers for analysis of the remaining parameters identified in the table above.

Proposed import of greater than 2,500 cubic yards of soil:

Follow the procedure described above for the first 2,500 cubic yards of soil (collecting three discrete and three composite soil samples). For each additional 1,000 cubic yards of fill in excess of 2,500 cubic yards (or part thereof) follow the procedure below.

- Collect and screen four (4) additional soil sub-samples.
- Collect one additional discrete sub-sample for analysis of VOCs and TPH-GRO.
- Prepare one additional four-point composite soil sample and package one additional composite soil sample for analysis of remaining parameters in accordance with the tabular summary above.