UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

STATEMENT OF BASIS

Parcel D
Southeast Federal Center
Washington, D.C.

EPA ID: DC8 470 090 004

May 2012

I. Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed remedy for the United States General Services Administration (GSA), Southeast Federal Center (SEFC), Parcel D (Parcel D or the Site). Parcel D is located at 1st and M Street, SE, Washington, D.C. 20507. EPA's proposed remedy consists of excavation and off-site disposal of contaminated soil and compliance with and maintenance of an institutional control prohibiting groundwater use for potable purposes. This SB highlights key information relied upon by EPA in making its proposed remedy selection.

The SEFC is subject to EPA's Corrective Action Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 *et seq.* (Corrective Action Program). The Corrective Action Program is designed to ensure that certain facilities subject to RCRA have investigated and cleaned up any releases of hazardous waste and hazardous constituents that have occurred at their property. The District of Columbia (District) is not authorized for the Corrective Action Program under Section 3006 of RCRA. Therefore, EPA retains primary authority in the District for the Corrective Action Program.

The Administrative Record (AR) for the Facility contains all documents, including data and quality assurance information, on which EPA's proposed decision is based. See Section IX, Public Participation, for information on how you may review the AR.

II. Facility Background

Parcel D consists of approximately 2.3 acres within SEFC and is surrounded by a historic brick sentry wall along M Street, SE to the north; Building 201 to the east; Tingey Street, SE to the south and 4th Street, SE to the west. Parcel D is currently vacant, but is being redeveloped to accommodate a building which will cover the entire Site and include an underground parking garage. The building will be used for residential and commercial purposes. A location map is attached as Figure 1. In earlier investigations, Parcel D was referred to as Block H.

The SEFC was formerly part of the Washington Navy Yard (WNY). In 1963, the United States Department of the Navy (Navy) transferred the western portion of the WNY to GSA to develop. The developer for the SEFC, including Parcel D, is Forest City Washington. GSA and Forest City Washington signed a Development Agreement in June 2005 to transfer parcels either by sale or ground lease over a period defined in that agreement. FC Remediation SEFC, Inc., a separate entity acting as an agent for GSA, is performing the remedial work at Parcel D as required by the Interim Measures (IM) Work Plan approved by EPA on October 28, 2011.

Before 1919, Parcel D was used for residential and commercial purposes. WNY operations on Parcel D began around 1919. Historical WNY use of the Site included coal and scrap metal storage, and a Navy oil reclamation facility. Scrap metal was stored on the eastern half of Parcel D. Various parts of the parcel were used to store coal. All previous buildings on the Site have been removed.

III. Summary of Environmental Investigations

From 1990 to 1999, GSA conducted a number of environmental investigations and remedial actions at Parcel D to identify contaminants of concern (COCs) and areas of contamination in soil and groundwater. Reports on these investigations and remedial actions can be found in the Administrative Record.

In 1999, EPA and GSA entered into a Final Administrative Order on Consent (1999 Order), Docket No. RCRA III-019-AM, under Section 3013 of RCRA, 42 U.S.C. Section 6934, to perform, among other work, a RCRA Facility Investigation (RFI) to determine the nature and extent of any releases of hazardous waste at or from SEFC, including Parcel D, and to perform Interim Measures (IM) to remediate releases. Prior to the Order, GSA conducted various investigations and remedial actions and included this data in the RFI Report along with the results of new sampling required by the 1999 Order. EPA approved the RFI Report in July 2008.

The RFI Report findings concerning Parcel D are discussed below.

RCRA Facility Investigation (2001-2002):

In 2002, GSA installed seven monitoring wells on or adjacent to Parcel D and collected soil samples from four well boreholes. Polynuclear aromatic hydrocarbons (PAHs) and arsenic were detected in soil samples at concentrations greater than their applicable residential and industrial risk-based concentration (RBC)[1]. Soil samples were also collected from borings O2-SB02 and H-SB07. In the sample from O2-SB02 taken 27 feet below ground surface (bgs), benzo(b)anthracene was detected above EPA's residential RBC for that contaminant. There were no detections above residential RBCs in samples taken at a 7-feet or 17-feet depth.

In March and July 2002, groundwater samples from Parcel D were collected from seven monitoring wells (six shallow at 25 feet bgs and one deep well at 80 feet bgs). Samples were analyzed for volatile organic compounds (VOCs), semi-volatile compounds (SVOCs), metals, polychlorinated biphenyls (PCBs) and total recoverable petroleum hydrocarbon (TPH). All analytes were below Maximum Contaminant Levels (MCLs) promulgated at 40 C.F.R. Part 141 pursuant to Section 1412 of the Safe Drinking Water Act, 42 U.S.C. Section 300g-1, or RBCs, with three exceptions: one well showed methyl-tert-butyl ether (MTBE), a gasoline additive, at 5.4 micrograms per liter (ug/l), which is below the RBC of 12 ug/l, and arsenic was found in two well samples at concentrations above its RBC, but below its MCL and cobalt was found in the deep well at a concentration above its RBC.

Soil Characterization for Disposal and Risk Assessment (2007):

To characterize the soil to be excavated for purposes of development, Parcel D was gridded into 50 by 50-feet squares. A soil sample was collected within each five foot depth interval within the square to 30 feet bgs. These samples were used to characterize soil for

[1] RBCs are screening levels used to determine whether a contaminant will be used in the human health risk assessment. In 2008, the RBCs were renamed the Risk Screening Levels (RSLs).

excavation and off-site disposal prior to building construction, and for risk assessment of soil left in place after construction. Also, soil samples were collected from eight borings located around the perimeter of the proposed excavation. Samples were analyzed for PCBs, SVOCs, VOCs, TPH and metals. Soil and groundwater quality data collected during this assessment were used to develop the Interim Measure (IM) Work Plan for Parcel D (WSP, 2008).

PCBs were detected in soil at concentrations greater than their residential RBC in 19 soil samples and greater than their industrial RBC in five (5) soil samples. Two (2) soil samples contained PCB concentrations, with the highest concentration of 1069 mg/kg, at greater than the Toxic Substances Control Act (TSCA), 15 U.S.C. §§ 2601 *et seq.*, threshold level of 50 mg/kg, requiring additional delineation in that area. In addition, one or more PAHs were detected above the residential or industrial RSLs in 23 samples. TPH-DRO was detected over the TPH disposal criteria of 10 mg/kg in 86 of 146 samples collected. Of those 86 samples, 25 contained TPH concentrations greater than the District's cleanup criteria of 960 mg/kg. No VOCs were detected at levels greater than applicable residential RBCs.

In 2007, groundwater samples were collected and analyzed for VOCs, SVOCs, metals, PCBs and TPH. Arsenic and lead were found in four of the seven wells at concentrations above their respective MCLs of 10 and 15 ug/l, arsenic with a high of 21 ug/l and lead with a high of 160 ug/l. Chromium was found in one well at 10 ug/l, which is below the MCL of 100 ug/l and above the RBC of 0.031 ug/l. MTBE was found at one well, below the RBC of 12, and TPH-diesel range organics (TPH-DRO) were found in one well at a concentration of 12.32 mg/l. EPA does not have risk-based screening levels for TPH, as it is a composite of hydrocarbon compounds.

PCB Delineation Investigation (2007):

Two soil samples collected during the 2007 soil sampling contained PCB concentrations exceeding the TSCA threshold level of 50 mg/kg. Additional samples were collected in a grid pattern around the two sample locations to delineate the PCB concentrations in accordance with TSCA requirements. Horizontal and vertical delineation of PCB concentrations in soil was completed. The data were included in the EPA-approved IM Work Plan for Parcel D (WSP, 2008).

Excavation of Contaminated Soil (2009):

In 2009, PCB-contaminated soil was encountered when underground utilities were installed along the south end of Parcel D. One utility trench had crossed an area of PCB-contaminated soil identified during the 2007 PCB Delineation Investigation. The soil in this area was screened, characterized and disposed of in accordance with the EPA-approved Soil Management Plan and the EPA-approved IM Work Plan for Phase I Infrastructure Construction.

Soil Investigation at Base of Proposed Excavation (2010):

After EPA approved the IM Work Plan for Parcel D (2008), the proposed subgrade excavation depth for purposes of development changed from 25 feet to 15 feet bgs across the entire Site. Because of this change, GSA collected additional soil samples to evaluate contaminant concentrations that would be left under the proposed underground parking garage slab, and to assess potential risk to future construction and utility workers that might come into

contact with soil at or below 15 feet bgs. The Human Health Risk Assessment (HHRA) showed that residual contaminant concentrations in the soil beneath the parking garage at a depth of 15 feet are within EPA's acceptable risk range. Therefore, future workers exposed to subslab soil beneath the parking garage will not be exposed to unacceptable risk. The sampling results and HHRA were submitted to EPA in the IM Work Plan Amendment for Parcel D (WSP, 2011). EPA approved this Amendment in October 2011.

Groundwater Sampling for Construction De-watering (2011):

In March 2011, GSA sampled three (3) new and two (2) older monitoring wells on Parcel D to characterize groundwater for a construction dewatering permit from the District. Samples were collected for VOCs, SVOCs, metals, PCBs and TPH analysis. VOCs, PAHs and PCBs were not detected. Arsenic was detected in each sample, with samples from two wells exceeding the MCL for arsenic of 10 ug/l, with a high of 48 ug/l. Naphthalene was found in one well at 1 ug/l, which is above the 0.14 ug/l RBC. Low level TPH-DRO were detected in samples from the 5 wells with a high of 1.3 mg/l.

Interim Measures (2011):

GSA conducted interim measures (IMs), consisting of soil excavation and removal, at Parcel D under the 1999 Order. Excavation on Parcel D began in late 2011 and is on-going. EPA approved the Parcel D IM Work Plan and final revisions on October 28, 2011.

Under the EPA-approved IM Work Plan, soil will be excavated and removed from the proposed building foot print to a depth of 15 feet bgs. The building footprint will cover the entire Parcel D except for a thin strip of soil which will surround the building. For the thin strip of soil surrounding the building, soil will be excavated and removed to a depth of up to 5 feet bgs.

Contaminated soil will be transported to off-site disposal facilities permitted to accept the soil. Verification samples will be collected and analyzed to confirm that remaining soil meets standards protective of the future use of the Parcel D property and a Completion Report will be submitted to EPA in mid-2012. For the thin strip of soil surrounding the building, this area will be backfilled with clean fill that will meet EPA's residential acceptable risk range of 10^{-4} to 10^{-6}. In addition, it is anticipated that this area will be covered by sidewalks. For soil remaining below the 15 feet deep parking garage, the soil will meet EPA's acceptable risk range for construction/utility worker exposures.

Military Munitions Debris Discovery and Removal (2012):

During the IM soil excavation for the underground parking area, several pieces of military munitions debris were discovered. Excavation work was halted and the Metropolitan Police Department for the District (MPD) was notified and the United States Army Corps of Engineers (USACE) Explosive Ordnance Disposal team (EOD) was deployed and removed the munitions debris. The EOD determined that the debris did not pose an explosion hazard.

After the initial munitions debris discovery, work was halted until a Site specific unexploded ordnance (UXO) workplan called the "Munitions and Explosives of Concern (MEC) Low Probability Construction Support Work Plan" was drafted. Thereafter, excavation resumed

with modified equipment and with trained UXO personnel on-Site to watch the excavation and inspect munitions debris, as they were discovered. Metal detectors were used to locate buried metal, but underground infrastructure in the area interfered. When debris was discovered, work stopped and the UXO personnel determined whether the debris was safe. If it was safe, the debris was removed from the excavation and stored on-site for later proper disposal and work resumed. If the UXO personnel could not determine the potential hazard of the debris, work ceased until the USACE EOD cleared munitions from the area.

The munitions debris are components of various size artillery shells, most in the size range of 18-30 inches in length. These are mostly partially assembled, and not completed shells. The debris were found in one small area of the excavation. The debris was probably disposed of in this area when Parcel D was used as a scrap metal disposal area. The EOD found some residual chemicals related to explosives on only two pieces of the debris. As the excavation progressed deeper, the munitions debris discoveries stopped. As of March 26, 2010, Parcel D appears to be cleared of munitions debris.

To evaluate any potential groundwater impacts from the munitions debris, a sample was collected from a dewatering well and analyzed for explosive related chemicals. None of these chemicals were found in the groundwater. Additional groundwater samples will be collected and analyzed during construction dewatering.

IV. Human Health Risk Assessment and Evaluation of Exposure Pathways

Groundwater:

Groundwater samples were collected from Parcel D monitoring wells in 2002, 2007 and 2011. Some samples contained metals and MTBE above their respective RBC and arsenic and lead over their respective MCL. Sample results did not, however, indicate that there is a contaminated groundwater plume beneath Parcel D. In addition, based on the results of a Human Health Risk Assessment discussed in more detail immediately below, the potential risks posed future residents from groundwater at the Facility are within EPA's acceptable risk range of 10^{-4} to 10^{-6} excess cancers. Moreover, the District's public water supply system (PWSS) currently supplies the SEFC and will be used for supplying potable water to the newly constructed building on Parcel D.

Human Health Risk Assessment (HHRA):

HHRAs were conducted to identify any potential human health risks associated with potential future exposures to Site-related COCs in soil and groundwater at Parcel D. An HHRA report was included in the EPA-approved IM Work Plan (WSP, 2008). The HHRA in the EPA-approved RFI Report (2004) included the potential risks based on current exposures at the SEFC. The HHRA in the IM Work Plan evaluated potential risk to future residents on Parcel D from soil and groundwater remaining at Parcel D after remediation. Potential risks to construction and utility workers from soil and groundwater remaining at Parcel D after remediation were evaluated in a separate HHRA, which was included with the EPA-approved Parcel D IM Work Plan Amendment (WSP, 2011).

HHRA Results:

The District's PWSS currently supplies the SEFC and will be used for supplying potable water to the newly constructed building on Parcel D. While groundwater will not be used as a water supply source, in accordance with the Risk Assessment Work Plan and EPA requirements, the HHRA evaluated potential risk assuming that the groundwater beneath the SEFC will be used as a potable water supply. The HHRA also estimated the risk assuming that groundwater will not be used as a potable water supply. The HHRA evaluated potential risks from exposure to on-site soil in both scenarios.

If groundwater from the SEFC is used as a potable water supply, the estimated future potential health risks exceed EPA guidelines. However, the provision of a public water supply will eliminate this potential risk. If groundwater from the SEFC is not used as a potable water supply, the HHRA concluded that the potential risks to future residents from any exposure to the surface soil (fill) and groundwater are within EPA's acceptable risk range of 10^{-4} to 10^{-6} excess cancers. The HHRA in the Parcel D IM Work Plan Amendment concluded that the estimated risks for the utility and construction workers from soil below 15 feet and groundwater are also within the guidelines considered acceptable by EPA (10^{-4} to 10^{-6} excess cancers).

To further preclude possible future use of groundwater as a potable water supply, a groundwater use restriction will be recorded with the land records for Parcel D. The use restriction will prohibit use of groundwater beneath Parcel D for any purpose other than environmental monitoring and testing, as approved by EPA or the District.

Ecological Assessment:

Parcel D is an urban parcel not suitable for sustaining a viable foraging and breeding wildlife community. Therefore, a quantitative ecological risk assessment was not conducted for Parcel D.

IV. Corrective Action Objectives

EPA's Corrective Action Objectives for the Facility are the following:

1. Soil

The Corrective Action Objectives for soils is the removal and off-site disposal of soils containing COCs at concentrations above the acceptable risk range (10^{-4} to 10^{-6}) under a residential exposure scenario for surface soil and a construction/utility worker exposure scenario for soil beneath the 15 feet bgs garage slab.

2. Groundwater

The Corrective Action Objective for groundwater at the SEFC, including Parcel D, is to control exposure to the hazardous constituents remaining in the groundwater by requiring the compliance with and maintenance of groundwater use restrictions at the Facility, while contaminant levels remain above applicable MCLs and RBCs.

V. Proposed Remedy

A. Soil

EPA's proposed soil remedy, as discussed in the IM Section on page 4, is excavation and off-site disposal of soils to a depth of approximately 15 feet bgs. Clean fill will be used for surface soil (0 – 5 feet) in the thin strip of soil around the building.

B. Groundwater

EPA's proposed groundwater remedy for the Site is the compliance with and maintenance of a groundwater use restriction prohibiting potable uses of groundwater. EPA proposes that the groundwater use restriction be implemented through an enforceable institutional control (IC), such as a permit, order and/or an Environmental Covenant pursuant to the District of Columbia Uniform Environmental Covenants Act of 2006, D.C. Code Section 8-671 (UECA) to be recorded with the deed for Parcel D.

VI. Evaluation of EPA's Proposed Decision

This section provides a description of the criteria EPA used to evaluate the proposed remedy, according to EPA guidance. The criteria are applied in two phases. In the first phase, EPA evaluates three decision threshold criteria as general goals. In the second phase, EPA then evaluates seven balancing criteria.

A. Threshold Criteria

1. <u>Protect Human Health and the Environment</u>: The primary risks posed to human health and environment from soil contaminants at Parcel D were related to direct contact with the soil and to the soil being a continuing source of groundwater contamination. With the removal of contaminated soils containing Site-related COCs to a depth of 15 bgs, restriction on the use of groundwater for potable uses, the potential human exposure to contaminants and environmental harm are eliminated.

2. <u>Achieve Media Cleanup Objectives</u>: The building footprint will cover most of Parcel D. Excavation for the underground garage will remove surface and sub-surface contaminated soil to a depth of 15 feet. For the thin strip of soil surrounding the building, surface soil (0-5 ft bgs) will be removed and backfilled to surface with clean fill. The fill will meet EPA's acceptable risk range (10^{-4} to 10^{-6}) for a residential exposure scenario. The soil beneath the building's foot print will be removed to a depth of 15 feet. Therefore, the proposed remedy achieves the cleanup objective and Parcel D will be suitable for residential purposes. Because arsenic and lead in groundwater exceed their respective MCL, EPA's proposed remedy requires the implementation and maintenance of an institutional control to ensure that groundwater beneath Parcel D is not used for human consumption.

3. <u>Remediating the Source of Releases</u>: In all proposed remedies, EPA seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may harm human health and the environment. With the removal of remaining contaminated soil to depth, the source for contaminant loading to groundwater is removed.

B. Balancing/Evaluation Criteria

1. **Long-Term Effectiveness:** EPA's proposed remedy will maintain protective of human health and the environment over time by controlling exposure to any hazardous constituents that may remain in groundwater. EPA's proposed decision requires the compliance with and maintenance of a groundwater use restriction at Parcel D. EPA anticipates that this restriction will be implemented through an environmental covenant to be recorded with the deed for Parcel D. The environmental covenant will run with the land and as such, will be enforceable by EPA and the District against future land owners.

2. **Reduction of Toxicity, Mobility, or Volume of the Hazardous Constituents:** The reduction of toxicity, mobility and volume of hazardous constituents at Parcel D will be achieved by soil excavation and off-Site disposal.

3. **Short-Term Effectiveness:** EPA's proposed decision is excavation and off-site disposal of contaminated soil. Construction workers will take appropriate protective measures to protect themselves from short-term risks, and the construction zone will be monitored for any releases of contaminants into the air. Construction will take place within the larger SEFC construction zone, which is not accessible to the public; therefore, the public should not be exposed to Site-related COCs. In addition, EPA anticipates that the groundwater use restriction will be fully implemented shortly after the issuance of the Final Decision and Response to Comments (FDRTC).

4. **Implementability:**

EPA's proposed decision is readily implementable. The contaminated soil will be removed as part of the construction of the underground parking garage and will be disposed off-site in accordance with applicable RCRA requirements. In addition, EPA does not anticipate any regulatory constraints in implementing a groundwater use restriction for Parcel D.

5. **Cost:**

EPA's proposed remedy is cost effective. Soil removal was planned by Forest City Washington and is part of the construction plan. The groundwater IC will take minimal time and cost to develop and implement.

6. **Community Acceptance:**

EPA will evaluate community acceptance of the proposed decision during the public comment period, which will be described in the FDRTC.

7. **State/Support Agency Acceptance:**

The District's Department of the Environment (DDOE) is reviewing EPA's proposed remedy for Parcel D and will comment or concur during the public comment period.

VII. Environmental Indicators

EPA sets national goals to measure progress toward meeting the nation's major

environmental goals. For Corrective Action, EPA evaluates two key environmental indicators for each facility: (1) current human exposures under control and (2) migration of contaminated groundwater under control. The EPA determined that the entire SEFC Facility met these indicators in September 2003 and 2004, respectively.

VIII. Financial Assurance

EPA has evaluated whether financial assurance for corrective action is necessary to implement EPA's proposed decision at the Facility. Parcel D is under GSA's responsibility and as a federal agency, GSA is not required to provide financial assurance.

IX. Public Participation

Before EPA makes a final decision on its proposed remedy for parcel D, the public may participate in the decision selection process by reviewing this SB and documents contained in the Administrative Record (AR) for the Facility. The AR contains all information considered by EPA in reaching its proposed remedy. It is available for public review during normal business hours at:

U.S. EPA Region III
1650 Arch Street (3LC20)
Philadelphia, PA 19103
Contact: Barbara Smith
Phone: (215) 814-5786
Fax: (215) 814-3114
Email: smith.barbara@epa.gov

Interested parties are encouraged to review the AR and comment on EPA's proposed remedy. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. You may submit comments by mail, fax, or e-mail to Barbara Smith. EPA will hold a public meeting to discuss this proposed decision upon request. Requests for a public meeting should be made to Barbara Smith.

EPA will respond to all relevant comments received during the comment period. If EPA determines that new information warrants a modification to the proposed remedy, EPA will modify the proposed remedy or select other alternatives based on such new information and/or public comments. EPA will announce its final decision and explain the rationale for any changes in a document entitled the Final Decision and Response to Comments (FDRTC). All persons who comment on this proposed remedy will receive a copy of the FDRTC. Others may obtain a copy by contacting Barbara Smith at the address listed above.

Signature: Date: 5/4/12

Abraham Ferdas, Director
Land and Chemicals Division
US EPA, Region III

Figure 1: Location Map

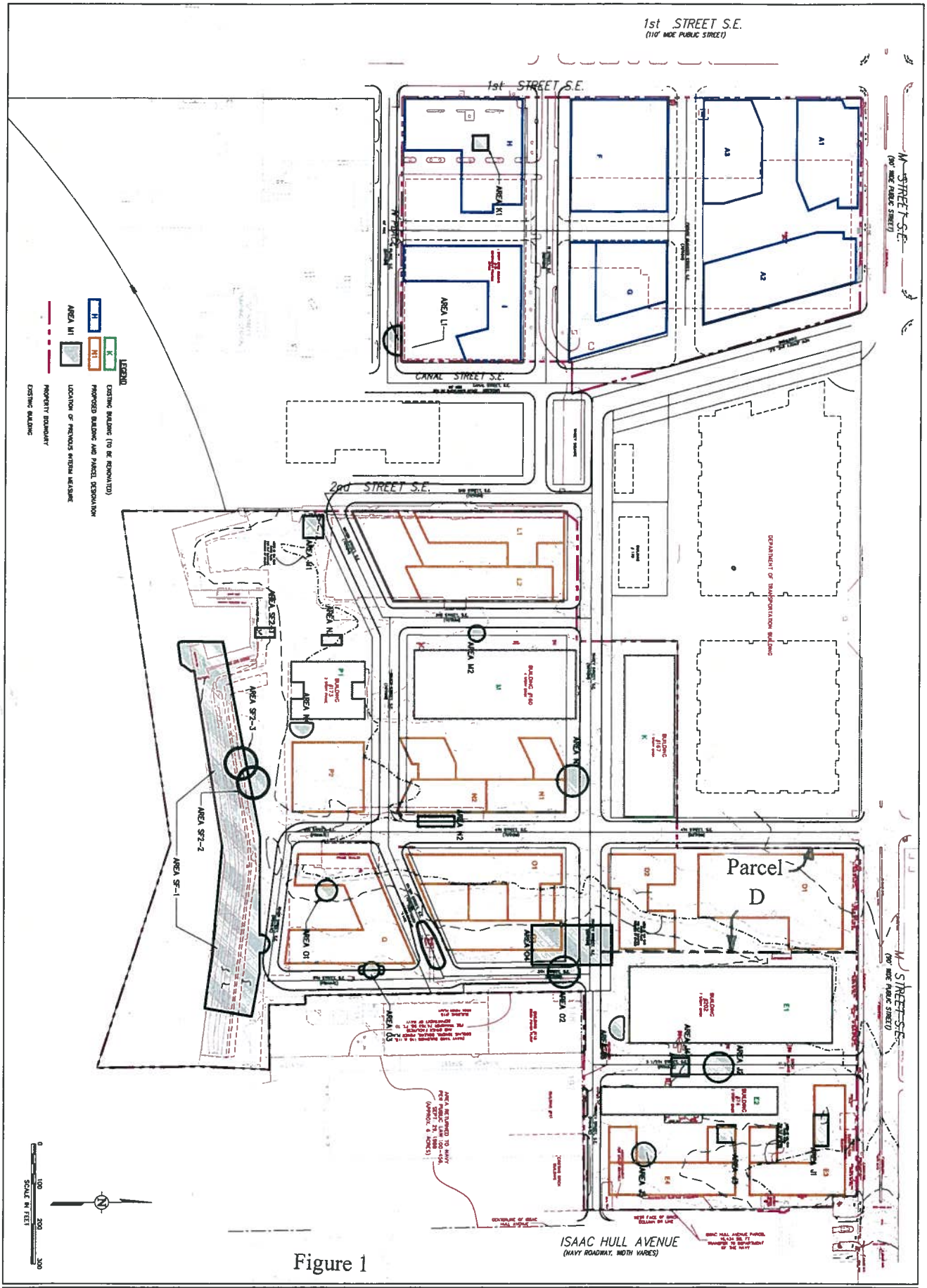

Figure 1

Drawing Number 13125803	FIGURE 2	WSP Environmental Strategies 11911 Freedom Drive Suite 900 Reston, Virginia 20190 (703) 709-6500	SITE PLAN SOUTHEAST FEDERAL CENTER WASHINGTON, D.C. PREPARED FOR FOREST CITY WASHINGTON	DRAWN BY: JME CHECKED: DHS APPROVED: DHS SEAL DATE	REVISIONS REV / DESCRIPTION