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| **The purpose of the RI is to:**1) Characterize environmental conditions within the Study Area,2) Investigate whether and to what extent past or current conditions at the Site have caused or contributed to contamination of the River3) Access current and potential risk to human health and the environment posed by the conditions within the Study Area |

Pepco prepared the Remedial Investigation/Feasibility Study Workplan pursuant to a consent decree that was entered by the U.S. District Court for the District of Columbia on December 1, 2011. After an extensive review and comment period, the Workplan was approved by DDOE on December 28, 2012. Under the Workplan, the Pepco Benning Road facility (the Site) and the adjacent segment of the Anacostia River are referred to as the “Study Area” in the RIFS Workplan. The Study Area consists of a “landside” component that focuses on the Site itself, and a “waterside” component that focuses on the shoreline and sediments in the segment of the Anacostia River adjacent to and immediately downstream of the Site. The landside and waterside areas of investigation are depicted in Figure 1.

As a part of the RIFS workplan, a preliminary C**onceptual Site Model (CSM)** was developed for the Study Area to determine contaminant sources, exposure pathways, and receptors. Based on the current understanding of potential sources and impacted media on the Landside of the Study Area, **Target Areas** were identified for further investigation and presented on Figure 1. The Waterside CSM evaluated potential past and present mechanisms of contaminant movements from the Site into the River as well as distribution of various sediment environments/habitats in the river as they might affect distribution. The CSM identified several sources of the chemicals of potential concern (COPCs) in sediment in the vicinity of the Site, which included historical discharge through Outfall 013, storm sewers, overland flow from the Landside portion of the facility, and groundwater discharge to the surface water of the River. The ecological exposure pathways associated with the Waterside of the Study Area are most likely associated with benthic macroinvertebrates, fish, and piscivorous birds and mammals. This preliminary CSM presented in the RIFS Workplan will be refined as new information becomes available with the progression of the RIFS process. The CSM identified data gaps and further sampling needs in the Study Area that are detailed in the following sections.

**Landside Investigation**: As stated in the consent decree, there have been six instances between 1985 and 2003 when polychlorinated biphenyls (PCBs) were released or detected during investigations at the Site. These locations are depicted on Figure 2 as Target Areas for further investigation along with the additional Target Areas based on the current/historical potential sources on the Site. The Landside investigation program will include **three phases of work**, each phase providing necessary information for the planning of the successful phase of work.

**Phase I activities** will involve following:

1. Sampling of surface soils in the vicinity of the Target Areas: The surface soil samples will be screened with field equipments PID and XRF, for detecting VOCs and metals, respectively. This data will facilitate to determine the locations of the Phase II soil borings, and delineate VOCs and metals in the surface soil samples.
2. Sampling of storm drains: The sediment/residue samples will be collected from storm drains to determine if current or historical discharges from the storm drain system contributed to contamination in the River. In addition, the influent and effluent sides of Outfall 013 and Outfall 101 will be sampled.
3. Screening of Site using Electrical Resistivity Imaging (ERI) transects: ERI provides useful information on soil and groundwater zones impacted by chlorinated compounds such as polychlorinated biphenyls (PCBs), light non-aqueous phase liquids (LNAPLs) and/or dense non-aqueous phase liquids (DNAPLs). These zones will be targeted during Phase II activities.
4. Advancing geotechnical borings: Geotechnical borings will be advanced to approximately 100 feet below ground surface to obtain physical properties of the soil at the Site and in the vicinity of the site.

**Phase II activities** will involve, advancing 40 soil borings to approximately 25 feet below ground surface using direct push technology (DPT) to delineate potential zones of impact and identify any continuing sources of contamination. Additional DPT borings will be advanced to collect soil and groundwater samples and characterize horizontal and vertical extent of any impacts found using PID and XRF screening during Phase I activities. Figure 2 shows the 40 DPT soil boring locations.

**Phase III activities** will involvedetailed hydogeologic investigation involving installation of monitoring wells**,** water level gauging, aquifer testing, and groundwater monitoring. The locations of the monitoring wells will be based on results from ERI and DPT data collected in Phases I and II.

**Waterside Investigation**: The Waterside investigation is designed to evaluate potential sources of contaminants in the sediments of the River near the Site. The Waterside investigation will also provide horizontal and vertical delineation of contaminants in the sediment, and determine the potential effects on Anacostia River receptors (i.e. human and ecological receptors). Based on the results of prior sampling, the investigation will focus on polycyclic aromatic hydrocarbon (PAHs), PCBs, and metals, with screening samples for VOCs, SVOCs, pesticides, and dioxins/furans. This information will also support the National Resources Damage Assessment (NRDA). The Waterside investigation will primarily address sediment conditions within an area of the Anacostia River approximately 10 to 15 acres in size including approximately 1,500 linear feet to the south (approximately 1,000 feet south of the Benning Road Bridge) and 1,000 linear feet to the north of the Site’s main storm water outfall area (Figure 1). The proposed Study Area is based on its proximity to the Site and results from the USEPA 2009 Site Investigation Report. Data for the Waterside Study Area will be collected in **two phases**.

**Phase I** activities will involve bathymetric and utility surveys on-site and at background locations. The bathymetric survey will provide a basis for understanding depth of the water column and the configuration of the river bottom and will be used to prepare a contour map of the top of the sediment surface in and around the investigation areas.

**Phase II** activities will involve collecting surface water and sediment samples from the Waterside Study Area. The Phase II Waterside investigation will use a systematic sampling grid to determine sediment and surface water sampling locations. A total of 45 sampling locations are selected within Waterside Study Area. The exact locations of the sampling locations may vary according to the conditions of the substrate and the nature of depositional processes observed in the geophysical survey. Figure 3 shows the sediment and surface water sampling locations.

1. Ten (20) surface water samples will be collected prior to sediment sampling to assure the integrity and representative nature of the sample. The surface water samples will be collected from immediately above the sediment-water interface in order to capture potential impacts of groundwater discharge.
	1. Ten (10) samples will be collected within the Waterside Study Area.
	2. Ten (10) samples will be collected from background sampling locations chosen from up river, down river, and across river from the Site to provide additional background and baseline area-wide data. An effort will be made to obtain background samples from locations with similar ecological parameters (e.g., sediment grain size, water depth, flow regime, tidal influence, etc.) as those in the Waterside Study Area.
2. A surface sediment grab sample will be collected at all 45 of the sampling locations. All surface sediment samples will be collected from a depth of 0 to 6 inches below sediment surface.
3. Subsurface sediment core samples will be collected from all 45 sampling locations and 10 background sampling locations. The sediment cores will be advanced to a maximum depth of 10 feet below the sediment surface, or to refusal, whichever is encountered first. It is estimated that up to 165 discrete interval subsurface sediment samples will be collected for laboratory analysis from the 45 sampling locations in the Waterside Study Area and the 10 background Sample locations.

**Remedial Investigation Report:** Upon completion of RI field activities and receipt of the analytical data, a draft RI Report will be prepared for submittal to DDOE. The draft report will be submitted to DDOE within 120 days of the completion of fieldwork as required by the Consent Decree. The report will include mainly Site history including previous investigations and remedial actions, descriptions of RI field activities, the nature and extent of contamination, contaminant fate and transport, results of the human health and ecological risk assessments, overall findings, conclusions and recommendations. The draft RI Report will be made available for public review by posting on DDOE’s website for at least 30 days prior to approval by DDOE. Pepco will revise the draft RI Report as appropriate to address comments from DDOE, other regulatory agencies, and the public. Pepco will submit a final RI Report following DDOE and public review and comment. The Final RI Report will then be made available on the DDOE website.