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Via Electronic Mail

May 1, 2023

Mr. Joshua Fontaine
U.S. Environmental Protection Agency, New England Region
Five Post Office Square
Suite 100
Boston, MA 02109

Re: GE-Pittsfield/Housatonic River Site
Rest of River (GECD850)
Revised Pre-Design Investigation Work Plan for Reach 6

Dear Mr. Fontaine:

In accordance with the U.S. Environmental Protection Agency's (EPA's) conditional approval letter dated March 2, 2023, enclosed for EPA's review and approval is the General Electric Company's *Revised Pre-Design Investigation Work Plan for Reach 6*.

Please let us know if you have any questions about this revised work plan.

Sincerely yours,

Robert G. Gibson
Senior Project Manager

Enclosure

Cc: (via electronic mail)
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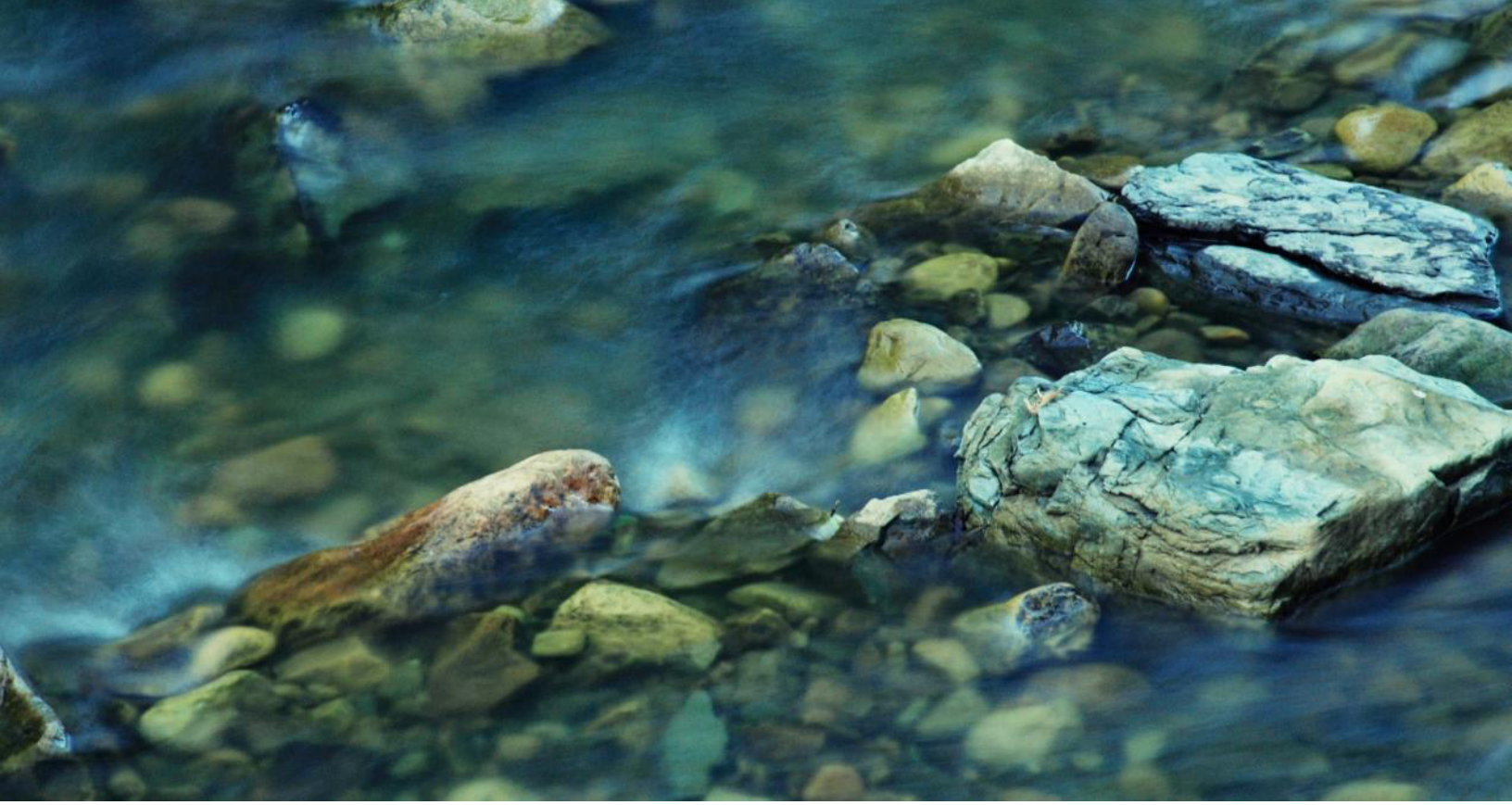
Public Information Repository at David M. Hunt Library in Falls Village, CT
GE Internal Repository



May 2023
Housatonic River – Rest of River

ANCHOR QEA

Revised Pre-Design Investigation Work Plan for Reach 6

Prepared for General Electric Company
Pittsfield, Massachusetts

May 2023
Housatonic River – Rest of River

Revised Pre-Design Investigation Work Plan for Reach 6

Prepared for
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Project Number: 220469-11.01

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APPENDICES

ABBREVIATIONS

BRA	baseline restoration assessment
BRA Work Plan for Reaches 5B-8	*Revised Baseline Restoration Assessment Work Plan for Rest of River Reaches 5B Through 8*
CD	Consent Decree
DGPS	differential global positioning system
DQO	data quality objective
EA	Exposure Area
EPA	U.S. Environmental Protection Agency
EPC	exposure point concentration
Final Revised OSS	*Final Revised Overall Strategy and Schedule for Implementation of the Corrective Measures*
Final Revised SOW	*Final Revised Rest of River Statement of Work*
FSP/QAPP	*Field Sampling Plan/Quality Assurance Project Plan*
GE	General Electric Company
HHRA	*Human Health Risk Assessment*
LiDAR	Light Detection and Ranging
MassDFW	Massachusetts Division of Fisheries and Wildlife
mg/kg	milligram per kilogram
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
NGVD29	National Geodetic Vertical Datum of 1929
PCB	polychlorinated biphenyl
PDI	pre-design investigation
PSA	Primary Study Area
QA/QC	quality assurance/quality control
RCMS	*Housatonic River – Rest of River, Revised Corrective Measures Study Report*
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
Reach 5A Floodplain PDI Work Plan	*Second Revised Pre-Design Investigation Work Plan for Reach 5A Non-Residential Floodplain Exposure Areas*
Reach 5A Sediment/ Bank PDI Work Plan	*Revised Pre-Design Investigation Work Plan for Reach 5A Sediment and Riverbanks*
Revised Final Permit	Revised Final Resource Conservation and Recovery Act Permit Modification
Revised Reach 6 PDI Work Plan	*Revised Pre-Design Investigation Work Plan for Reach 6*
RFI	RCRA Field Investigation

ROR	Rest of River
RU	Remediation Unit
TOC	total organic carbon
UDF	Upland Disposal Facility

1 Introduction

1.1 Background

Pursuant to Section II.H.3 of the Revised Final Resource Conservation and Recovery Act (RCRA) Permit Modification (Revised Final Permit), issued by the U.S. Environmental Protection Agency (EPA) to the General Electric Company (GE) on December 16, 2020, for the Rest of River (ROR) portion of the GE-Pittsfield/Housatonic River Site, GE is required to prepare pre-design investigation (PDI) work plans for the collection of data to be used to support the design for the ROR remedial activities prescribed by the Revised Final Permit. The requirements for PDI work plans for the various ROR areas to be remediated are specified in Section 4.2.3.1 of the *Final Revised Rest of River Statement of Work* (Final Revised SOW; Anchor QEA et al. 2021), submitted by GE on September 14, 2021, and approved by EPA on September 16, 2021.

As described in Section 3.2 of GE's *Final Revised Overall Strategy and Schedule for Implementation of the Corrective Measures* (Final Revised OSS; Anchor QEA 2022), approved by EPA on July 6, 2022, the ROR has been segmented into six separate Remediation Units (RUs) to manage workflow and schedule for the ROR Remedial Action. Reach 5A is the first RU to be addressed because it is the most upstream reach in the ROR, and pre-design work is already underway in that RU. The Final Revised OSS states that sediment removal in Reach 6, which includes Woods Pond and is farther downstream, will be conducted in parallel with sediment/soil removal in Reach 5A such that sediment removal in both reaches will be completed at approximately the same time. To achieve this objective, the Final Revised OSS required that a PDI Work Plan for Reach 6 be submitted within 120 days after EPA approval of that submittal. GE submitted the *Pre-Design Investigation Work Plan for Reach 6* to EPA on November 3, 2022. EPA conditionally approved that work plan in a letter dated March 2, 2023. That letter required GE to submit a revision to that work plan to address EPA's conditions. This *Revised Pre-Design Investigation Work Plan for Reach 6* (Revised Reach 6 PDI Work Plan) constitutes that revision.

As specified in Section II.B.2.e of the Revised Final Permit, remediation in Woods Pond will involve removal and engineered capping of sediments in the pond as needed to achieve a post-capping minimum water depth of six feet as measured from the crest of Woods Pond Dam, except in near-shore areas, where the slope from the shore to the six-foot water depth is to be as steep as possible while also being stable. In areas with water depth greater than six feet prior to remediation, sufficient sediment will be removed to allow for the placement of an engineered cap so the final grade is equal to or deeper than the original grade. These requirements and the requirements for remediation of the floodplain associated with Woods Pond are described further in Section 1.3.

While sediment and floodplain soil removal in Reach 6 will be conducted in parallel with sediment/soil removal in Reach 5A, engineered capping in Woods Pond will be delayed until after all

sediment and soil removal, backfill/capping, and placement of sediment amendments have been completed in all upstream RUs (i.e., Reaches 5A, 5B, and 5C). This delay in cap placement is anticipated to be on the order of approximately five to six years; therefore, this Revised Reach 6 PDI Work Plan describes only the PDI activities and data collection required to support the sediment and floodplain soil removal components of the remedy in Reach 6. In accordance with Table 4-1 of the approved Final Revised OSS, an addendum to this Revised Reach 6 PDI Work Plan will be submitted two years prior to the anticipated completion of capping in Reach 5C to describe the proposed additional PDI data collection needed to support the engineered cap design in Reach 6.

1.2 Description of Reach 6

Under the Consent Decree (CD) for the GE-Pittsfield/Housatonic River Site (EPA and GE 2000), the ROR is defined as the portion of the Housatonic River and its backwaters and floodplain (excluding Actual/Potential Lawns as defined in the CD) located downstream of the confluence of the East and West Branches of the Housatonic River (the Confluence). Reach 6 begins approximately 10 miles downstream of the Confluence and consists of Woods Pond, which is an impounded waterbody formed by the construction of Woods Pond Dam in the late 1800s, and its associated floodplain (Figure 1-1). The existing dam at Woods Pond is a concrete overflow weir dam (constructed in 1989) that consists of a 140-foot-long concrete overflow spillway, a concrete non-overflow gravity section with sloped downstream face at the west abutment, and a concrete and steel sheetpile raceway closure structure at the east abutment (GZA 2019). The spillway has a crest elevation of 948.3 feet National Geodetic Vertical Datum of 1929 (NGVD29), and the top elevation of the west abutment is 954.0 feet NGVD29 (GZA 2019).[1]

Woods Pond is approximately 0.2 mile in length and has a surface area of approximately 60 acres. Water depths (as measured from the crest of the dam) over much of the pond generally range from one to three feet; however, a deeper portion on the southeastern side of the pond has a maximum depth greater than 15 feet. There is also a relatively pronounced channel through Woods Pond, which provides a primary flow pathway. The water depth in the channel is deeper than the surrounding areas, and water velocity in the channel area is typically greater under average flow conditions than in other areas of Woods Pond. The water in most of Woods Pond is relatively slow-moving and contains aquatic habitat characteristics of a standing, shallow-water environment. The pond has dominant macrophyte and periphyton communities during the growing season that have strong influence on the pond system. The banks of the pond provide extensive cover, such as overhanging vegetation, woody debris, rock piles, and submerged macrophytes (EPA 2005).

[1] As described in Section 3.2, the vertical datum being used for data collection conducted pursuant to this PDI is the North American Vertical Datum of 1988 (NAVD88). Using that datum, the Woods Pond Dam spillway crest elevation is 947.7 feet NAVD88.

Within Reaches 5 and 6 (i.e., between the Confluence and Woods Pond Dam), the CD defines the ROR site boundary as the floodplain area extending laterally to the 1 milligram per kilogram (mg/kg) polychlorinated biphenyl (PCB) isopleth, which corresponds approximately to the 10-year floodplain. The floodplain in Reach 6 is relatively narrow, generally extending no more than 50 to 150 feet from the pond shoreline. Much of the vegetation in the Reach 6 floodplain consists of hardwood and transitional floodplain forests, with some more limited areas of shrub swamp and emergent marsh habitat (Woodlot 2002).

1.3 Summary of Applicable Remediation Requirements

Section II.B.2.e of the Revised Final Permit sets forth the Performance Standards for remediation of sediment in Woods Pond. Specifically, Section II.B.2.e.(1)(a) requires that sediment be removed throughout the pond and an engineered cap be placed over any residual PCBs such that there is a post-capping minimum water depth of six feet measured from the crest of Woods Pond Dam,[2] with the exception that, in near-shore areas, the slope from the shore to the six-foot water depth needs to be as steep as possible, but also stable and not subject to erosion or sloughing. In areas with water depth greater than six feet prior to remediation, sufficient sediment needs to be removed to allow for the placement of an engineered cap so the final grade is equal to or deeper than the original grade. Section II.B.2.e.(1)(b) requires bathymetric surveys to be conducted before sediment removal and before and after capping. Section II.B.2.e.(2) provides that, if feasible, sediment removed from Woods Pond will be conveyed hydraulically to the Upland Disposal Facility (UDF) for processing, provided that such sediment meets the applicable criteria in the Revised Final Permit for disposal in the UDF.

There are no prescribed sediment sampling requirements in the Revised Final Permit or Final Revised SOW to meet the Performance Standards for Reach 6; however, requirements related to characterization of sediment excavated from the ROR for the purposes of disposal in the UDF or off site are provided in Attachment E of the Revised Final Permit. That attachment states that, for Reach 6, both relevant historical data included in the 2003 RCRA Field Investigation (RFI) Report and data collected pursuant to the Revised Final Permit will be used for disposal characterization of the Reach 6 sediments. Additional vertical core sediment samples need to be collected to supplement the existing data by filling in any horizontal data gaps and characterizing the full vertical extent of sediments to be removed; however, there are no prescribed requirements for data gap sediment sampling in Woods Pond.

[2] The post-capping minimum water depth is applicable to Woods Pond proper and does not apply to all of Reach 6 (which, in addition to Woods Pond, includes an approximately 500- to 900-foot portion of the headwaters leading into Woods Pond [see Figure 1-1]). It is anticipated that this headwaters portion of Reach 6 will be a transition zone between the downstream end of Reach 5C and Woods Pond.

Section II.B.3 of the Revised Final Permit sets forth the Performance Standards for ROR floodplain soil and vernal pools, which apply to the floodplain in Reach 6. Section II.B.3.a.(2)(a) requires GE to conduct additional sampling of floodplain soil (as needed) to determine the total PCB exposure point concentration (EPC) for each floodplain Exposure Area (EA) using a Thiessen polygon approach. Footnote 12 of the Revised Final Permit further states that, for the non-residential EAs, "EPCs shall be calculated using the methods described in Appendix D to the GE's Corrective Measures Proposal and subsequent revisions described in Section 4.4 in GE's October 2010 Revised Corrective Measures Study, including the use of an approved 95% Upper Confidence Limit method to estimate the mean concentration of total PCBs, the use of spatially interpolated representation of Floodplain soil PCB data, and factoring in habitat community mapping where applicable." These methods are described in detail in Appendix A to this work plan. In addition to the sampling requirements, the Revised Final Permit specifies numerical Performance Standards—i.e., soil PCB concentrations to be achieved—for the floodplain EAs, based on their current exposure scenarios (Tables 1 and 2 of the Revised Final Permit). The listed floodplain EAs located in Reach 6 are designated EAs 56 through 60, as shown on Figure 3 of the Revised Final Permit.

In the event that certifiable vernal pools are identified during the baseline restoration assessment (BRA) activities to be conducted within the Reach 6 floodplain, Section II.B.3.b sets forth the applicable Performance Standards. Those Performance Standards require remediation of any vernal pool with a spatial average PCB concentration greater than 3.3 mg/kg, either by application of an amendment such as activated carbon or by excavation and replacement of the soil/sediment in the pool.

1.4 Work Plan Organization

The remainder of this Revised Reach 6 PDI Work Plan is organized into the follow three sections:

- Section 2 provides a summary of existing sediment and floodplain soil PCB data for Reach 6.
- Section 3 contains a summary of data quality objectives (DQOs) for the sediment and floodplain soil PDI and a description of proposed PDI activities, including field surveys and sampling and analysis.
- Section 4 provides a schedule for performance of the PDI activities described herein and a description of how the data collection activities and analytical results will be reported.

2 Summary of Prior Reach 6 Investigations and Field Surveys

2.1 Sediment PCBs

Numerous investigations were conducted dating back to the 1970s to evaluate the presence and extent of PCBs in the Housatonic River sediments. Between 1979 and 1998, 2,172 sediment samples were collected within the Massachusetts and Connecticut portions of the river by GE, as well as the Connecticut Agriculture Experiment Station and U.S. Geological Survey, with 506 of those samples collected within Reach 6 (BBL and QEA 2003, Table 4-2). EPA conducted the most current sampling of sediments in the ROR as part of its Supplemental Investigation between 1998 and 2002 (Weston 2000). That study included both systematic and discrete sediment sampling programs along the entire ROR to further delineate the nature and extent of PCBs in sediment and to facilitate EPA's human health and ecological risk assessments and modeling study. Specifically, the systematic sampling consisted of the collection of samples at regular intervals, and the discrete sampling consisted of "random, judgmental, or focused samples collected at distinct locations" to support specific sampling objectives (Weston 2000). That sampling program resulted in the collection of approximately 700 sediment samples within Reach 6. The results of this sampling were included in GE's 2003 RFI Report (BBL and QEA 2003, Table 4-8). Surface sediment (0- to 6-inch) PCB concentrations in this dataset within Reach 6 ranged from non-detect to 210 mg/kg and have median and average concentrations of 17 and 32 mg/kg, respectively. These previous investigations show that average PCB concentrations in this reach generally decrease with depth and are at or below 1 mg/kg at depths greater than six feet.

In addition, EPA and GE conducted a joint sampling program to evaluate sediment PCB partitioning characteristics in 2001. This program included PCB analysis of porewater extracted from surface sediment (0- to 6-inch) core samples. For this program, 14 sediment samples were collected in Reach 6.

2.2 Floodplain Soil PCBs

Several studies dating back to the late 1980s were conducted to characterize PCB concentrations in floodplain soil in the ROR. Between 1988 and 1998, GE collected more than 1,000 floodplain soil samples along the Massachusetts portion of the ROR, with nearly 180 of those samples located in the Reach 6 floodplain. An additional comprehensive sampling of the ROR floodplain was conducted by EPA as part of its Supplemental Investigation between 1998 and 2002 (Weston 2000). EPA collected nearly 5,000 floodplain soil samples (including in vernal pools) during the Supplemental Investigation; approximately 150 samples were collected in the Reach 6 floodplain. PCB concentrations in the surface soil samples (top six inches) in this Reach 6 dataset ranged from non-detect to 321 mg/kg and have median and average concentrations of 1.0 and 19 mg/kg, respectively.

2.3 Data on Other Parameters

In addition to the PCB data described above, a considerable amount of sediment and floodplain soil data on other parameters has been collected in Reach 6, much of which was collected as part of EPA's Supplemental Investigation between 1998 and 2002 (Weston 2000). This dataset includes, for sediments, approximately 480 sample results for total organic carbon (TOC), 320 for percent solids, and 95 for grain size distribution (in 0- to 6-inch samples) and, for floodplain soils, approximately 20 sample results for TOC, 130 for percent solids, and 15 for grain size distribution.

2.4 Field Surveys

Field surveys were conducted previously in the river in Reach 6 by EPA as part of its Supplemental Investigation between 1998 and 2002 (Weston 2000). Those surveys included flow and stage height monitoring, velocity measurements, and measurement of geometry.

More recently, between December 2021 and May 2022, in accordance with GE's *Revised Pre-Design Investigation Work Plan for Reach 5A Sediment and Riverbanks* (Reach 5A Sediment/Bank PDI Work Plan; Anchor QEA and AECOM 2022), detailed topographic and bathymetric surveys of the riverbed and floodplain were conducted for the length of the Primary Study Area (PSA) (i.e., from the Confluence to Woods Pond Dam), extending laterally to include the approximate 100-year floodplain and including nearby infrastructure (e.g., roads). These surveys were conducted for the entire length of the PSA, rather than being limited to Reach 5A, because topographic and bathymetric data are needed to develop the hydraulic model that will be used as a design tool for Reach 5A. That model is planned to extend from the Confluence to Woods Pond Dam, given that the latter serves as a hydraulic control point for much of the PSA.

Specifically, in December 2021 (during low-flow, leaf-off conditions), an aerial Light Detection and Ranging (LiDAR) survey of floodplain topography was conducted for the entire PSA (i.e., from the Confluence to Woods Pond Dam). In late April and early May 2022, a single-beam sonar bathymetric survey was conducted throughout the entire PSA main channel (where water depth was sufficient to conduct such a survey), including Woods Pond. In areas where single-beam sonar could not be deployed due to limited water depth, such as some shallow portions of Woods Pond, bathymetry was surveyed using conventional survey methods from a shallow draft vessel or on foot by survey personnel wearing waders.

3 Pre-Design Investigation Activities

3.1 Data Quality Objectives

The overall objective of the PDI activities in this Revised Reach 6 PDI Work Plan is to provide the data necessary to meet the requirements of the Revised Final Permit and support remedial design for Woods Pond and the associated floodplain. Specific DQOs for this PDI are as follows:[3]

DQO 1. Gather additional bathymetric information within Woods Pond to address existing data gaps and to support the sediment removal design.

DQO 2. Obtain sediment thickness data to support the dredge design to achieve a post-capping minimum water depth of six feet within Woods Pond and to remove sediments to facilitate placement of the engineered cap.

DQO 3. Identify and delineate structures and utilities and other base-map information to support the remedial design to protect those features and worker safety.

DQO 4. Characterize PCB concentrations in sediments and floodplain soils to be removed to support assessment of on-site versus off-site disposal requirements.

DQO 5. Update floodplain accessibility information to support evaluations of floodplain soil PCB data with respect to accessibility.

DQO 6. Obtain soil PCB data within the Reach 6 and adjacent floodplain to supplement the existing floodplain soil PCB data set, as appropriate, to provide ample spatial coverage and sample density that captures the variability in floodplain soil PCB concentrations, and to be used for calculation of representative 0- to 1-foot PCB EPCs for the non-residential EAs in the Reach 6 floodplain and 0- to 3-foot PCB EPCs for the Frequently Used Subareas in that floodplain.

DQO 7. Provide a dataset of 0- to 1-foot and 0- to 3-foot EPCs that can be used to demonstrate that the applicable Performance Standards for the non-residential EAs and Frequently Used

[3] These DQOs do not include characterizing the existing habitat in Reach 6 or obtaining information on potential archaeological and historical resources in Reach 6. The former is covered by GE's *Revised Baseline Restoration Assessment Work Plan for Rest of River Reaches 5B Though 8* (BRA Work Plan for Reaches 5B-8; AECOM 2023a), submitted to EPA on February 20, 2023, and approved by EPA on March 8, 2023; and the latter is covered by GE's *Supplemental Phase IA Cultural Resources Assessment Work Plan* (AECOM 2022), submitted to EPA on January 17, 2022, and approved by EPA on April 20, 2022, and the *Revised Supplemental Phase IA Cultural Resources Assessment Report for the Housatonic Rest of River* (AECOM 2023b), submitted to EPA on March 10, 2023, and approved by EPA on March 27, 2023.

Subareas in the Reach 6 floodplain either are currently achieved or will be achieved through the performance of remediation activities to be specified during remedial design.

DQO 8. Provide sufficient floodplain soil PCB data to support future remedial design and remedial action evaluations and work plans for the non-residential EAs and Frequently Used Subareas in the Reach 6 floodplain. While supplemental data may be needed, the combined data sets should support delineation of the remediation extent to meet applicable Performance Standards, including preliminary access and constructability considerations.

DQO 9. Obtain sufficient PCB data in Core Area 1 habitat areas to ensure that these areas are adequately characterized.[4]

DQO 10. Obtain geotechnical properties of sediment to be removed from Woods Pond to support the dredging and dredged material handling design, and for sediments that will remain after dredging, to evaluate the post-dredging slopes in near-shore areas such that they are as steep as possible, stable, and not subject to erosion or sloughing.

3.2 Field Surveys

PDI activities to address DQOs 1 through 3 will involve three field surveys. These will consist of supplemental bathymetric surveys, sediment probing, and a survey of shoreline structures and utilities.[5] All survey coordinates will be gathered and recorded using the following horizontal and vertical datums, respectively: Massachusetts State Plane, Mainland Zone, North American Datum of 1983 (NAD83), U.S. feet; and North American Vertical Datum of 1988 (NAVD88), U.S. feet.

3.2.1 Bathymetric Survey

As noted above, Section II.B.2.e.(1)(b) of the Revised Final Permit requires bathymetric surveys to be conducted prior to sediment removal. As described in Section 2.4, a recent survey of Woods Pond bathymetry was conducted in early 2022. Figure 3-1 shows an interpolated bathymetry surface within Woods Pond based on the 2022 survey; this figure also includes an overlay of the discrete locations where single-beam sonar soundings and conventional survey data were collected during this survey. As noted in Section 2.4, there were some limited portions of Woods Pond where the single-beam sonar could not be deployed due to limited water depth. Therefore, additional bathymetric survey

[4] As defined in the Revised Final Permit, Core Area 1 habitat consists of areas identified by the Massachusetts Division of Fisheries and Wildlife as areas with "the highest quality habitat for species that are most likely to be adversely impacted by PCB remediation activities," most of which species are plants because they are not mobile (Attachment B to Revised Final Permit).

[5] Field surveys to characterize the existing habitat in Woods Pond will be conducted in accordance with the BRA Work Plan for Reaches 5B-8 (AECOM 2023a).

data will be collected under this Revised Reach 6 PDI Work Plan in those portions of Woods Pond that could not be accessed during the 2022 survey (DQO 1). The additional bathymetric survey data will be collected either using single-beam sonar during higher flows when water depths are approximately three feet or greater or using conventional survey methods from a shallow draft vessel.

3.2.2 Sediment Probing

Sediment probing will be conducted within Woods Pond. The initial objective of this probing is to gain a general understanding of the sediment thickness and sediment texture prior to sediment sampling activities. Sediment probing will be conducted at the sediment PCB sampling grid locations described in Section 3.3.1. Probing will be performed at a minimum of three locations within each grid cell. This probing will be used initially to map the approximate sediment thickness at various locations throughout Woods Pond, to evaluate the likelihood of obtaining the desired sediment sample collection depth at the target sampling locations described in Section 3.3.1, and to determine if any modifications to the sampling approach or equipment are necessary. Sediment probing will be conducted in advance of sediment sample collection; however, the probing information will not be used to eliminate any of the proposed target sampling locations or depths in advance. Subsequent to sampling, the sediment probing data collected will be used in conjunction with data gathered during the sediment core collection described in Section 3.3.1 to determine the sediment thickness in support of the remedial design (DQO 2).

Sediment probing will be conducted at the sediment PCB sampling grid locations described in Section 3.3.1. Sediment probing will be performed following the methodology outlined in GE's current *Field Sampling Plan/Quality Assurance Project Plan* (FSP/QAPP; Arcadis 2013) or, if a revised FSP/QAPP applicable to the ROR has been submitted and approved by that time, the methodology described in that FSP/QAPP. In summary, sediment probing will be conducted from a shallow draft vessel (where possible) or by wading in shallow-water areas. Probing will be performed utilizing a small-diameter (less than 0.5-inch) steel rod advanced manually through the sediment to refusal. Probing will be performed at a minimum of three locations within each grid cell to evaluate if the refusal is a function of the soil substrate or if it is being caused by buried debris. Additional rod lengths will be available to accommodate deep water and/or thick sediment deposits. A standard survey rod (approximately two-inch diameter) will be used to measure water depth and identify the sediment-water interface. During all probing activities, the horizontal coordinates of the probing location, water depth, sediment thickness, sediment type (e.g., sand, silt, gravel), date, time, and any pertinent visual observations will be recorded. Horizontal position data will be collected with a differential global positioning system (DGPS) capable of sub-foot accuracy.

3.2.3 Shoreline Structure and Utility Surveys

The presence of aboveground and underground utilities could pose risks during sample collection and/or remedial construction work to both the integrity of the utility and the safety of the workers. Therefore, a survey of shoreline structures and utilities will be conducted in support of DQO 3.

In preparation for PDI subsurface sediment and floodplain sampling work, a utility clearance will be conducted to identify the locations of utilities within the planned work area. Massachusetts law requires that a utility clearance be performed prior to initiation of any subsurface work. Massachusetts Dig Safe Inc. (i.e., 811) will be contacted as part of the PDI activities to coordinate utility identification and mark-outs within Reach 6. The Dig Safe utility mark-outs include a 30-day expiration date, beyond which the mark-outs are invalid unless markings are preserved. Identified utilities and their locations within the planned work area will be documented and surveyed as appropriate, and the locations of identified natural gas, electric, telephone, cable television/internet, water, and sewer lines will be depicted on maps. This documentation of utility locations and types will be retained to support future remedial design and construction work.

The presence and locations of observed shoreline structures and utilities will also be documented during field reconnaissance activities conducted concurrently with the sediment and floodplain sampling programs.

During the PDI, active outreach will also be conducted with local city building departments and county and state transportation agencies regarding the presence of utilities and structures that could impact the PDI, remedy implementation, worker safety, and/or utility integrity.

3.3 Sampling and Analysis

3.3.1 Sediment PCB Characterization

Sediment sampling will be performed in Woods Pond to characterize PCB concentrations over the full vertical extent of sediments to be removed (i.e., the removal needed to achieve a post-capping minimum water depth of six feet) so as to support an assessment of disposal requirements in accordance with Attachment E of the Revised Final Permit (DQO 4). Specifically, the results of sediment samples collected during this PDI will be used, together with relevant historical data from the RFI Report, to calculate the volume-weighted average and vertical core average PCB concentrations of the sediment to be removed from Woods Pond. These data will be used to differentiate sediments suitable for disposal in the UDF from those to be sent off site for disposal, consistent with the requirements of Attachment E of the Revised Final Permit. The methods for incorporating the historical RFI Report data into the volume-weighted and vertical core averages in accordance with that Attachment E will be described in the Conceptual Remedial Design/Remedial Action (RD/RA) Work Plan for Reach 6. The Conceptual RD/RA Work Plan for Reach 6 will also include

a data usability assessment to identify which, if any, historical data are not considered appropriate for use in these evaluations (e.g., data that may no longer be representative of current pond conditions, data that do not fully characterize PCB concentrations over the entire dredge depth, and/or data that have been superseded by more recent PDI data).

A grid-based sampling design was selected to characterize the sediments within Woods Pond. As described in Section 2.1, approximately 700 discrete sediment samples were collected historically from Reach 6 during the prior sampling conducted by EPA, with results presented in the RFI Report. However, the historical data set contains variable locations and depths and does not provide full horizontal or vertical characterization of the sediments to be removed from Reach 6. Therefore, a grid-based sampling approach was selected to provide a uniform and systematic characterization of contemporary sediment PCB concentrations across the entire pond and its headwaters and to characterize the full depth of sediment to be removed.

Sediment PCB sampling within Reach 6 will be conducted on a 200-foot grid as shown on Figure 3-2. Sediment core sampling locations have been sited in the middle of the 200-foot grid cells or off-center to avoid existing landforms, to target shallower water (deeper sediment sample thicknesses), or to focus on near-shore areas. At each core location, sediment samples will be segmented in 12-inch intervals for PCB analysis from the sediment surface to the bottom of the core as described below. Each 200-foot grid cell equates to 40,000 square feet (0.92 acre), and each discrete 12-inch sample interval within the grid will be representative of a maximum of approximately 1,480 cubic yards of in situ sediment, which is expected to be adequate for disposal characterization based on the total estimated volume of sediment to be dredged from Woods Pond.[6]

In addition to the 200-foot grid sampling, PDI sediment sampling locations were placed between the 200-foot grid nodes where there are larger data gaps between the historical and PDI grid sampling locations. Also, three sediment core samples (left, center, and right of the channel) will be collected at each of four transects spaced at approximately 250 feet within the outlet channel between the pond and Woods Pond Dam (the outlet channel), consistent with the transect spacing for channel sampling prescribed in Attachment E of the Revised Final Permit for upstream reaches of the river.

The proposed PDI sediment sampling locations, as well as historical sampling locations, are shown on Figure 3-2. In total, sediment cores will be collected from 108 locations for the Reach 6 PDI, including 78 locations within Woods Pond itself, 18 locations in the headwaters transition zone between the downstream end of Reach 5C and Woods Pond (the headwaters), and 12 locations in the outlet channel.

[6] If the PDI sediment sampling data indicate significant variability, supplemental PDI sediment sampling will be proposed and conducted as necessary to address data gaps and provide additional data to refine the extents of dredged sediments that will be subject to disposal in the UDF or for off-site disposal.

In accordance with the Revised Final Permit, the sediment removal depth within Woods Pond will be based on achieving a post-capping minimum water depth of six feet measured from the crest of Woods Pond Dam (i.e., elevation 947.7 feet NAVD88) (except in near-shore areas). Because the Woods Pond cap thickness has not yet been determined, the depth of sediment coring will extend an additional four feet beyond what is needed to characterize sediments that would be removed to achieve the six-foot minimum water depth (i.e., a total depth of 10 feet below the dam crest, corresponding to a bottom elevation of 937.7 feet NAVD88) or to the depth of refusal if encountered first. At sampling locations where the existing sediment surface is already more than six feet below the dam crest (i.e., below elevation 941.7 feet NAVD88), sediment core samples will be advanced to a total depth of four feet below the existing mudline elevation or to the depth of refusal if encountered first. In addition, sediment cores collected within the headwaters and the outlet channel will be advanced to a depth of four feet below the existing mudline elevation (see Figure 3-2) or to the depth of refusal if encountered first. The core samples collected will be analyzed for PCBs in 12-inch depth increments, except that the bottom two feet of each core sample will be archived for potential future PCB analysis after review of analytical results for the upper sampling intervals. These bottom depth increments are anticipated to represent sediment that will remain after dredging is complete.[7] Each sediment sample collected from Reach 6 will have elevation data referenced to the crest of the Woods Pond Dam.

Based on the sampling design described above and the current bathymetry data at each sampling location, the PDI sampling will involve PCB analysis of an estimated 570 discrete 12-inch sediment samples from the 108 core locations shown on Figure 3-2. In addition, an estimated 216 discrete 12-inch sediment samples collected from the bottom two feet of each core sample will be archived for potential future PCB analysis. Appendix B contains a matrix that summarizes the anticipated sampling depth at each proposed sediment sampling location based on the current understanding of the Woods Pond bathymetry.

These sample quantities may vary based on field conditions—specifically, if refusal is encountered prior to achieving the full target sampling depth or if the existing sediment surface varies from the interpolated bathymetry surface shown on Figure 3-1. If refusal is encountered prior to achieving the target sampling depth, the sampling crew will relocate within 10 feet of the target location and make up to two additional attempts to achieve the target sampling depth. At each sampling location, field observations from these attempts will be documented to determine the cause of the refusal (e.g., debris or hard bottom). If refusal is determined to be caused by debris or is otherwise encountered before achieving the target sampling depth such that this issue would affect the full characterization of

[7] As described in Section 3.3.3.1, a subset of the sediment samples collected will be analyzed for the full depth of 10 feet below the crest of Woods Pond Dam (i.e., elevation 937.7 feet NAVD88) for geotechnical parameter testing to support an assessment of slope stability of sediment that will remain in the pond after dredging.

the sediments to be removed, GE will evaluate the need to modify the sediment sample collection methods (described below) and will propose a contingent approach to collecting the samples.

Sediment sample collection and processing will be performed following the methodology specified in GE's current FSP/QAPP (Arcadis 2013) or, if a revised FSP/QAPP applicable to the ROR has been submitted and approved by that time, the methodology described in that FSP/QAPP. Due to the required depth of sampling, it is expected that most samples will be collected using vibracore sediment sampling methods. Manual core sampling methods may be used as appropriate for thinner sediment sample thicknesses (i.e., in deeper water areas, the headwaters, and the outlet channel). The sampling crew will locate proposed sediment sampling locations using a DGPS. It may be necessary to make small adjustments to some of the target sampling locations based on conditions encountered in the field. In the event that any more significant adjustments to target sampling locations are necessary, they will be discussed with and approved by the EPA field representative. Coordinates of the actual sampling locations will be recorded using DGPS.

As described above, sediment cores will be segmented in 12-inch intervals for PCB analysis. During this sediment core processing, the sediment core samples will be inspected for potential cultural resources. Each discrete sediment sample designated for PCB analysis will be analyzed for PCBs as Aroclors using EPA Method 8082, applying quality assurance/quality control (QA/QC) measures specified in GE's current FSP/QAPP (Arcadis 2013) or, if a revised FSP/QAPP applicable to the ROR has been submitted and approved by that time, the QA/QC measures specified in that FSP/QAPP.

Upon receipt of the PCB analytical data, GE will evaluate the need for analysis of any archived sediment samples (i.e., those samples that are anticipated to represent sediment that will remain after dredging is complete). For example, deeper archived sediment samples may be analyzed at a given location if the PCB concentration in the deepest interval is elevated or if PCB concentrations at that location show an increasing trend with depth. Decisions regarding analysis of deeper archived samples will be made as soon as practicable (i.e., using unvalidated data) and in coordination with EPA.

In addition, the PDI data will be evaluated to determine whether any data gaps exist and to identify any supplemental PDI sampling necessary to address those data gaps. If GE determines that such supplemental PDI sampling is necessary, GE will coordinate with EPA as described in Section 4.

3.3.2 Floodplain Soil PCB Characterization

EPA's *Human Health Risk Assessment* (HHRA; EPA 2005) divided the ROR floodplain into 90 EAs for the assessment of direct human contact with floodplain soils. Although those EAs were initially defined by EPA starting with property boundaries, the EAs covered by this work plan are limited to the portions of the floodplain between the edge of the Housatonic River and the ROR floodplain

boundary.[8] Specific non-residential exposure scenarios and receptors were then assigned to each such EA. Several of those EAs contain overlying direct-contact subareas, which are typically characterized by a different and/or more frequent exposure scenario.[9] In addition, in the *Housatonic River – Rest of River, Revised Corrective Measures Study Report* (RCMS; Arcadis et al. 2010), GE identified "heavily used subareas" within EAs. These heavily used subareas are referred to as "Frequently Used Subareas" in the Revised Final Permit and are also referred to as such in this Revised Reach 6 PDI Work Plan.

Of the 90 EAs identified in the HHRA, five are located wholly or partially within Reach 6 (EAs 56 through 60), as shown on Figure 3-3. EAs 56 and 57 are located partially within Reach 5C but will be fully characterized as part of this Reach 6 PDI. Three of the five EAs in Reach 6 contain subareas based on distinct exposure scenarios (EAs 56a, 59a, and 60a). In addition, three of the EAs in this reach contain Frequently Used Subareas identified in the RCMS (EAs 58, 59, and 60).

This section describes the proposed sampling of these Reach 6 floodplain EAs and subareas for PCBs. GE's *Second Revised Pre-Design Investigation Work Plan for Reach 5A Non-Residential Floodplain Exposure Areas* (Reach 5A Floodplain PDI Work Plan; Anchor QEA 2021) provided a detailed description (including a separate attachment) of the methods that will be used for calculation of floodplain removal areas and volumes based on the PCB data. Those methods are again described in Appendix A hereto and will be applied to the Reach 6 floodplain.

Desktop evaluation and field surveys to characterize the existing habitats in the Reach 6 floodplain, including updating of the "super habitats" (i.e., grouped habitats having similar characteristics) developed from the Woodlot habitat survey (Woodlot 2002) and the identification and assessment of any vernal pools in the floodplain, will be conducted in accordance with GE's *Revised Baseline Restoration Assessment Work Plan for Rest of River Reaches 5B Through 8* (BRA Work Plan for Reaches 5B-8; AECOM 2023a), submitted to EPA on February 20, 2023, and approved by EPA on March 8, 2023.[10] GE proposes to commence those activities in Reach 6 prior to those in the other reaches covered by that work plan (see schedule summary in Section 4). Those evaluations and

[8] As described in Section 4.3.5 of the HHRA (EPA 2005), EAs were defined by EPA starting with individual tax parcels. The parcels were kept intact, subdivided, or combined with adjacent parcels based on similarity of land use, similarity of ownership, and/or number of available soil samples. In many cases, parcel boundaries extend beyond the lateral boundaries of the ROR (defined in the CD as the 1 mg/kg PCB isopleth in Reaches 5 and 6, which is approximated by the 10-year floodplain); however, the EAs evaluated for potential soil remediation will be limited to the portion of the floodplain between the edge of the Housatonic River and the ROR floodplain boundary.

[9] Specifically, as described in the HHRA, several EAs were divided into subareas based on the observation that distinct activities could occur at different locations within the EA. In these cases, a risk assessment was conducted for the activity in the subarea in addition to the activity in the EA as a whole.

[10] It should be noted that only one small vernal pool was previously identified by EPA in the Reach 6 floodplain. That pool and any other potential vernal pools in Reach 6 will be evaluated in accordance with the BRA Work Plan for Reaches 5B-8 (AECOM 2023a). See the last paragraph in Section 3.3.2.1.

surveys will also include updating the accessibility categories for the floodplain in Reach 6 (i.e., walkable, wadable, difficult, and boatable) to meet DQO 5.

In addition, survey activities will include delineation of the extent of the Frequently Used Subareas within Reach 6 because these areas were defined at a relatively coarse spatial resolution in the RCMS. For example, in the RCMS, all trails/paths were defined as approximately 10-foot-wide corridors, while aerial photos were used to define all other types of these areas. For each of the Frequently Used Subareas in Reach 6, the actual extent of the area that appears to be frequently used will be identified by visual observations (e.g., hiking/biking trails with either disturbed or absent vegetation) and will be surveyed using traditional survey equipment or DGPS.

Section 3.3.2.1 describes the approach used to identify proposed soil PCB sampling locations, and Section 3.3.2.2 provides a detailed description of the soil PCB sampling needs in each of the five EAs located within Reach 6. These sampling activities will meet DQOs 4 and 6 through 9. The proposed soil PCB sampling locations shown in this work plan should be considered preliminary and subject to change based on any future updates to the super habitat mapping. Any changes to the proposed soil sampling locations will be submitted to EPA for review and approval. All samples designated for PCB analysis will be analyzed for PCBs as Aroclors using EPA Method 8082, applying QA/QC measures specified in GE's current FSP/QAPP (Arcadis 2013) or, if a revised FSP/QAPP applicable to the ROR has been submitted and approved by that time, the QA/QC measures specified in that FSP/QAPP. As described below, some sample depth increments will be archived for potential future PCB analysis depending on the results from other depth increments.

3.3.2.1 Approach to Identifying Proposed Sampling Locations

Section 3.2.1 of the Reach 5A Floodplain PDI Work Plan (Anchor QEA 2021) provides a detailed description of the approach used to identify proposed floodplain soil PCB sampling locations in that reach. Those same methods have been applied to the floodplain EAs located in Reach 6. In summary, sampling locations were generally determined using a grid-based sampling approach. Sample locations were generally spaced 100 feet apart in floodplain areas that are within 200 feet of the river/pond. The floodplain in Reach 6 is relatively narrow so most areas do not extend farther than 200 feet from the river/pond; however, in the limited areas where the floodplain is wider, sample spacing increases to 300 feet. In addition, GE has increased the sampling density in low-elevation areas farther from the river to a spacing of 100 feet (for consistency with the sampling approach used in Reach 5A). Consistent with the floodplain sampling approach used in Reach 5A, the 100-foot/300-foot sample spacing described above was modified such that sampling locations provided adequate spatial coverage in each unique super habitat area and avoided being projected (i.e., interpolated) across non-contiguous super habitats or across the river. Therefore, a minimum of two sample locations were placed in each unique super habitat area, even if it required locating samples closer together than 100 or 300 feet (depending on distance from the river). Also, sample

locations within Frequently Used Subareas were spaced approximately 100 feet apart regardless of distance from the river.

Depth of sampling and the vertical segmentation of floodplain soil samples to be collected in the Reach 6 EAs will be consistent with those in Reach 5A. In summary, soil sampling is required to a total depth of one foot within the EAs and three feet within the Frequently Used Subareas. There are several areas of the Reach 6 floodplain where samples have been collected previously only from the 0- to 6-inch interval. New PDI samples representing the top foot of soil will be segmented into 0- to 6-inch and 6- to 12-inch intervals. At selected locations where data from the 0- to 6-inch interval already exist, only the 6- to 12-inch interval will be submitted for PCB analysis initially, and the new 0- to 6-inch interval will be archived for potential future analysis if necessary based on the result from the 6- to 12-inch interval.[11] At proposed locations within the Frequently Used Subareas where sampling is required to a depth of three feet, samples will be collected in 0- to 6-inch, 6- to 12-inch, 12- to 24-inch, and 24- to 36-inch intervals. At selected locations where data from the 0- to 6-inch and 12- to 36-inch intervals already exist, only the 6- to 12-inch interval will be submitted for PCB analysis initially, and the new 0- to 6-inch and 12- to 36-inch intervals will be archived for potential future analysis, if necessary, based on the results from the initially analyzed interval.[12] Appendix C provides a complete summary of the proposed floodplain soil sampling, including the sample segmentation and archiving for each tax parcel (this appendix also lists the townships associated with each tax parcel).

With respect to vernal pools, because only one small potential vernal pool has been identified previously in Reach 6, this Revised Reach 6 PDI Work Plan does not currently include any proposed soil PCB sampling in that area. However, if it is determined during BRA activities conducted prior to performance of the PDI that that pool meets the applicable criteria for a certifiable vernal pool and/or that any other certifiable vernal pools are present in Reach 6, GE will conduct sampling in those certifiable vernal pools concurrently with the other Reach 6 PDI sampling.

3.3.2.2 Proposed Sampling Locations

This section provides a detailed description of PDI sampling needs in each of the five EAs in Reach 6. Each subsection includes a summary of the EA, including a count and list of properties (i.e., tax parcels) or portions of properties within the EA, the exposure scenario(s) evaluated in the HHRA and RCMS for that EA (including any subarea[s] and/or Frequently Used Subareas evaluated in the

[11] Analysis of an archived PDI sample from the 0- to 6-inch depth interval may be necessary if the result from the 6- to 12-inch PDI sample is unexpected and indicates an apparent inconsistency with the historical sample data from the 0- to 6-inch depth. Analysis of any held samples will be determined in consultation with EPA and will be subject to EPA approval.

[12] The need for analysis of such archived samples will be determined based on the same considerations described in the prior footnote but applied to the pertinent depth intervals. Again, that determination will be made in consultation with EPA and will be subject to EPA approval.

RCMS), and a summary of the existing soil PCB data coverage. Following this background information, the proposed PDI sample locations are specified, including the rationale for the number, location, and depth of the samples proposed in each EA.

Figures 3-4 through 3-8 show the following for each EA:

- EA and subarea boundaries;
- Super habitats and accessibility categories based on Woodlot (2002);
- Frequently Used Subareas (where present);
- Core Area 1 habitat, if any;
- Existing floodplain soil PCB samples;
- An approximate 50-foot grid and a line showing a distance of approximately 200 feet from the river shoreline (to provide a visual scale for the targeted inter-sample spacing, not to specifically determine sample locations); and
- Proposed PDI soil sample locations in the EAs.

3.3.2.2.1 Exposure Area 56

EA 56 occupies approximately 33 acres and is partially within Reach 6, with the northern two-thirds of this EA located in upstream Reach 5C. This EA consists of a portion of Tax Parcel 9-18 in Lenox, which is a privately owned parcel (see Figure 3-4). EA 56 was classified by EPA as a medium-use area and was evaluated in the HHRA and RCMS using the general recreation exposure scenario for older child and adult receptors (RCMS Table 4-1). EPA also identified one subarea within EA 56 (Subarea 56a). Subarea 56a is a relatively narrow (approximately 25 feet wide) strip of land that encompasses the shoreline portion of EA 56 and represents the portion of this EA where a waterfowl hunting exposure scenario was applied (RCMS Table 4-1). The majority of this EA is classified as walkable with a small portion considered to be wadable and/or difficult-to-access. More than 70% of this EA is considered to be Core Area 1 habitat, and there are no Frequently Used Subareas within this EA.

Previous soil PCB sampling in EA 56 resulted in the analysis of 29 samples from the 0- to 6-inch depth interval and 11 samples from the 6- to 12-inch depth interval. GE proposes to collect soil samples from the top foot of soil at 112 locations within EA 56 (including 45 locations in Subarea 56a), as shown on Figure 3-4. These include samples in two islands located south of EA 56a that EPA inadvertently excluded from an EA in its HHRA. At 100 of the 112 locations, both the 0- to 6-inch and the 6- to 12-inch depth intervals will be submitted for PCB analysis; and at the remaining 12 locations (which have existing 0- to 6-inch data), only the 6- to 12-inch depth interval will be submitted for initial analysis, and the top 0- to 6-inch depth interval will be archived.

3.3.2.2.2 Exposure Area 57

EA 57 occupies approximately 13 acres and is partially within Reach 6, with the northern half of this EA located in upstream Reach 5C. This EA is a portion of Tax Parcel 1-1 in Lee on the eastern side of Woods Pond, which is owned by Massachusetts Division of Fisheries and Wildlife (see Figure 3-5). EA 57 was classified by EPA as a high-use area and was evaluated in the HHRA and RCMS using the general recreation exposure scenario for older child and adult receptors (RCMS Table 4-1). Portions of this EA are classified as walkable, wadable, and difficult-to-access. No Core Area 1 habitat or Frequently Used Subareas are present within this EA.

Previous soil PCB sampling in EA 57 resulted in the analysis of 28 samples from the 0- to 6-inch depth interval and two samples from the 6- to 12-inch depth interval. GE proposes to collect soil samples from the top foot of soil at 92 locations within EA 57, as shown on Figure 3-5. At 74 of the 92 locations, both the 0- to 6-inch and the 6- to 12-inch depth intervals will be submitted for PCB analysis; and at the remaining 18 locations (which have existing 0- to 6-inch data), only the 6- to 12-inch depth interval will be submitted for initial analysis, and the top 0- to 6-inch depth interval will be archived.

3.3.2.2.3 Exposure Area 58

EA 58 is an approximately 1.3-acre area located southeast of Woods Pond. This EA is a portion of a privately owned Tax Parcel 2-8 in Lee (see Figure 3-6). EA 58 was classified by EPA as a high-use area and was evaluated in the HHRA and RCMS using the general recreation exposure scenario for adult receptors (RCMS Table 4-1). Approximately half of this EA is walkable with the remaining area being wadable and or difficult-to-access. This EA also includes a dirt road/walking path that is defined as a Frequently Used Subarea in the Revised Final Permit. No Core Area 1 habitat is present within this EA.

Previous soil PCB sampling in EA 58 resulted in the analysis of six samples from the 0- to 6-inch depth interval and none within the 6- to 12-inch depth interval. GE proposes to collect soil samples to a depth of one foot at 12 locations within EA 58 and soil samples to a depth of three feet at 10 locations within this EA, as shown on Figure 3-6.[13] At nine of the 12 locations, both the 0- to 6-inch and the 6- to 12-inch depth intervals will be submitted for PCB analysis; and at the remaining three locations (which have existing 0- to 6-inch data), only the 6- to 12-inch depth interval will be submitted for initial analysis, and the top 0- to 6-inch depth interval will be archived. At each of the three-foot depth locations, the entire three-foot depth interval will be analyzed in 0- to 6-inch, 6- to 12-inch, 12- to 24-inch, and 24- to 36-inch increments.

[13] A portion of the Frequently Used Subarea in this EA is located near, but outside of, the 1 mg/kg PCB isopleth. GE has sited three sampling locations in this area given the close proximity to the isopleth.

3.3.2.2.4 Exposure Area 59

EA 59 is an approximately 1.9-acre area located south of Woods Pond. This EA consists of portions of privately owned Tax Parcels 2-4 and 2-12 in Lee (Figure 3-7). EA 59 was classified by EPA as a high-use area and was evaluated in the HHRA and RCMS using the general recreation scenario for older child and adult receptors (RCMS Table 4-1). EPA also identified one subarea within EA 59 (Subarea 59a). Subarea 59a is a relatively narrow (approximately 25 feet wide) strip of land that encompasses the shoreline portion of EA 59 and represents the sub-portion of the EA, which was evaluated in the HHRA and RCMS using the bank fishing scenario (RCMS Table 4-1). This entire EA is characterized as walkable. This EA includes a dirt road/walking path connecting to the Woods Pond footbridge that is defined as a Frequently Used Subarea in the Revised Final Permit. No Core Area 1 habitat is present within this EA.

Previous soil PCB sampling in EA 59 resulted in the analysis of 12 samples from the 0- to 6-inch depth interval and three samples from the 6- to 12-inch depth interval. GE proposes to collect soil samples to a depth of one foot at 14 locations within EA 59 (including 11 locations in Subarea 59a) and soil samples to a depth of three feet at 11 locations within this EA, as shown on Figure 3-6.[14] At 12 of the 14 locations, both the 0- to 6-inch and 6- to 12-inch depth intervals will be submitted for PCB analysis; and at the remaining two locations (which have existing 0- to 6-inch data), only the 6- to 12-inch depth interval will be submitted for initial analysis, and the top 0- to 6-inch interval will be archived. At each of the three-foot depth locations, the entire three-foot depth interval will be analyzed in 0- to 6-inch, 6- to 12-inch, 12- to 24-inch, and 24- to 36-inch increments.

3.3.2.2.5 Exposure Area 60

EA 60 is an approximately one-acre area located southwest of Woods Pond. This EA consists of a portion of privately owned Tax Parcel 9-16 in Lenox (see Figure 3-8). EA 60 was classified by EPA as a high-use area and was evaluated in the HHRA and RCMS using the general recreation scenario for older child and adult receptors (RCMS Table 4-1). EPA also identified one subarea within EA 60 (Subarea 60a). Subarea 60a is a small portion of the EA's northern quarter and was evaluated in the HHRA and RCMS using the recreational canoeist scenario. All of Subarea 60a is defined as a Frequently Used Subarea in the Revised Final Permit. Approximately half of EA 60 is considered walkable, and the remaining area is wadable and/or difficult-to-access. No Core Area 1 habitat is present within this EA.

Previous soil PCB sampling in EA 60 resulted in the analysis of 15 samples from the 0- to 6-inch depth interval and three samples from the 6- to 12-inch depth interval. GE proposes to collect soil samples from the top foot of soil at four locations within EA 60, as shown on Figure 3-8. At one of

[14] A portion of the Frequently Used Subarea in this EA is located near, but outside of, the 1 mg/kg PCB isopleth. GE has sited six sampling locations in this area given the close proximity to the isopleth.

the four locations, both the 0- to 6-inch and the 6- to 12-inch depth intervals will be submitted for PCB analysis; and at the remaining three locations (which have existing 0- to 6-inch data), only the 6- to 12-inch depth interval will be submitted for initial analysis and the top 0- to 6-inch interval will be archived. Within the EA 60a Frequently Used Subarea, GE proposes to collect soil samples to a depth of three feet at three locations. At one location, the entire three feet will be analyzed (in 0- to 6-inch, 6- to 12-inch, 12- to 24-inch, and 24- to 36-inch increments). At the remaining two locations, only the 6- to 12-inch depth interval will be submitted for initial analysis, and the top 0- to 6-inch interval, as well as the 12- to 24-inch and 24- to 36-inch intervals, will be archived.

3.3.2.3 Summary

The pre-design PCB soil sampling proposed herein will involve collection of soil samples from 258 locations within the five non-residential EAs in the Reach 6 floodplain. Of these 258 locations, 234 are one-foot sampling locations and 24 are three-foot sampling locations. Of the 234 one-foot sampling locations, 196 will include PCB analysis of both the 0- to 6-inch and 6- to 12-inch depth intervals (for a total of 392 samples), and 38 will include PCB analysis of just the 6- to 12-inch depth interval (with the 0- to 6-inch depth interval to be archived). Table 3-1 provides a summary of the number of proposed PDI sample locations for each EA. Appendix C provides a full tabular summary of all proposed samples, including grid IDs and depth intervals to be sampled/held.

Table 3-1
Summary of Proposed PDI Sampling Locations at Floodplain Exposure Areas

EA	Parcel	Owner	Number of Existing Samples		Number of Proposed PDI Sampling Locations	
			0–6 inches	6–12 inches	1-foot	3-foot
56	9-18	Private, non-residential	23	7	112	0
57	1-1	MassDFW	29	2	92	0
58	2-8	Private, non-residential	6	0	12	10
59	2-4, 2-12	Private, non-residential	12	3	14	11
60	9-16	Private, non-residential	28	1	4	3
Total			**98**	**13**	**234**	**24**

3.3.3 Sediment Geotechnical Characterization

Geotechnical characterization will be performed to support the sediment removal design for Woods Pond. Specifically, geotechnical characterization data will provide information about the material types that will be subject to dredging, including the feasibility of hydraulically transporting the dredged material to the UDF in accordance with Section II.B.2.e.(1)(b) of the Revised Final Permit,

and to support an assessment of slope stability of sediment that will remain in the pond after dredging (DQO 10).[15]

The geotechnical investigation will include collection of data to identify sediment material types and general index properties (e.g., moisture content, organic content, grain size, Atterberg limits, density, and specific gravity) and to measure the shear strength of the sediment using in situ vane shear testing and laboratory triaxial shear strength testing. The geotechnical sampling will be performed in conjunction with the PCB characterization sampling described in Section 3.3.1 and is described below.

3.3.3.1 Soil/Sediment Properties

A subset of the sediment samples collected as described in Section 3.3.1 will be analyzed for geotechnical parameters. Specifically, 25% of the sediment samples collected will be selected and submitted for analysis for the following geotechnical parameters:[16]

- Moisture content (using ASTM D2216/D2974A);
- Organic content (using ASTM D2974);
- Particle size analysis (using ASTM D6913/D7928); and
- Atterberg limits for fine-grained materials (using ASTM D4318).

In addition, a smaller subset of the geotechnical samples (approximately 10% to 20% of the initial subset of samples collected for the index property testing described above) will be submitted for bulk density analysis (using ASTM D7263), and up to five samples from each unique geologic material type encountered within Woods Pond will be submitted for specific gravity analysis (using ASTM D854).

The geotechnical samples will be collected from the same core locations targeted for PCB sampling, as described in Section 3.3.1, and from two underlying one-foot depth intervals that will provide physical data for sediment estimated to remain after dredging. The geotechnical samples will be collected from the full thickness of continuous geologic material types in a particular core. For example, if there is a continuous sand layer from 12 to 30 inches, the sample will be collected over that full thickness, rather than limiting the sample to a 12-inch section. Samples will not be composited from multiple core locations.

[15] After completion of the Reach 6 PDI, additional treatability testing of the sediment may be proposed as part of the Conceptual RD/RA Work Plan for this reach to evaluate the ability and methods for hydraulic transport and dewatering of sediment dredged from Woods Pond (see also the schedule summary in Section 4).

[16] The PDI sediment property data from these analyses will be used in conjunction with available historical sediment data on the same geotechnical parameters (as appropriate) to support design evaluations.

The specific samples to be subject to geotechnical analyses (i.e., 25% of the overall sediment samples collected) will be selected in the field to provide data that are spatially representative of Woods Pond, the headwaters, and the outlet channel. Samples will also be selected to provide data for each unique geologic material type and from various sampling depths, including sediment targeted for removal and sediment that will remain after dredging. The geotechnical data will provide information regarding the sediment type and particle size distribution that will be used to evaluate sediment handling and transport methods during the remedial design.[17]

Table 3-2 provides a summary of the target number of samples for testing of each geotechnical parameter along with the analytical methods.

Table 3-2
Summary of Geotechnical Parameters Testing

Parameter	Analytical Method	Approximate Number of Samples
Moisture Content	ASTM D2216/D2974A	150
Organic Content	ASTM D2974	150
Particle Size	ASTM D6913/D7928	150
Atterberg Limits	ASTM D4318	TBD[1]
Bulk Density	ASTM D7263	30
Specific Gravity	ASTM D854	25

Note:

1. TBD (to be determined): The number of samples to be analyzed for Atterberg limits will depend on the amount of fine-grained sediments encountered.

3.3.3.2 In Situ Vane Shear Testing

In situ vane shear testing will be conducted within Woods Pond to measure the undrained shear strength of the relatively soft, fine-grained sediments (clays and silts). The vane shear testing will focus on areas where fine-grained sediments are expected, which is currently expected to include most of the pond. The vane shear testing will be performed using a hand-held vane shear test apparatus. The vane shear testing will be conducted within the same 200-foot sampling grid used for the PCB characterization sampling described in Section 3.3.1, and the locations for this testing will be co-located with those locations (Figure 3-9).

The vane shear testing in Woods Pond will be conducted using a hand-held vane shear testing apparatus in one-foot increments starting one foot below the existing mudline and advancing to refusal. The actual testing locations may be adjusted in the field based on observations of the

[17] The sediment geotechnical data may be supplemented with treatability testing to evaluate sediment handling and transport methods. Any such treatability testing will be proposed in the Conceptual RD/RA Work Plan for Reach 6, as described in Section 4.

material types encountered during the PCB characterization sampling. The test method is not applicable to coarse-grained sediment (i.e., sand), so it will not be performed in locations (if any) where that material type is encountered. Vane shear testing will be conducted in general accordance with ASTM D2573/D2573M and the standard operating procedure provided in Appendix H to the Reach 5A Sediment/Bank PDI Work Plan (Anchor QEA and AECOM 2022).

3.3.3.3 Laboratory Sediment Strength Testing

The geotechnical investigation program will also include laboratory testing of sediment shear strength for both sediment to be dredged and sediment that will remain in place after dredging. The sediment samples collected for this testing will focus on near-shore areas. These data will be used to evaluate dredge prism slope stability in the near-shore areas, where the slopes will be designed to be stable, yet as steep as possible in accordance with the Revised Final Permit. The sediment samples for laboratory strength testing will be collected from up to five locations, as shown on Figure 3-9. At each location, sediment samples will be collected from depths of 4 to 8 feet and 8 to 10 feet below the crest of the Woods Pond Dam. The number and locations of sediment samples collected for strength testing may be adjusted based on field conditions and observations during the sediment sampling program described in Section 3.3.1 to target silt or clay layers.

If undisturbed samples can be collected, the sediment samples will be analyzed for consolidated undrained triaxial shear strength (ASTM D4767). Triaxial strength testing requires the collection of an undisturbed, thin-walled tube sample (ASTM D1587). Vibracore sampling methods will not be used to collect the undisturbed samples. In conjunction with the sediment sampling program described in Section 3.3.1, collection of relatively undisturbed sediment samples will be attempted using manual push core methods. If manual sampling methods are not successful due to the sediment thickness/type, sample collection will be attempted using a vibracore sampler in "non-vibrate" mode or using a slide hammer. If these sampling methods are not successful due to site conditions, alternate equipment and sampling methods will be evaluated and will be applied, as appropriate, as part of supplemental data collection activities to be described in the Conceptual RD/RA Work Plan for Reach 6.

3.4 Summary of Pre-Design Investigation Activities

Table 3-3 summarizes the various field surveys and sampling and analysis activities described in Sections 3.2 and 3.3.

Table 3-3
Summary of Pre-Design Investigation Activities

Program	Survey/Sampling	Description
Field Surveys	Bathymetric Survey	Single-beam sonar survey of Woods Pond in areas not covered by the prior 2022 survey that have sufficient water depth; conventional survey in shallow areas with prior data gaps.
	Sediment Probing	Probing of sediment thickness in Woods Pond to gain an understanding of the sediment thickness and sediment texture.
	Shoreline Structures and Utility Surveys	Utility clearance via Massachusetts Dig Safe and field reconnaissance of in-river or shoreline structures and utilities.
Sampling and Analysis	Woods Pond Sediment PCB Sampling	Collection of sediment cores in Woods Pond to characterize PCB concentrations over the full vertical extent of sediments to be removed to support disposal characterization. Sediment cores will be collected and processed in 12-inch depth intervals.
	Floodplain Soil PCB Sampling[18]	Collection of soil cores in Reach 6 floodplain EAs. Cores to be collected to a depth of one foot except in Frequently Used Subareas where EPA has specified collection of three-foot cores. Cores will be processed in 6-inch depth intervals and submitted for analysis for PCBs.
	Sediment Geotechnical Sampling	Collection of geotechnical characterization data, including various soil/sediment properties (moisture content, organic content, particle size distribution, Atterberg, bulk density, and specific gravity), vane shear testing, and sediment strength testing.

[18] To support this sampling, desktop evaluations and field surveys of the habitat in the Reach 6 floodplain will be conducted as part of baseline restoration assessment activities to update and refine the mapping and characterization of floodplain super habitats and the accessibility assessment in the floodplain in this reach.

4 Schedule and Reporting

GE will initiate the PDI activities described in this Revised Reach 6 PDI Work Plan, with the exception of those relating to floodplain soil sampling, within 45 days after EPA approval of this work plan, to the extent that weather conditions allow. These activities will include the field surveys described in Section 3.2 and the sampling described in Sections 3.3.1 and 3.3.3. These PDI activities are anticipated to commence in the summer of 2023, assuming timely EPA approval of this Revised Reach 6 PDI Work Plan.

As noted in Section 3.3.2, the floodplain soil PCB sampling locations proposed in this Revised Reach 6 PDI Work Plan should be considered preliminary and subject to change based on potential updates to the super habitat mapping in Reach 6. Desktop evaluation of the super habitat boundaries and a field survey to confirm those boundaries in Reach 6 will be conducted as soon as practicable after EPA approval of this Revised Reach 6 PDI Work Plan, with a target of initiating that work within 30 days after that approval, subject to weather constraints for the field surveys. GE will then provide any proposed revisions to target floodplain soil PCB sampling locations to EPA for review and approval within 30 days following completion of the super habitat field survey. Subsequently, GE will initiate floodplain soil PCB sampling within 45 days after EPA approval of the revised sampling locations (if any), subject to weather constraints.

Following completion of the sampling described herein and receipt of the results, GE will evaluate the need for analysis of any archived sediment or floodplain soil samples and/or for additional pre-design sampling or analysis. If GE determines that analysis of held samples is warranted, GE will provide EPA with the results of the sampling completed, consult with EPA regarding the analysis of any archived samples, and, upon agreement, proceed with the analysis of the archived samples. Following any such analyses of archived samples, GE will evaluate the need for additional pre-design sampling and/or other data collection to complete the PDI and will advise EPA of the results of that evaluation. Specifically, if GE determines that additional pre-design sampling and/or data collection is warranted, GE will contact EPA to describe the additional data collection and obtain its concurrence or, if necessary, submit to EPA an addendum to this Revised Reach 6 PDI Work Plan presenting the data received to date and proposing the additional data collection. Upon EPA concurrence or approval, GE will conduct the additional data collection. Once GE determines that no additional pre-design data collection is warranted, GE will notify EPA and proceed to the development of a PDI Summary Report for Reach 6, described in the next paragraph.

Following the completion of all required PDI activities in Reach 6, a PDI Summary Report for Reach 6 will be prepared that summarizes the data collected pursuant to this work plan and any addendum or addenda thereto. That report will include the following:

- A summary of the results of the field surveys described in Section 3.2;

- A summary of the sediment and floodplain soil sampling investigations performed and investigation results in Reach 6;
- A summary of validated analytical data and discussion of any QA/QC issues with the data;
- Data validation reports and laboratory data reports;
- Supporting documentation of the PDI activities (e.g., sampling logs, photographs);
- An electronic spreadsheet with the analytical data and geospatial coordinates for each PDI sample;
- A Geographic Information System (GIS) geodatabase file with the geospatial locations of all PDI sample locations;
- An evaluation of the sufficiency of the data to support sediment and soil removal remedial design/remedial action activities for Reach 6; and
- An identification of any supplemental engineering or other data that may be needed to complete the remedial design, with such supplemental data collection to be described in the Conceptual RD/RA Work Plan for this RU.

Under the schedule set forth in GE's Final Revised OSS (Anchor QEA 2022), the PDI Summary Report for Reach 6 will be submitted concurrently with the Conceptual RD/RA Work Plan for Reach 6. As such, both documents will be submitted within nine months after receipt and validation of all PCB analytical data collected pursuant to this Revised Reach 6 PDI Work Plan (or as otherwise proposed by GE and approved by EPA).

In the meantime, a summary table of the analytical results received each month collected pursuant this Revised Reach 6 PDI Work Plan and any addendum(a) thereto will be included in GE's monthly progress reports under the CD.

The Conceptual RD/RA Work Plan for Reach 6 will include the information specified in Section 4.3.3.1 of the Final Revised SOW. It is anticipated that, for this RU, the Conceptual RD/RA Work Plan will include a Treatability Study Work Plan to describe any necessary treatability testing to support the final design (e.g., testing to evaluate sediment processing options and strength for dewatering, handling, and disposal). The treatability testing will be conducted after submittal of the Conceptual RD/RA Work Plan and prior to submittal of the Final RD/RA Work Plan for Reach 6. In addition, GE notes that the Conceptual RD/RA Work Plan for Reach 6 will provide that, following delineation of the sediments and soils to be removed and the identification of material to be sent to the UDF for disposal versus the material to be transported to an off-site disposal facility, waste characterization sampling of such materials for non-PCB constituents will be conducted to verify that the removed materials will not be classified as hazardous waste under RCRA. Such sampling will be conducted concurrently with supplemental data collection activities after submittal of the Conceptual RD/RA Work Plan and prior to submittal of the Final RD/RA Work Plan for Reach 6.

5 References

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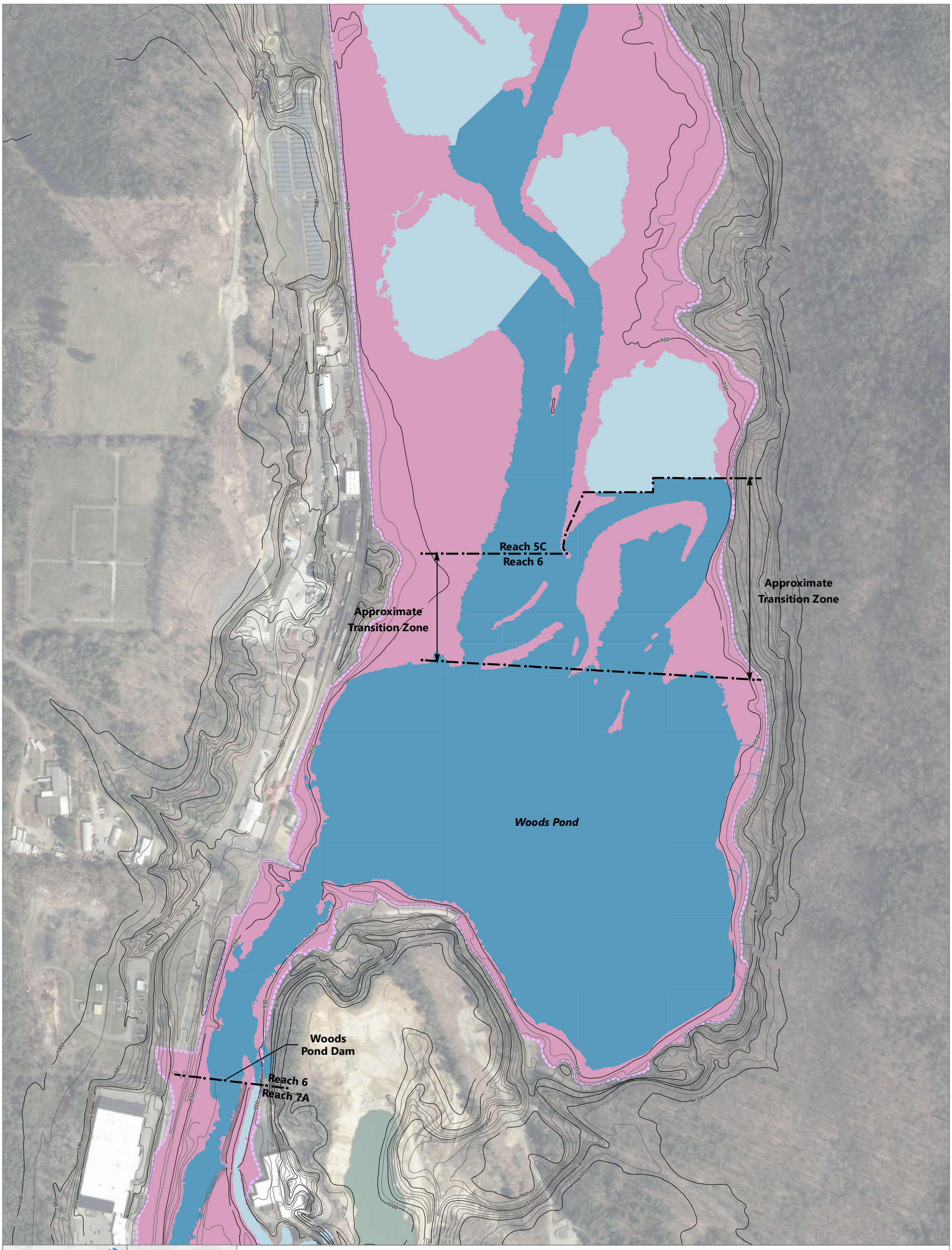
Figures



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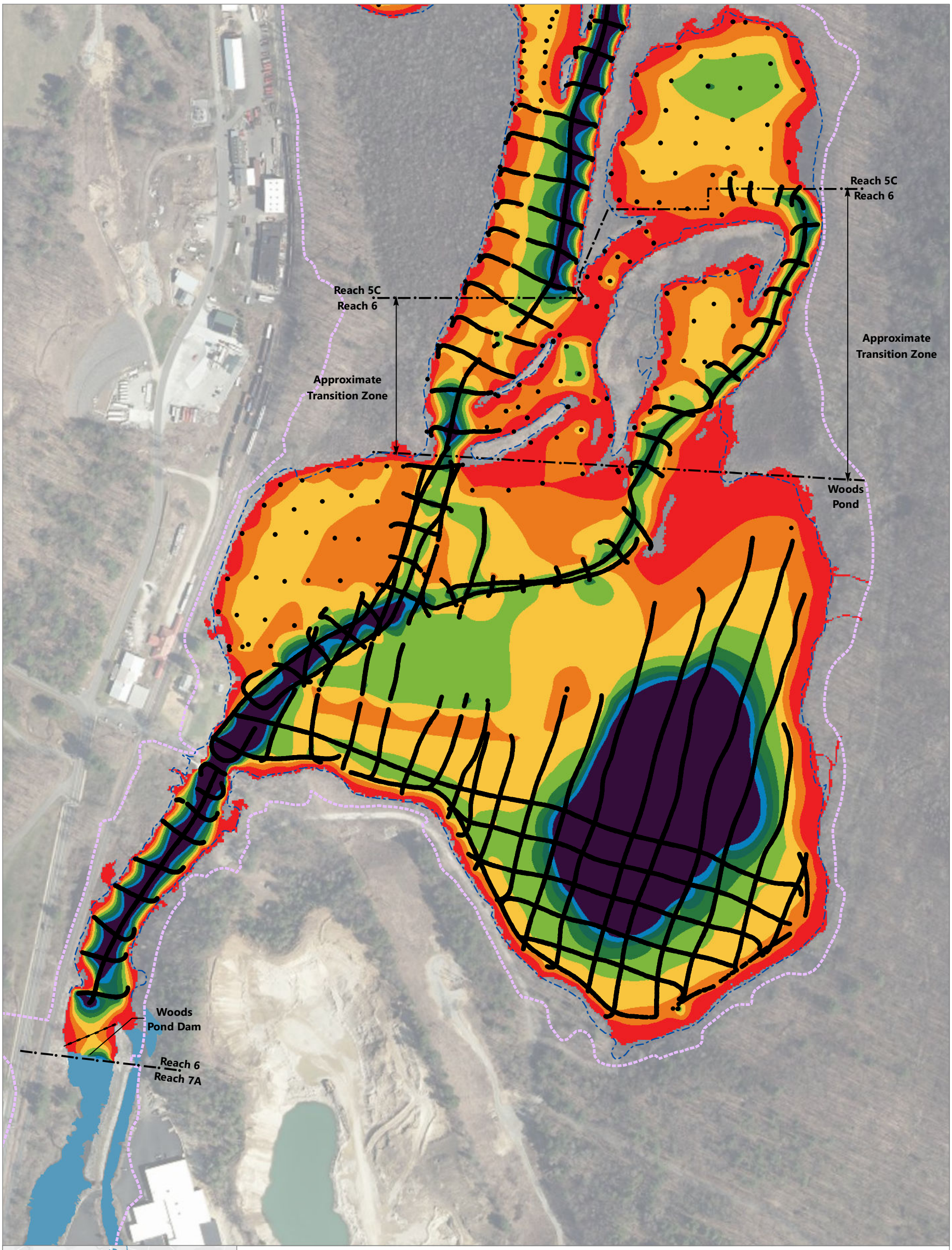
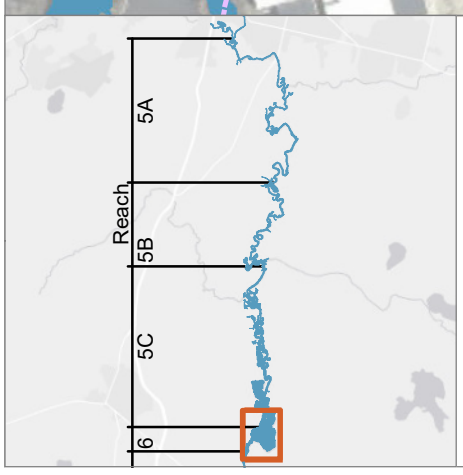
ANCHOR QEA

Figure 1-1
Reach 6 Site Map
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River





LEGEND:

- Housatonic River
- 1 mg/kg PCB Isopleth
- Estimated Bottom of Bank
- Dam Safety Cable
- Single-Beam Bathymetric Survey Points

Bathymetric Elevation (feet NAVD88)

- ≤ 941.7
- 941.8 - 942.7
- 942.8 - 943.7
- 943.8 - 944.7
- 944.8 - 945.7
- 945.8 - 946.7
- 946.8 - 947.7
- > 947.7

NOTES:
1. Aerial imagery from MassGIS 2021.
2. Single-beam bathymetric survey performed by Spicer Group in 2022.

0 300
Feet

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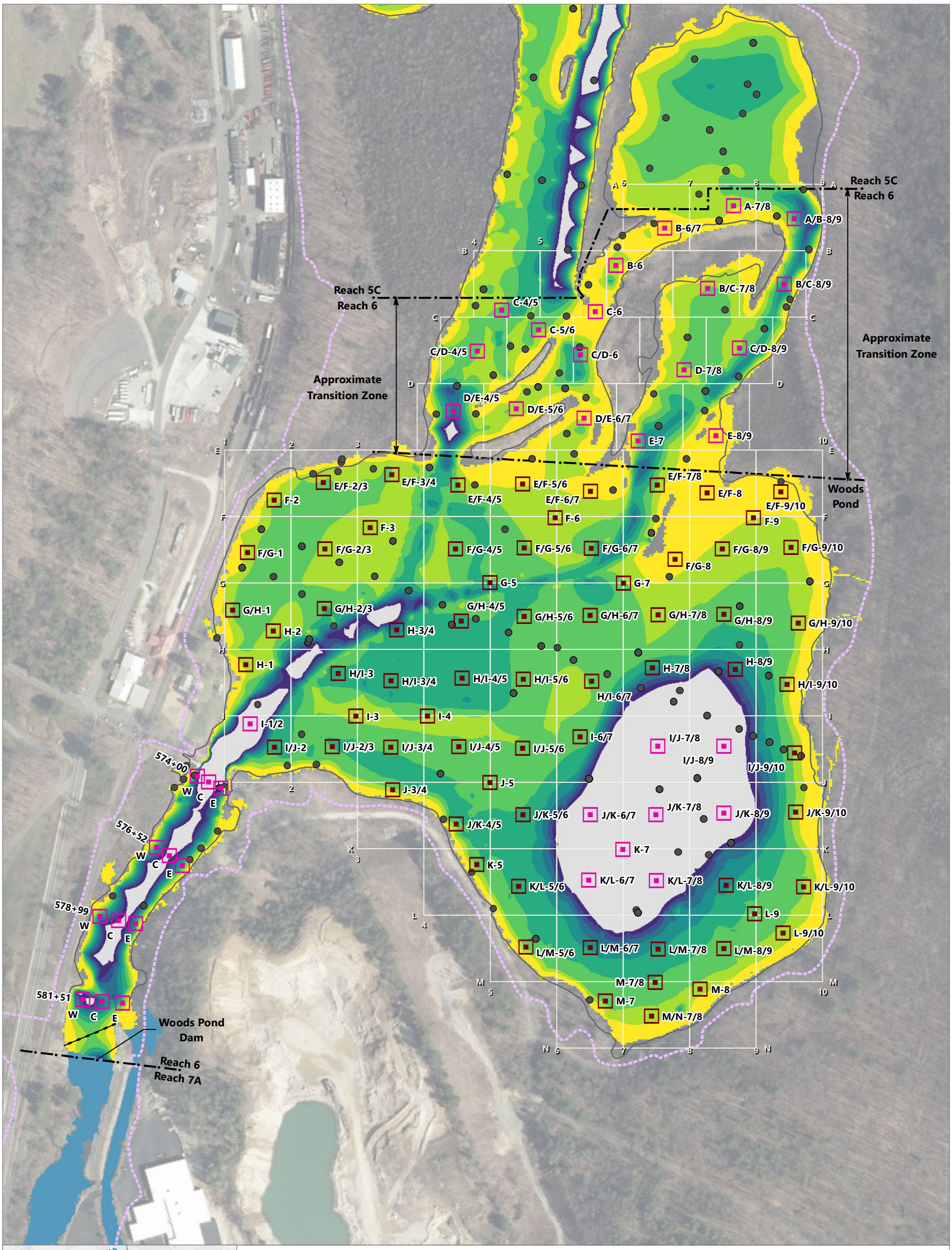
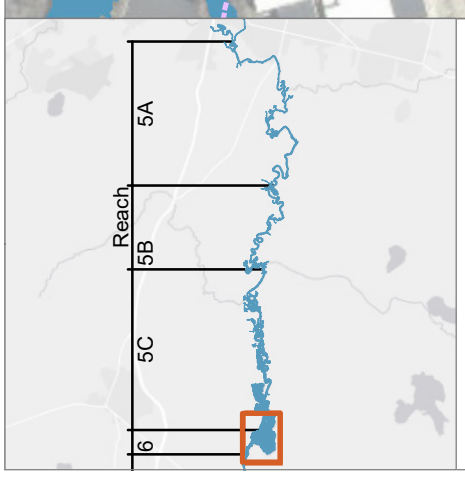
ANCHOR QEA

Figure 3-1
Existing Woods Pond Bathymetry
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River





LEGEND:

- Housatonic River
- 1 mg/kg PCB Isopleth
- 200-Foot Sampling Grid
- Bottom of Bank
- Dam Safety Cable
- Historical Sediment Sample Location

Proposed Sediment Sampling Location

- Sampling to 4-Foot Depth Below Mudline
- Sampling to Elevation 937.7 feet NAVD88 (10 feet below the dam crest)

Water Depth (feet)

- At or Above Spillway Crest
- ≤ 1 foot Below Crest
- 1.1 - 2
- 2.1 - 3
- 3.1 - 4
- 4.1 - 5
- 5.1 - 6
- 6.1 - 7
- > 7 feet Below Crest

NOTES:

1. Aerial imagery from MassGIS 2021.
2. Single-beam bathymetric survey performed by Spicer Group in 2022.
3. Water depths calculated below dam spillway elevation of 947.7 feet NAVD88 (948.3 feet NGVD29).

W = West Side of Channel
C = Center of Channel
E = East Side of Channel

0 300
Feet

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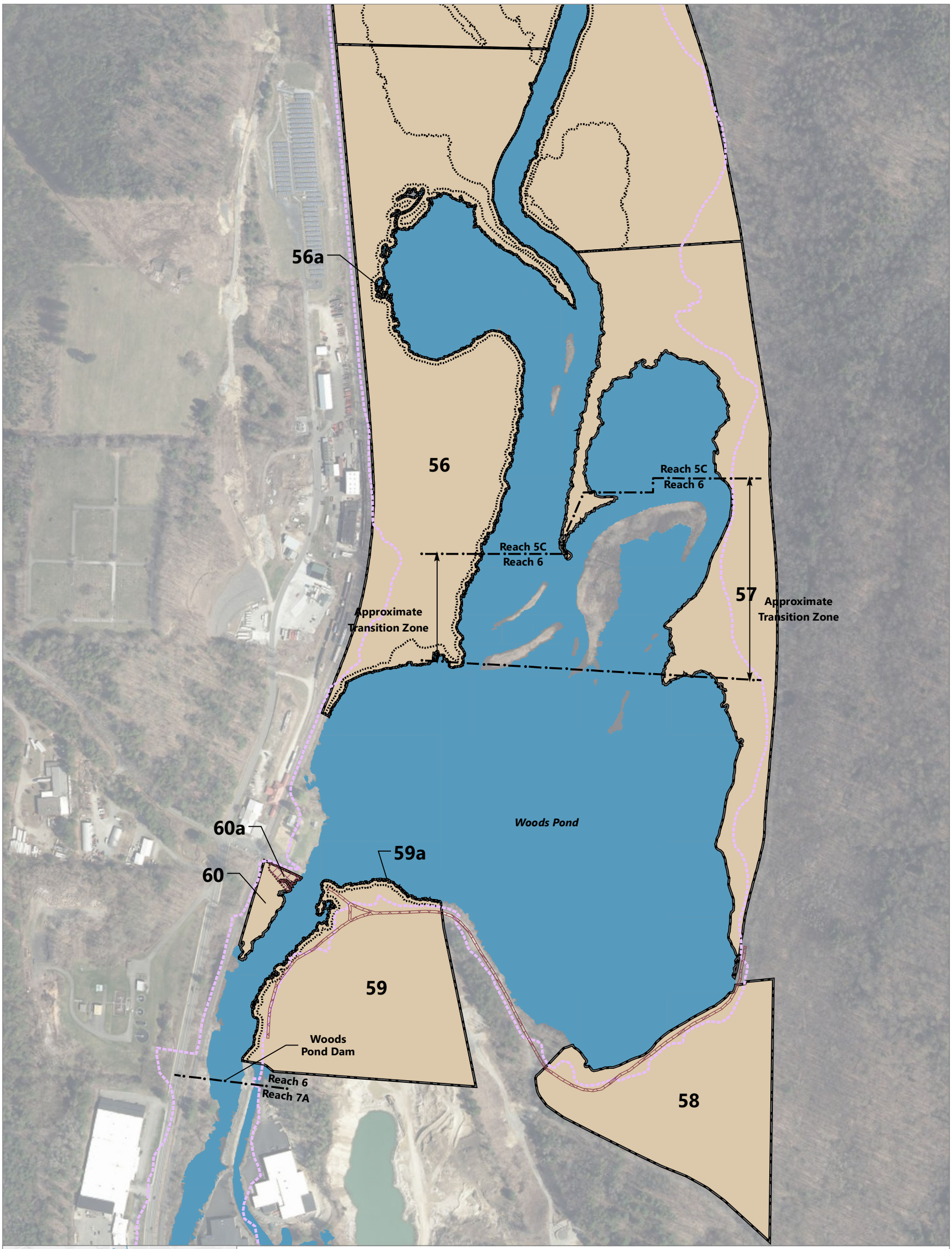
ANCHOR QEA

Figure 3-2
Woods Pond Sediment Sampling Locations
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River



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ANCHOR QEA

Figure 3-3
Exposure Areas, Subareas, and Frequently Used Subareas in Reach 6
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River

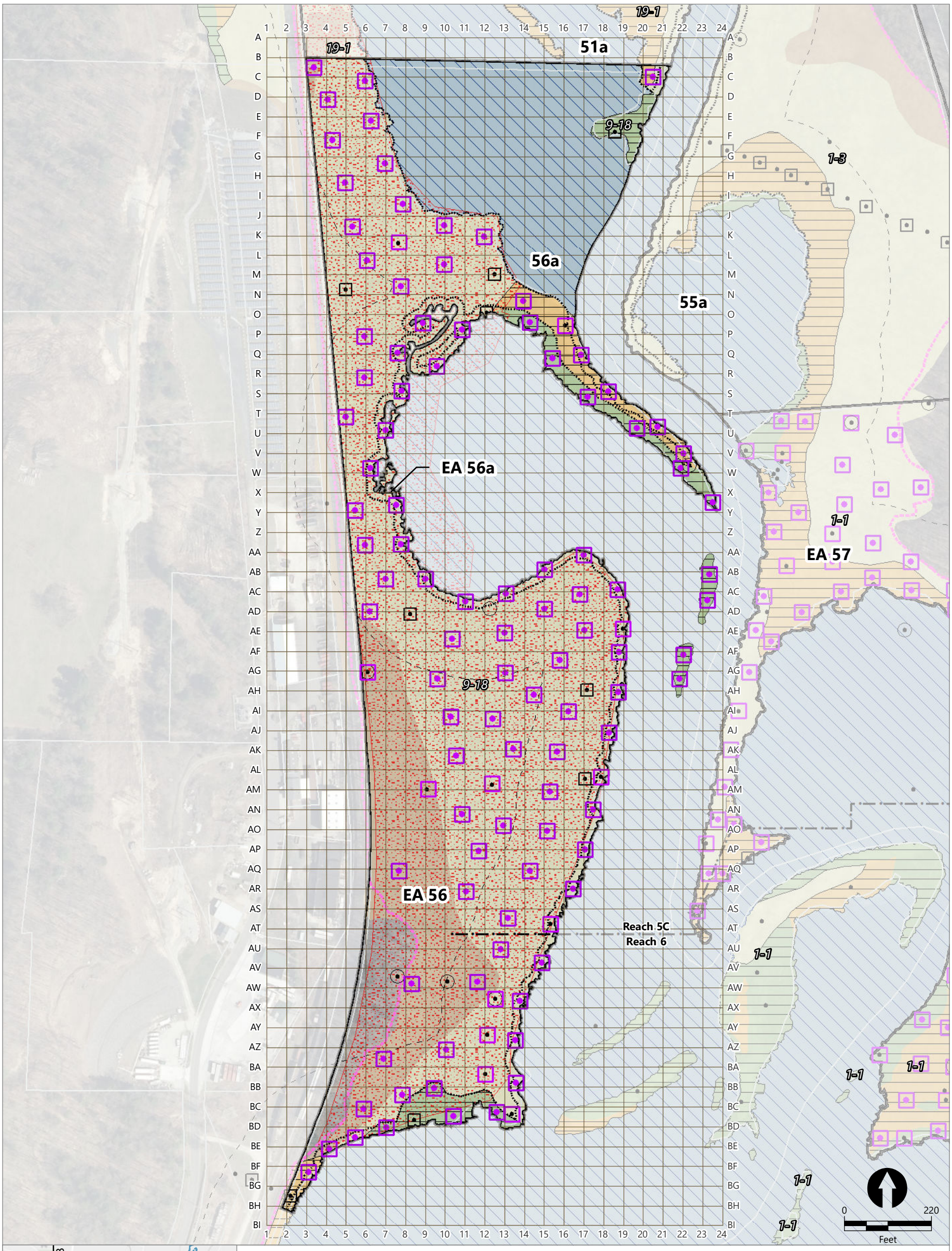

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Figure 3-4
Exposure Area 56
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River

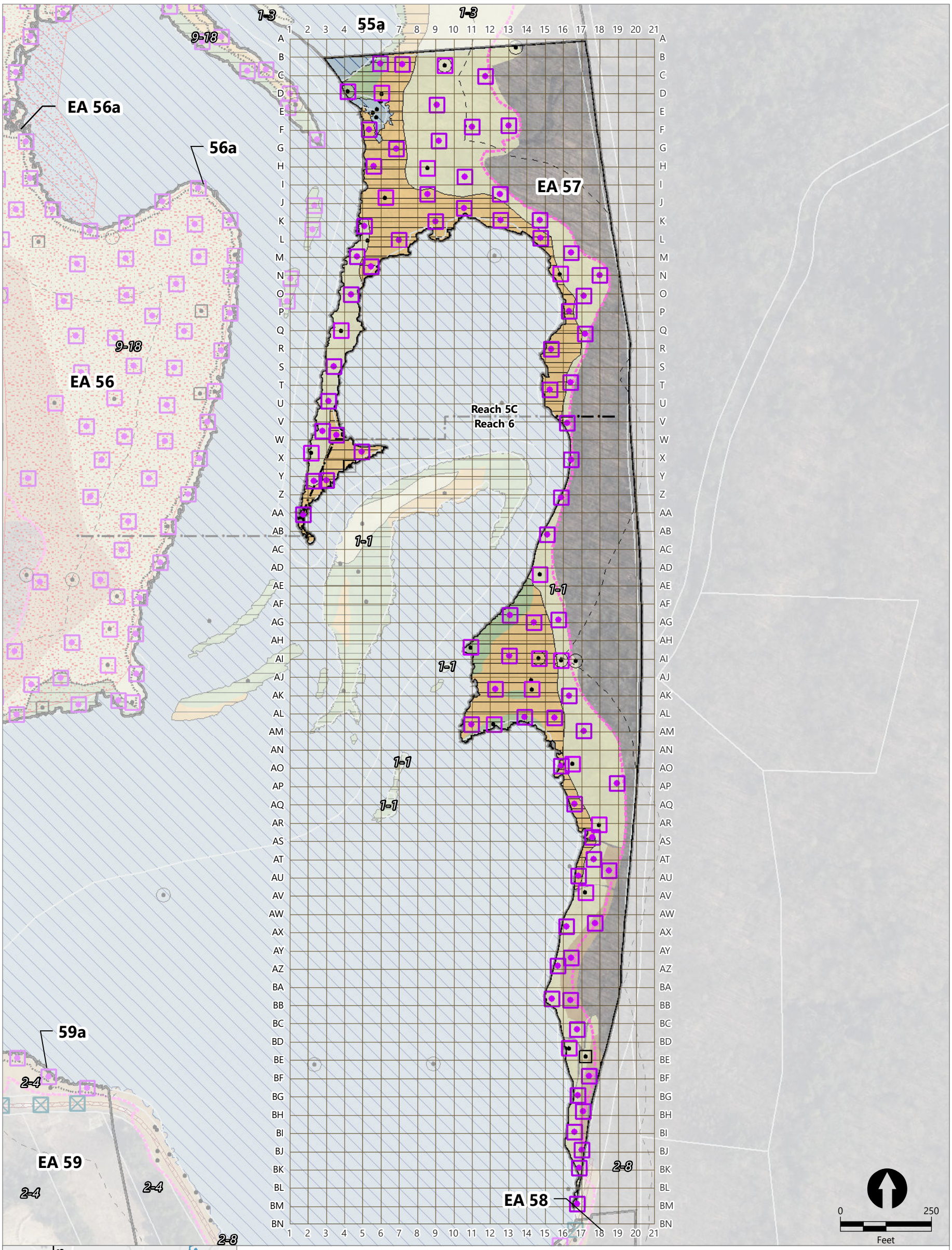

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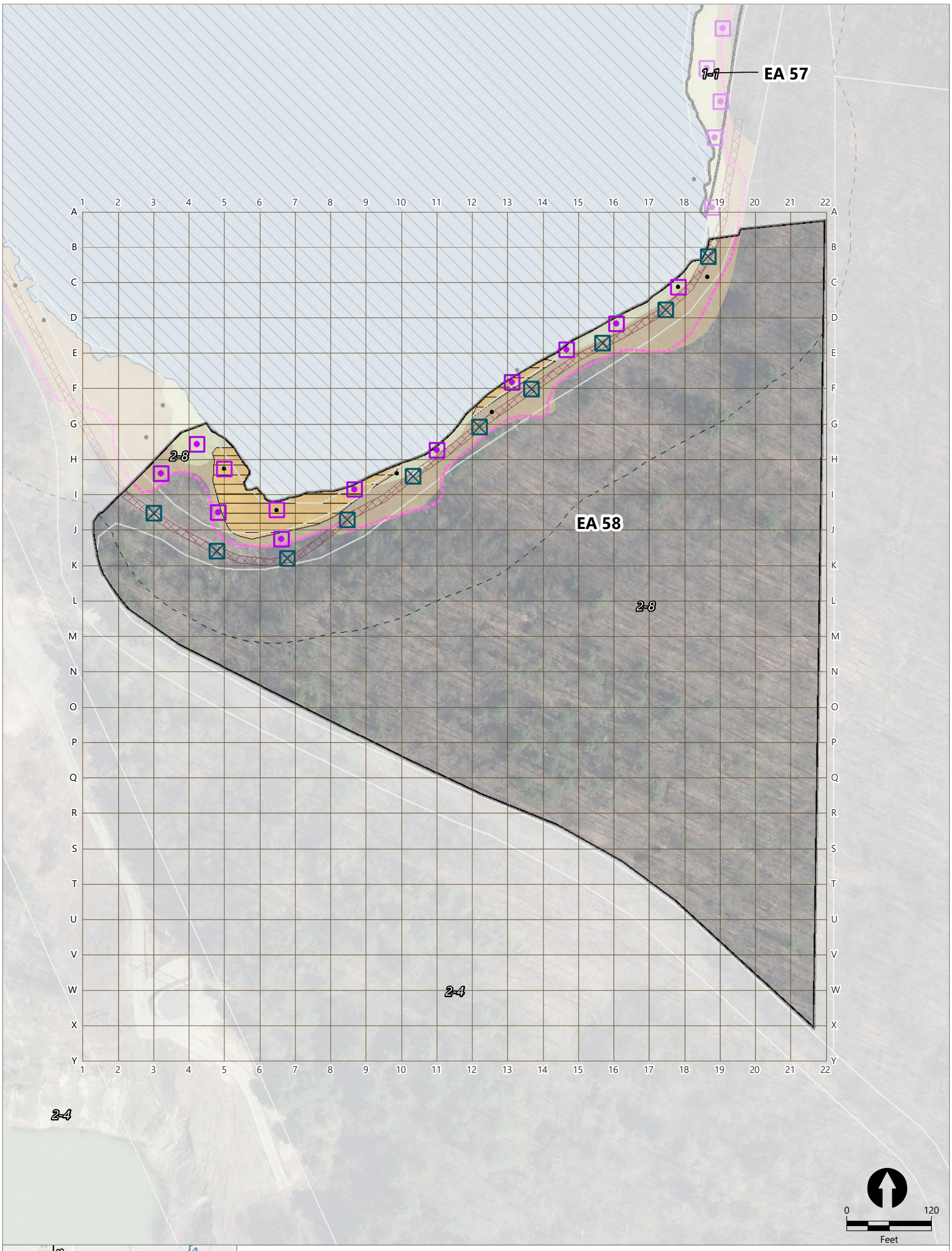
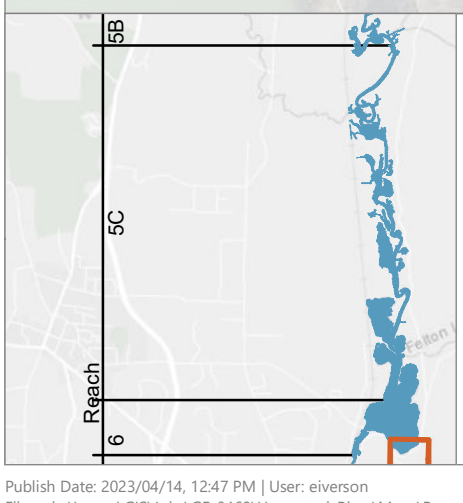
Figure 3-5
Exposure Area 57
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River





LEGEND:

- Tax Parcel Boundary
- Exposure Area Boundary
- 1 mg/kg PCB Isopleth
- Frequently Used Sub-Area (FUSA)
- 200' Shoreline Buffer
- 50-Foot Sampling Grid
- Difficult Access Area
- Boatable Area

Existing Floodplain Soil Sample

- 0 to 6 inches

Proposed Floodplain Sample

- 0-6" and 6-12" Samples
- 6-12" Sample
- 36" Sample

Super Habitats (2002)

- Transitional floodplain forest
- Hardwood forest, agricultural field
- Shrub swamp
- Stream

NOTES:
1. Aerial imagery from MassGIS 2021.
2. Sampled intervals sent for analysis or archive shown in Appendix A.

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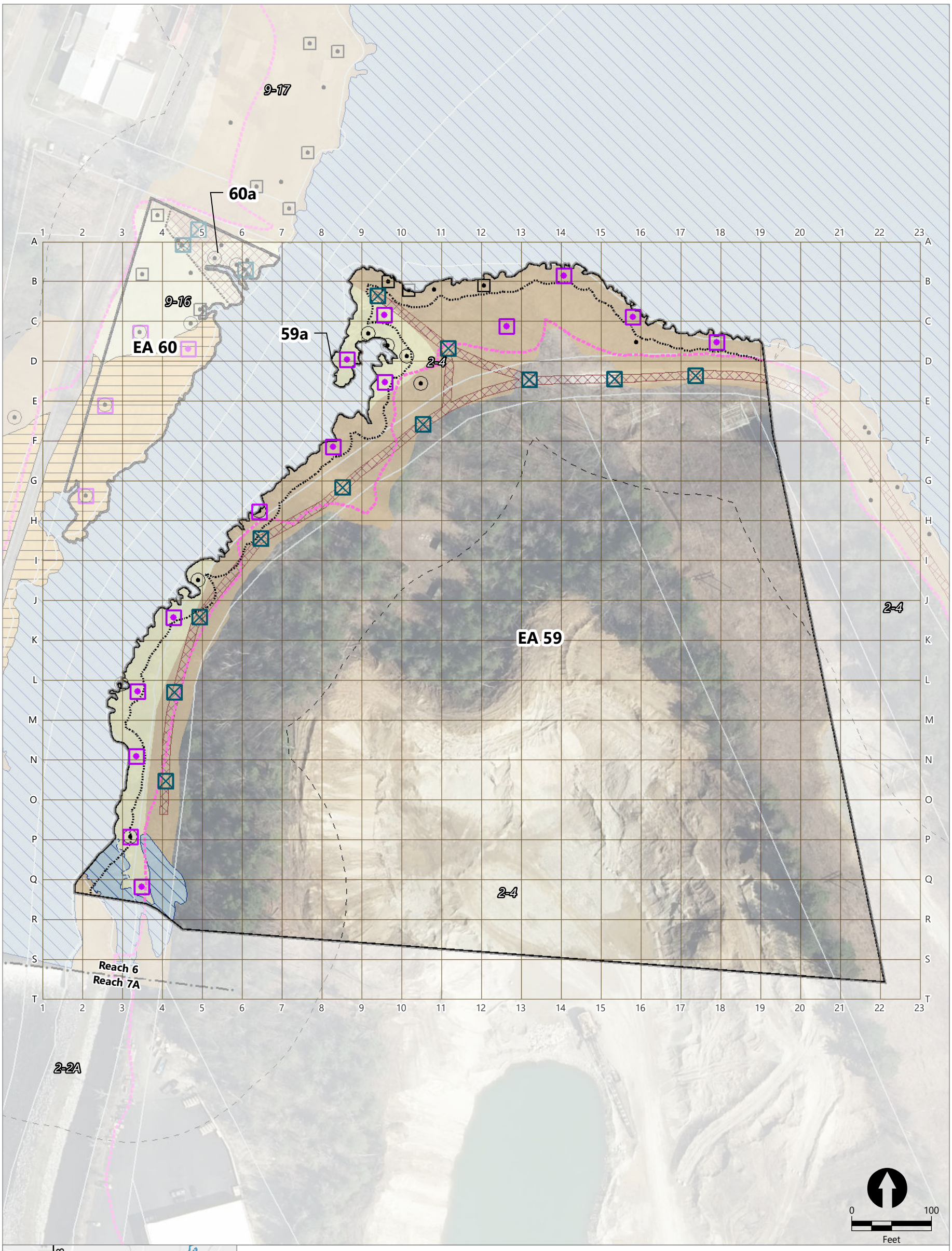
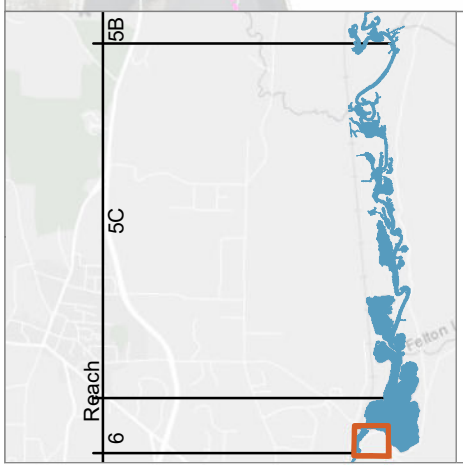
Figure 3-6
Exposure Area 58
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River





LEGEND:

- Tax Parcel Boundary
- Exposure Area Boundary
- Exposure Subarea Boundary
- 1 mg/kg PCB Isopleth
- Frequently Used Sub-Area (FUSA)
- 200' Shoreline Buffer
- 50-Foot Sampling Grid
- Difficult Access Area
- Boatable Area

Existing Floodplain Soil Sample

- 0 to 6 inches
- 6 to 12 inches
- Locations with Data Down to 36 inches

Proposed Floodplain Sample

- 0-6" and 6-12" Samples
- 6-12" Sample
- 36" Sample

Super Habitats (2002)

- Transitional floodplain forest
- Hardwood forest, agricultural field
- Shrub swamp
- Stream

NOTES:
1. Aerial imagery from MassGIS 2021.
2. Sampled intervals sent for analysis or archive shown in Appendix A.

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ANCHOR QEA

Figure 3-7
Exposure Area 59
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River

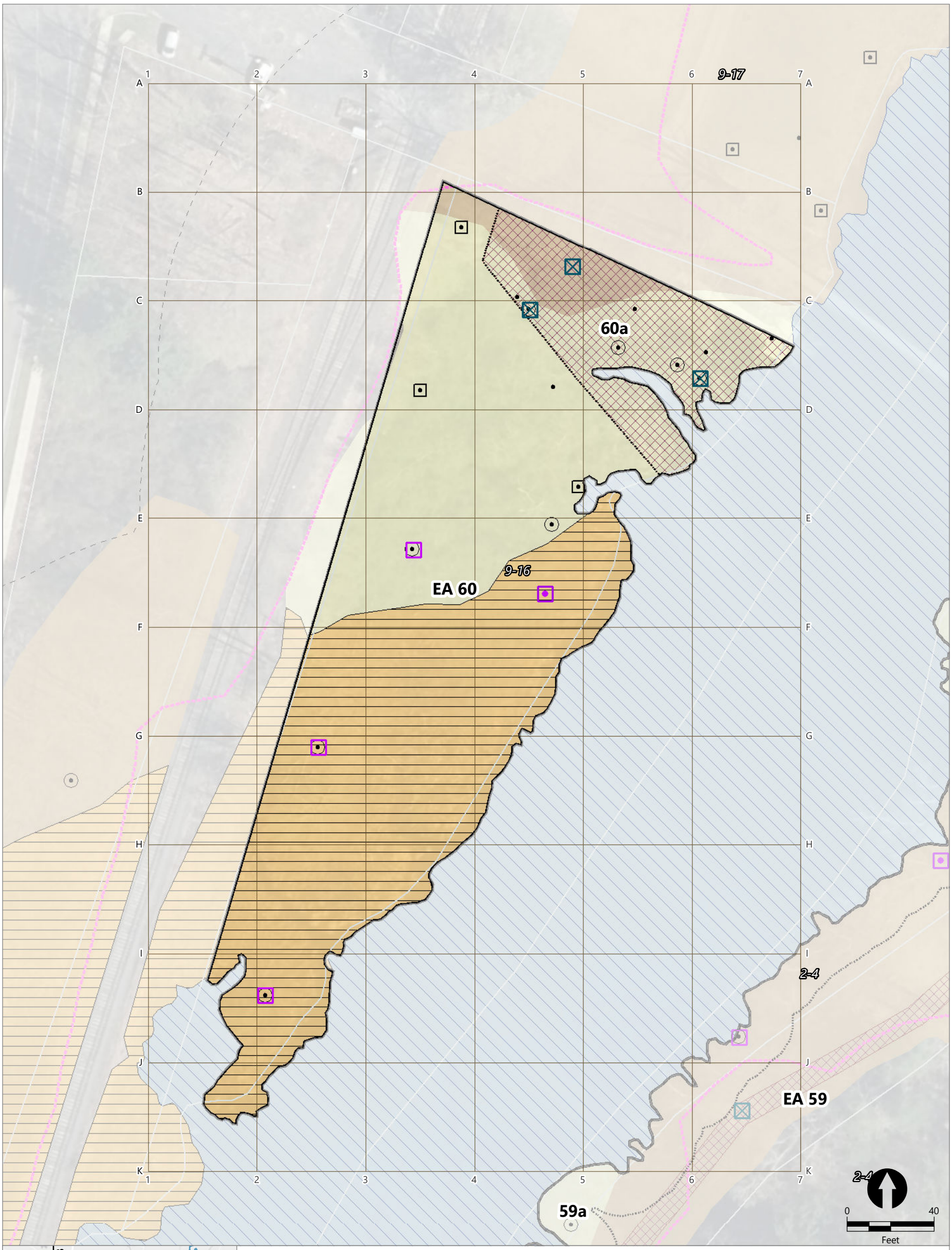

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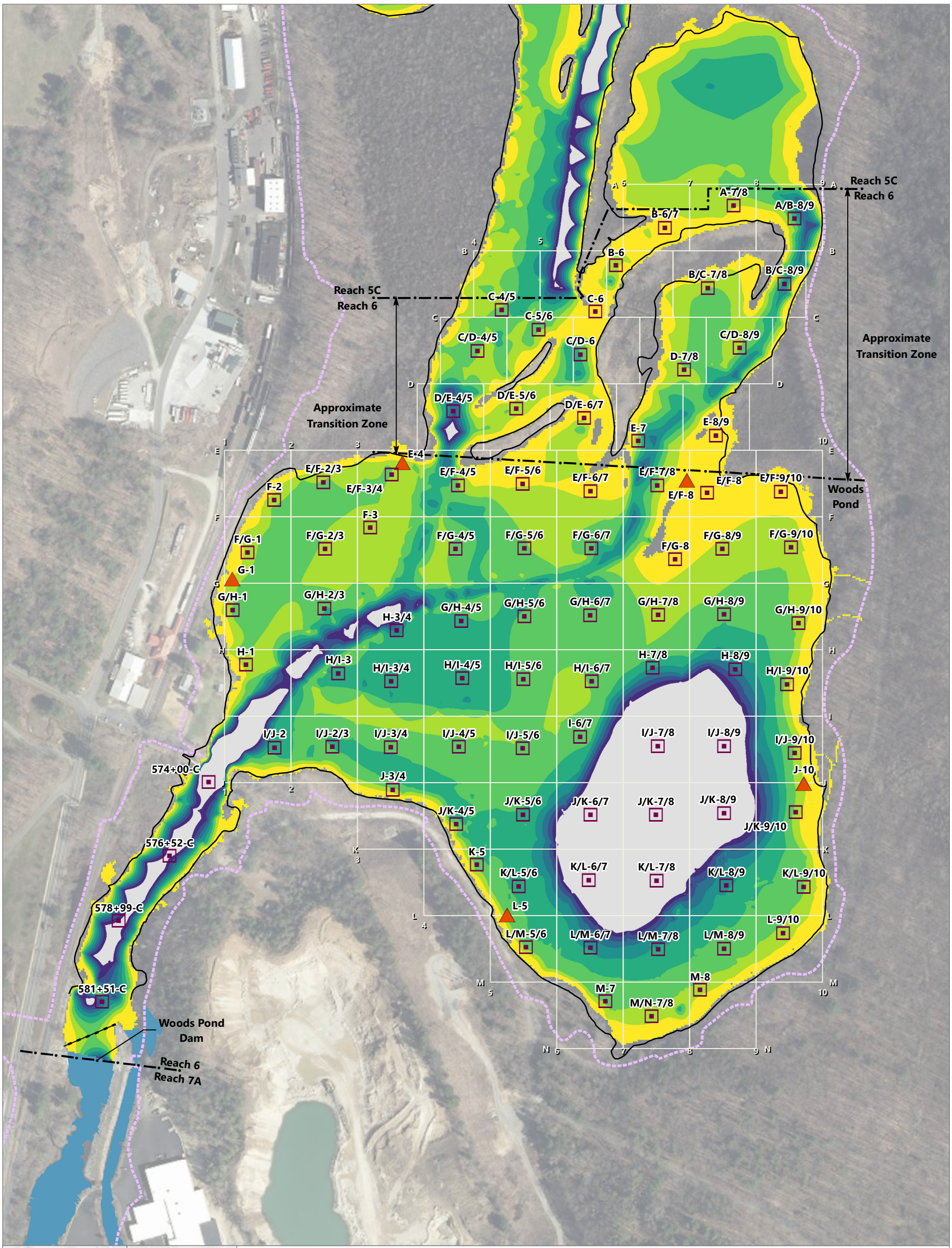
Figure 3-8
Exposure Area 60
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River



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ANCHOR QEA

Figure 3-9
Woods Pond Geotechnical Sampling Locations
Revised Pre-Design Investigation Work Plan For Reach 6
Housatonic River

Appendix A
Methods for Calculation of Floodplain Removal Areas and Volumes

Appendix A
Methods for Calculation of Floodplain Removal Areas and Volume in Reach 6

1 Introduction

This appendix to the *Revised Pre-Design Investigation Work Plan for Reach 6* documents the methods that will be used to delineate the spatial extent and volume of floodplain soil removal from non-residential floodplain Exposure Areas (EAs) in Reach 6 that will be required to achieve the floodplain Performance Standards. The methods described herein are generally consistent with those described in Appendix D of the *Housatonic River – Rest of River, Corrective Measures Study Proposal* (CMSP; Arcadis BBL and QEA 2007) and applied during the Revised Corrective Measures Study (RCMS) to specify the spatial extent and volume of floodplain soil removal for each of the RCMS remedial alternatives. However, some modifications were made to those previously described methods to address the requirements for floodplain soils in the Revised Final RCRA Permit Modification for the Rest of River area (Revised Final Permit; EPA 2020). The methods described herein are the same as those described in the General Electric Company's (GE's) *Second Revised Pre-Design Investigation Work Plan for Reach 5A Non-Residential Floodplain Exposure Areas* (Anchor QEA 2021), which was approved by EPA.

The following sections provide additional details on the methods, including a summary of spatial information used in the evaluation (Section 2), a summary of the floodplain soil PCB data sets and the methods used to spatially interpolate those data (Section 3), a description of the method used to calculate Exposure Point Concentrations (EPCs) for each averaging area (for both current and post-removal conditions) (Section 4), and a description of the steps used to delineate the spatial extent and volume of soil to be removed to achieve the Performance Standards (Section 5). Figures A-1 and A-2 present flow charts that depict the general steps of the evaluation. To implement the evaluations, a GIS-based tool was developed that integrates the relevant spatial information and polychlorinated biphenyl (PCB) data, calculates EPCs for each averaging area, and delineates the required spatial extent of soil removal.

2 Spatial Information Used in Evaluation

The methodology used to delineate the spatial extent and volume of floodplain soil removal relies on several spatially varying features within the floodplain. As such, GIS-based analyses are used to facilitate these calculations. The GIS analyses employ a raster data model, whereby various floodplain features, such as locations of EAs and vernal pools, mapping of human use accessibility, and interpolated PCB concentration data (described in Section 3), are discretized into 3 × 3-meter grid cells over the floodplain area. This approach allows multiple layers of information to be overlaid in a

consistent manner. The following is a summary of the various spatial data sets used in the floodplain evaluations:

- **Exposure Area and Subarea Boundaries:** EPA identified 90 direct contact EAs in Reaches 5 through 8 in its Human Health Risk Assessment (HHRA; EPA 2005). As described in Section 4.3.5 of the HHRA, EAs were defined by EPA starting with individual tax parcels. The parcels were kept intact, subdivided, or combined with adjacent parcels based on similarity of land use, similarity of ownership, and/or number of available soil samples. In many cases, parcel boundaries extend beyond the lateral boundaries of the Rest of River (defined in the Consent Decree for the GE-Pittsfield/Housatonic River Site as the 1 milligram per kilogram (mg/kg) PCB isopleth in Reaches 5 and 6). However, the EAs evaluated for potential soil remediation are limited to the portion of the floodplain between the edge of the Housatonic River and the Rest of River floodplain boundary. Several of the EAs contain subareas, which are typically characterized by a different and/or more frequent exposure scenario. The EA and subarea boundaries define the averaging areas used for the assessment of achievement of the floodplain Performance Standards summarized in Table 1 of the Revised Final Permit.[1] Of the 90 EAs identified in the HHRA, five are located wholly or partially within Reach 6 (EAs 56 through 60), and three of them contain subareas based on distinct exposure scenarios (EAs 56a, 59a, and 60a).
- **Frequently Used Subarea Boundaries:** During the CMS, GE identified "heavily used subareas" within EAs that were identified as "frequently used" in the CMSP. These heavily used subareas are referred to as "Frequently Used Subareas" (FUSAs) in the Revised Final Permit and this appendix. These FUSAs were defined throughout Reaches 5 and 6 at a relatively coarse spatial resolution in the CMSP based on aerial photography and knowledge of use scenarios. Three of the EAs in Reach 6 contain such FUSAs (EAs 58, 59, and 60). Previously, the actual extent of area considered to be frequently used for the subset of FUSAs located in Reach 5A was surveyed in the field in 2019, as documented in GE's *Final Morphology and Accessibility Survey Report* (Final Accessibility Report; AECOM and Anchor QEA 2020). Similar surveys will be conducted for the FUSAs in Reach 6 during the baseline restoration assessment (BRA) activities to be conducted in that area under the *Revised Baseline Restoration Assessment Work Plan for Rest of River Reaches 5B through 8* (AECOM 2023). The FUSA boundaries define the averaging areas used for the assessment of achievement of the Performance Standards for floodplain FUSAs summarized in Table 2 of the Revised Final Permit.
- **Super Habitat Polygons:** Six "super habitats"—i.e., grouped habitats having similar characteristics, developed from the Woodlot habitat survey (Woodlot 2002)—were introduced by EPA in the HHRA to guide the spatial interpolation of soil PCB data in the floodplain. As

[1] Vernal pools are discussed separately below.

documented in GE's 2020 Final Accessibility Report, portions of the Reach 5A floodplain had significant changes in super habitat boundaries since the 2002 Woodlot habitat survey resulting from hydrologic changes. GE previously updated the super habitat mapping for the Reach 5A floodplain using a combination of high-resolution aerial imagery of the Reach 5A floodplain collected using an unmanned aerial system (i.e., drone survey) in 2018 and field surveys. Similar surveys will be conducted in the Reach 6 floodplain during BRA activities to confirm the super habitats in those floodplain areas. The six super habitats are: (1) hardwood forest/agricultural field; (2) transitional floodplain forest; (3) shrub swamp; (4) emergent marsh/wet meadow; (5) lake/pond; and (6) stream.

- **Accessibility Weighting Factor Mapping:** The method developed by EPA for calculation of EPCs in the HHRA included application of accessibility weighting factors (or "use factors"). Specifically, the floodplain was mapped into the following four accessibility categories in the HHRA: walkable, wadable, difficult, and boatable. Weighting factors of 1.0, 0.2, 0.2, and 0.0 were assigned for each of these areas, respectively. These use factors are applied as multipliers on interpolated PCB concentrations "to account for the variation in accessibility and overall attractiveness of these habitats to children and adults engaged in recreational or residential and other activities" (EPA 2005). For example, areas considered walkable (use factor of 1.0) would be accessed more frequently than areas considered difficult to access or wadable (use factors of 0.2). Areas that are considered boatable have a use factor of 0.0 and are therefore excluded from the EPC calculations. The areas in Reach 5A corresponding to these accessibility categories were previously updated consistent with the revised 2018 super habitat mapping in Reach 5A; and as with the super habitat mapping, this use factor mapping will be updated in the Reach 6 floodplain based on any updated habitat mapping in those floodplain areas.
- **Vernal Pool Boundaries:** The Rest of River floodplain contains numerous vernal pools (VPs). Field surveys were conducted in 2018 and 2019 to delineate VPs in Reach 5A that met the biological and physical criteria for certification of VPs based on guidelines issued by the Natural Heritage and Endangered Species Program (NHESP). Similar field surveys will be conducted of any pools in Reach 6 during BRA activities to determine whether they meet the applicable NHESP criteria for certifiable VPs. Under the Revised Final Permit, VPs are subject to a separate numerical Performance Standard of a spatially weighted average PCB concentration of 3.3 mg/kg (based on risk to amphibians), to be applied as discussed below.
- **Core Area 1 Habitat Boundaries:** Core Area 1 habitat consists of areas identified by the Massachusetts Division of Fish and Wildlife as areas with "the highest quality habitat for species that are most likely to be adversely impacted by PCB remediation activities," most of which are plant species because they are not mobile (EPA 2020, Attachment B). The Revised Final Permit states that excavation in Core Area 1 habitat (other than in FUSAs) should be

avoided except in limited areas where removal is necessary to meet the Secondary Performance Standards (Section II.B.3.a.(1)(e)). One of the EAs in Reach 6 (EA 56) contains Core Area 1 habitat.

3 Spatial Distribution of Soil PCB Concentrations

The soil PCB data collected as part of the pre-design investigation (PDI) for the non-residential floodplain EAs in Reach 6 will be combined with other relevant data sets to provide a detailed representation of the spatial distribution of PCB concentrations in the floodplain. These other data sets for Reach 6 will include the floodplain soil PCB data collected historically by GE between 1988 and 1998 and the floodplain soil PCB data collected by EPA as part of its Supplemental Investigation (SI) between 1998 and 2002.

3.1 Data Treatment

Data treatment for all historical and PDI data will generally be consistent with the data treatment used for floodplain soil evaluations in the RCMS. Specifically, non-detect (i.e., "U" qualified) concentrations will be replaced with one half of the reported Method Detection Limit, and any field duplicate samples will be averaged with their corresponding parent sample. The results of any split samples analyzed by EPA (if timely received) will be included in the evaluations by averaging them with the corresponding GE sample results.

In addition, any portion of the historical (non-PDI) data sets that cannot be used to reasonably construct six-inch vertical averages will be omitted for consistency. It should be noted that in EPA's Interim Comments on the CMS Report (Comment #98), the Agency directed GE to use the same historical floodplain soil PCB data set that was used in the HHRA for EPC calculations, and it provided that data set to GE in an e-mail dated October 2, 2008. That historical data set will be combined with the various PDI data sets listed in the previous section for the floodplain evaluations.

3.2 Spatial Interpolation of Soil PCB Data

Development of a spatially interpolated soil PCB data coverage will be based on the Thiessen Polygon (TP) method. As noted in Section 2, the concept of super habitats (i.e., grouped habitats having similar characteristics) was introduced by EPA in the HHRA to guide the spatial interpolation of soil PCB data in the floodplain. TPs will be generated for each individual super habitat using only the data from within that super habitat boundary. Then, TPs generated for each super habitat (excluding the lake/pond and stream super habitats, as these areas are considered boatable) will be merged to form a single PCB TP coverage for the floodplain.

TPs will be generated for each six-inch depth interval in the top one foot of soil (0- to 6-inch and 6- to 12-inch depth intervals) within the EAs in Reach 6. For any sample locations where only a single one-foot depth interval exists, the one-foot concentration will be assigned to each respective six-

inch interval within that interval prior to interpolation. A 0- to 1-foot average PCB concentration will then be computed by vertically averaging the PCB TP raster grids from the 0- to 6-inch and 6- to 12-inch layers.

FUSAs have a deeper evaluation depth of three feet. Historical sampling in these areas rarely characterized the full three-foot depth interval; therefore, the proposed PDI sampling for the FUSAs in Reach 6 (i.e., collection of samples from the 0- to 6-inch, 6- to 12-inch, 12- to 24-inch, and 24- to 36-inch depth intervals) was designed to sufficiently characterize these areas over that full evaluation depth. PCB concentrations in the 12- to 24-inch and 24- to 36-inch depth intervals will be interpolated in these areas using the same method described previously for the surface intervals. A 0- to 3-foot average PCB concentration within the FUSAs will then be computed by vertically (length-weighted) averaging the PCB TP raster grids from the 0- to 6-inch, 6- to 12-inch, 12- to 24-inch, and 24- to 36-inch layers.

In addition, a separate PCB interpolation will be conducted for any identified certifiable VPs for the purposes of evaluating the VP Performance Standard. TPs will be generated for each individual VP using only the data collected within that VP boundary. Similar to the spatial interpolation conducted for EAs, PCB TP raster grids will be generated for the 0- to 6-inch and 6- to 12-inch layers to form average PCB concentrations for the 0- to 1-foot depth interval within each VP.

4 Exposure Point Concentration Calculations

EPCs for each non-VP averaging area (i.e., each EA and FUSA) will be calculated as the 95% Upper Confidence Limit (UCL) on the spatially weighted mean. The 95% UCL will be calculated using the Modified Hall's Bootstrap method, which is consistent with the methodology used in EPA's HHRA (EPA 2005) and GE's RCMS Report (Arcadis et al. 2010). The Hall's Bootstrap method is non-parametric and can be used to compute the UCL for data with any underlying distribution. The Modified Hall's Bootstrap method involves random sampling of interpolated PCB concentration grid values in each averaging area, with the size of each random sampling equal to the number of sample locations within that area. Further description of the Modified Hall's Bootstrap method is provided in the HHRA.

EPC calculations for the human health evaluations in each EA and FUSA will include application of the use factors described in Section 2. Use factors of 1.0, 0.2, 0.2 will be assigned to the three accessibility categories of walkable, wadable, and difficult, respectively, and applied as multipliers on the interpolated PCB concentrations in the corresponding area. Areas with an accessibility category of boatable (which has a use factor of 0.0) will be excluded from the evaluations, consistent with the HHRA and RCMS. One exposure scenario for which the use factors are not applied is the waterfowl hunting exposure scenario, which applies to EA 56a.

Once the 95% UCL is calculated for a given averaging area, it will be compared to the maximum interpolated soil PCB concentration in that area; and the lower of those two values will be used as the EPC (i.e., the EPC will not exceed the maximum value within a given averaging area).

EPCs for the VPs (if any) will be calculated as a spatially weighted mean (not a 95% UCL) based on TPs generated using only data collected from within the VPs (see Section 3.2), as directed in Section II.B.3.b.(1) of the Revised Final Permit. Use factors will not be applied when calculating EPCs for VPs.

5 Estimation of Removal Areas and Volumes

The delineation of the spatial extent of removal within an averaging area involves identifying the extent of remediation necessary so that the resulting spatially averaged soil PCB concentration within the area achieves the applicable Performance Standard. The method will use the spatially interpolated PCB data coverage (as described in Section 3) and will proceed on an area-by-area basis. Figure A-2 provides a flow chart of the various steps of this process, which is described in detail in the subsections that follow.

5.1 Evaluation of Non-Residential Floodplain Exposure Areas and Subareas

For each EA and subarea, soil PCBs in the 0- to 1-foot depth interval will be evaluated following the steps below.

1. Calculate the pre-remediation EPC for the EA or subarea using the methods described in Section 4.
2. Compare the EPC with the applicable Primary Performance Standard for the given EA or subarea (as provided in Table 1 of the Revised Final Permit).
3. If the EPC is greater than the applicable Primary Performance Standard, remediation is required. Raster grid cells with the highest PCB concentrations will be flagged for removal and assigned a replacement soil concentration of 0.021 mg/kg.[2]
4. Recompute the EPC based on the modified spatial PCB distribution from Step 3.
5. Repeat Steps 2 through 4 until the amount of area flagged for remediation is sufficient to reduce the EPC to a level that is at or below the applicable Primary Performance Standard for that area.

[2] In conducting remediation evaluations for areas outside the river under the Consent Decree, GE has generally used an assumed PCB concentration of 0.021 mg/kg for the backfill, which represents one-half of the average detection limit from actual prior sampling of backfill sources. GE proposes to use the same value for backfill in the Reach 6 floodplain evaluations.

6. If any of the area(s) flagged for remediation within the EA or subarea is delineated as Core Area 1 habitat, remove the remediation flag from such area(s) and recalculate the EPC.
7. Compare the EPC from Step 6 with the applicable Secondary Performance Standard for the given EA or subarea (as also provided in Table 1 of the Revised Final Permit).
8. If the EPC is less than or equal to the applicable Secondary Performance Standard, delineation is complete for that area. If the EPC is greater than the Secondary Performance Standard, flag additional unremediated grid cells in portions of the EA or subarea outside Core Area 1 habitat (starting with the highest PCB concentrations) for remediation.
9. Recompute the EPC based on the modified spatial PCB distribution from Step 8.
10. Repeat Steps 8 and 9 until the amount of additional area flagged for remediation is sufficient to reduce the EPC to a level that is at or below the applicable Secondary Performance Standard for that area.
11. In accordance with Sections II.B.3.a.(2)(c).iv and II.B.3.a.(2)(d) of the Revised Final Permit, some manual adjustment of the areas flagged for remediation in a given EA or subarea may be necessary to minimize impacts to Core Areas 2 and 3 habitat. If such an adjustment is required, the EPC will be recomputed to ensure that the remediation achieves, at a minimum, the Secondary Performance Standard.

In the case of subareas, any subarea(s) located wholly or partially within a given EA will be evaluated prior to the larger EA; if any removal is required in such subarea(s) to meet the applicable Performance Standard for that subarea(s), that removal will then be accounted for when subsequently determining whether any additional removal is required to achieve the applicable Performance Standard for the larger EA.

5.2 Evaluation of Frequently Used Subareas

The evaluation of FUSAs will follow the same Steps 1 through 5 described in the previous section for the EAs and subareas. However, the EPCs in FUSAs will be calculated over the 0- to 3-foot depth interval. Steps 5 through 10 related to avoidance of remediation in Core Area 1 habitat are not relevant to the FUSAs, as stated in Section II.B.3.a.(1)(e) of the Revised Final Permit.

5.3 Evaluation of Vernal Pools

If any certifiable VPs are identified in the Reach 6 floodplain, the evaluation of those VPs will follow the same Steps 1 through 5 described above for the EAs and subareas, with the exception that the EPC will be calculated as a spatially weighted average (as described in Section 4) in the 0- to 1-foot depth interval, using only the data collected within the individual VP and without application of the use factors. Delineation of VP remediation areas will be in addition to any remediation required

within the VPs to meet the Primary and Secondary Performance Standards for the larger EAs and/or subareas.

6 References

AECOM, 2023. *Revised Baseline Restoration Assessment Work Plan for Rest of River Reaches 5B Through 8*. Prepared for General Electric Company, Pittsfield, Massachusetts. February 2023.

AECOM and Anchor QEA, 2020. *Final Morphology and Accessibility Survey Report*. Prepared for General Electric Company, Pittsfield, Massachusetts. July 16, 2020.

Anchor QEA, 2021. *Second Revised Pre-Design Investigation Work Plan for Reach 5A Non-Residential Floodplain Exposure Areas*. Prepared for General Electric Company, Pittsfield, Massachusetts. November 2021.

Arcadis BBL and QEA, 2007. *Housatonic River – Rest of River, Corrective Measures Study Proposal*. Prepared for General Electric Company, Pittsfield, Massachusetts. February 2007.

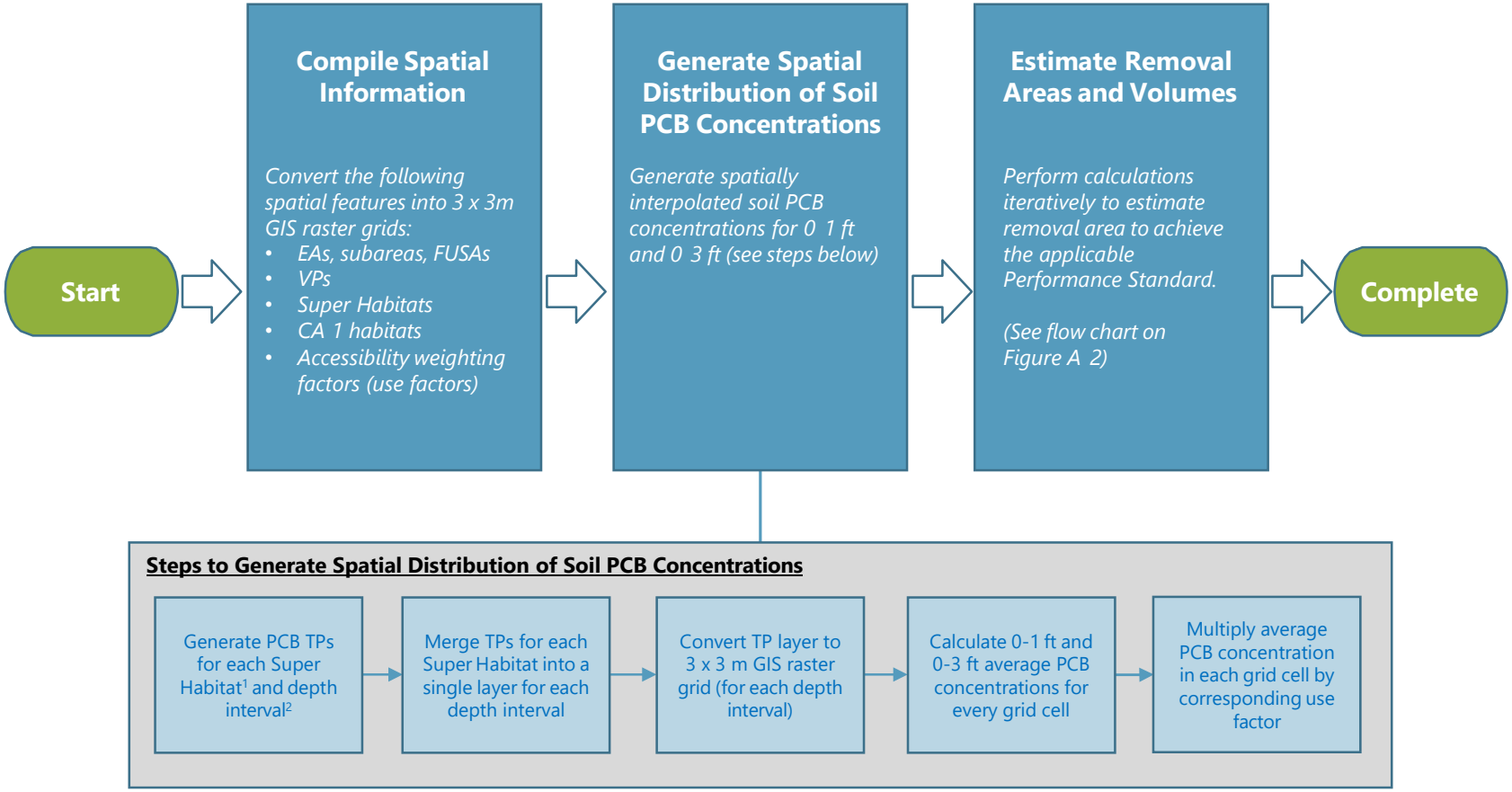
Arcadis, Anchor QEA, and AECOM, 2010. *Housatonic River – Rest of River, Revised Corrective Measures Study Report*. Prepared for General Electric Company, Pittsfield, Massachusetts. October 2010.

EPA (U.S. Environmental Protection Agency), 2005. *Human Health Risk Assessment, GE/Housatonic River Site, Rest of River*. Prepared by Weston Solutions, West Chester, Pennsylvania. February 2005.

EPA, 2020. Revised Final Permit Modification to the 2016 Reissued RCRA Permit and Selection of CERCLA Remedial Action and Operation & Maintenance for Rest of River. December 2020.

Woodlot (Woodlot Alternatives, Inc.), 2002. Ecological Characterization of the Housatonic River. Prepared for EPA Region 1, Boston. September 2002.

Figures



Notes:
1. Except for lake/pond and stream habitats
2. TPs will be generated for 0- to 6-inch and 6- to 12-inch layers, and in 12- to 24-inch and 24- to 36-inch layers within FUSAs.
CA = Core Area; EA = Exposure Area; GIS = Geographical Information System; FUSA = Frequently Used Subareas; TP = Thiessen Polygon; VP = vernal pool

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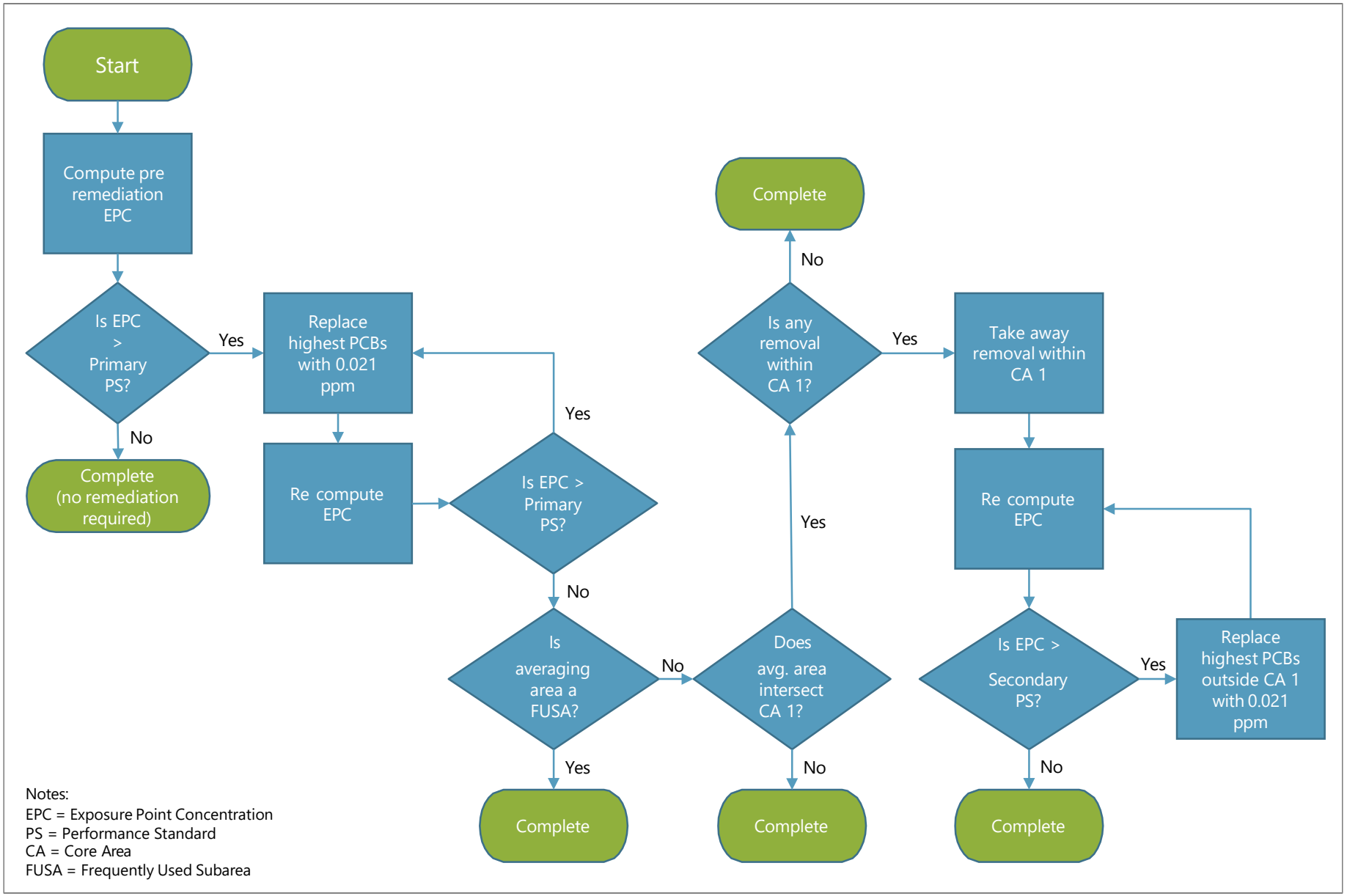

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ANCHOR QEA

Figure A-2

Process for Evaluation of Floodplain Soil Remediation in Each Averaging Area

Revised Pre-Design Investigation Work Plan for Reach 6
Housatonic River – Rest of River

Appendix B
Proposed Sediment PCB Sample Summary Matrix

Appendix B
Proposed Sediment PCB Sample Summary Matrix

Sampling Area	Location ID	Easting (X Coordinate)[1]	Northing (Y Coordinate)[1]	Existing Bathymetric Elevation (feet)[2]	Water Depth Below the Dam Crest (feet)[3]	Estimated Total Sample Depth (feet)[4,5,6]	Estimated Number of Samples for PCB Analysis	Estimated Number of Samples for Archive
Outlet Channel	574+00-C	184850.15	2957196.92	937.75	9.95	4	2	2
	574+00-E	184887.29	2957178.27	941.35	6.35	4	2	2
	574+00-W	184816.21	2957213.32	941.9	5.8	4	2	2
	576+52-C	184732.11	2956974.21	940.31	7.39	4	2	2
	576+52-E	184771.93	2956945.44	945.61	2.09	4	2	2
	576+52-W	184693.64	2957000.15	945.09	2.61	4	2	2
	578+99-C	184579.48	2956779.65	940.84	6.86	4	2	2
	578+99-E	184630.4	2956770.37	945.22	2.48	4	2	2
	578+99-W	184523.5	2956791.34	944.44	3.26	4	2	2
	581+51-C	184529.14	2956536.55	942.98	4.72	4	2	2
	581+51-E	184591.42	2956531.27	946.18	1.52	4	2	2
	581+51-W	184471.99	2956542.39	941.39	6.31	4	2	2
Headwaters Transition Zone	A/B-8/9	186613.08	2958891.25	945.77	1.93	4	2	2
	A-7/8	186430.47	2958930.97	947.46	0.24	4	2	2
	B/C-7/8	186352.73	2958682.77	946.65	1.05	4	2	2
	B/C-8/9	186583.23	2958695.77	943.88	3.82	4	2	2
	B-6	186076.08	2958751.64	946.61	1.09	4	2	2
	B-6/7	186223.21	2958864.83	949.07	-1.37	4	2	2
	C/D-4/5	185659.58	2958493.25	946.55	1.15	4	2	2
	C/D-6	185969.53	2958482.78	945.54	2.16	4	2	2
	C/D-8/9	186448.46	2958502.1	946.86	0.84	4	2	2
	C-4/5	185732.42	2958616.7	947.25	0.45	4	2	2
	C-5/6	185843.89	2958557.68	945.74	1.96	4	2	2
	C-6	186014.41	2958612.64	948.68	-0.98	4	2	2
	D/E-4/5	185586.55	2958312.01	942.66	5.04	4	2	2
	D/E-5/6	185776.47	2958319.19	946.75	0.95	4	2	2
	D/E-6/7	185980.67	2958291.93	947.93	-0.23	4	2	2
	D-7/8	186281.65	2958437.18	946.69	1.01	4	2	2
	E-7	186143.62	2958223.36	946.33	1.37	4	2	2
	E-8/9	186377.57	2958239.73	946.58	1.12	4	2	2

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Woods Pond	E/F-2/3	185195.82	2958098.47	946.51	1.19	8.81	7	2
	E/F-3/4	185401.3	2958121.2	946.67	1.03	8.97	7	2
	E/F-4/5	185600.95	2958089.57	946.62	1.08	8.92	7	2
	E/F-5/6	185795.25	2958093.75	947.77	-0.07	10.07	9	2
	E/F-6/7	185999.97	2958071.95	948.09	-0.39	10.39	9	2
	E/F-7/8	186200.44	2958089.97	946.71	0.99	9.01	8	2
	E/F-8	186350.43	2958066.52	948.71	-1.01	11.01	10	2
	E/F-9/10	186572.45	2958070.68	948.39	-0.69	10.69	9	2
	F/G-1	184967.07	2957886.18	947.55	0.15	9.85	8	2
	F/G-2/3	185200.83	2957897.39	946.92	0.78	9.22	8	2
	F/G-4/5	185593.54	2957897.08	946.25	1.45	8.55	7	2
	F/G-5/6	185800.85	2957900.03	946.4	1.3	8.7	7	2
	F/G-6/7	186002.87	2957899.24	946.01	1.69	8.31	7	2
	F/G-8	186254.24	2957866.27	948.15	-0.45	10.45	9	2
	F/G-8/9	186396.26	2957897.43	947.59	0.11	9.89	8	2
	F/G-9/10	186603.75	2957902.4	947.07	0.63	9.37	8	2
	F-2	185047.53	2958045.72	946.9	0.8	9.2	8	2
	F-3	185336.55	2957962.26	947.14	0.56	9.44	8	2
	F-6	185893.26	2957991.66	947.16	0.54	9.46	8	2
	F-9	186490.82	2957992.49	947.73	-0.03	10.03	9	2
	G/H-1	184922.05	2957713.97	946.59	1.11	8.89	7	2
	G/H-2/3	185198.19	2957718.49	945.66	2.04	7.96	6	2
	G/H-4/5	185610.68	2957681.36	945.26	2.44	7.56	6	2
	G/H-5/6	185800.94	2957695.04	945.14	2.56	7.44	6	2
	G/H-6/7	185998.07	2957698.57	945.06	2.64	7.36	6	2
	G/H-7/8	186203.48	2957699.61	947.15	0.55	9.45	8	2
	G/H-8/9	186401.86	2957701.06	946.33	1.37	8.63	7	2
	G/H-9/10	186625.35	2957674.94	947.01	0.69	9.31	8	2
	G-5	185697.82	2957796.24	945.5	2.2	7.8	6	2
	G-7	186099.55	2957795.27	946.57	1.13	8.87	7	2
	H/I-3	185240.81	2957524	944.42	3.28	6.72	5	2
	H/I-3/4	185399.07	2957500.01	945.39	2.31	7.69	6	2
	H/I-4/5	185613.67	2957509.03	945.11	2.59	7.41	6	2
	H/I-5/6	185797.29	2957506.95	945.8	1.9	8.1	7	2
	H/I-6/7	186003.34	2957499.93	946.68	1.02	8.98	7	2

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Woods Pond	H/I-9/10	186591.62	2957490.98	947.36	0.34	9.66	8	2
	H-1	184962.19	2957549.68	947.08	0.62	9.38	8	2
	H-2	185045.08	2957650.61	946.91	0.79	9.21	8	2
	H-3/4	185416.81	2957653.04	943.63	4.07	5.93	4	2
	H-7/8	186187.02	2957540.15	944.87	2.83	7.17	6	2
	H-8/9	186435.32	2957535.38	943.99	3.71	6.29	5	2
	I/J-2	185048.22	2957300.47	945.32	2.38	7.62	6	2
	I/J-2/3	185222.97	2957302.5	945.55	2.15	7.85	6	2
	I/J-3/4	185399.01	2957301.29	946.04	1.66	8.34	7	2
	I/J-4/5	185603.23	2957302.77	946.47	1.23	8.77	7	2
	I/J-5/6	185795.64	2957297.52	946.49	1.21	8.79	7	2
	I/J-7/8	186202.4	2957304.66	935.01	12.69	4	2	2
	I/J-8/9	186401.41	2957304.28	936.36	11.34	4	2	2
	I/J-9/10	186614.63	2957283.23	947	0.7	9.3	8	2
	I-1/2	184975.56	2957371.69	936.86	10.84	4	2	2
	I-3	185293.66	2957394.09	946.84	0.86	9.14	8	2
	I-4	185509.79	2957395.46	946.68	1.02	8.98	7	2
	I-6/7	185968.7	2957332.78	946.07	1.63	8.37	7	2
	J/K-4/5	185595.62	2957069.36	946.67	1.03	8.97	7	2
	J/K-5/6	185796.79	2957098.38	945.66	2.04	7.96	6	2
	J/K-6/7	185999.55	2957097.67	935.52	12.18	4	2	2
	J/K-7/8	186196.52	2957097.45	934.07	13.63	4	2	2
	J/K-8/9	186401.56	2957102.76	936.2	11.5	4	2	2
	J/K-9/10	186617.53	2957105.83	946.76	0.94	9.06	8	2
	J-3/4	185404.24	2957173.94	947.13	0.57	9.43	8	2
	J-5	185697.16	2957195.1	946.14	1.56	8.44	7	2
	K/L-5/6	185783.85	2956883.01	945.47	2.23	7.77	6	2
	K/L-6/7	185994.81	2956901.63	937.4	10.3	4	2	2
	K/L-7/8	186198.95	2956900.5	936.46	11.24	4	2	2
	K/L-8/9	186408.73	2956886	944.56	3.14	6.86	5	2
	K/L-9/10	186641.58	2956881.46	946.68	1.02	8.98	7	2
	K-5	185657.08	2956948.2	946.54	1.16	8.84	7	2
	K-7	186097.7	2956993.29	934.84	12.86	4	2	2
	L/M-5/6	185805.66	2956700.17	946.34	1.36	8.64	7	2
	L/M-6/7	185999.35	2956697.13	944.36	3.34	6.66	5	2

Appendix B
Proposed Sediment PCB Sample Summary Matrix

Sampling Area	Location ID	Easting (X Coordinate)[1]	Northing (Y Coordinate)[1]	Existing Bathymetric Elevation (feet)[2]	Water Depth Below the Dam Crest (feet)[3]	Estimated Total Sample Depth (feet)[4,5,6]	Estimated Number of Samples for PCB Analysis	Estimated Number of Samples for Archive
Woods Pond	L/M-7/8	186203.58	2956693.08	944.64	3.06	6.94	5	2
	L/M-8/9	186401.3	2956695.43	946.08	1.62	8.38	7	2
	L-9	186494.08	2956800.24	945.94	1.76	8.24	7	2
	L-9/10	186579.97	2956742.97	946.97	0.73	9.27	8	2
	M/N-7/8	186183.82	2956491.75	947.17	0.53	9.47	8	2
	M-7	186044.21	2956537.23	946.81	0.89	9.11	8	2
	M-7/8	186194.72	2956593.91	945.89	1.81	8.19	7	2
	M-8	186329.93	2956572.27	947.08	0.62	9.38	8	2

Notes:
1. Coordinates are in NAD83, Massachusetts State Plane, U.S. Feet.
2. Existing elevations based on bathymetric survey performed by Spicer in 2022. Vertical datum is in feet NAVD88.
3. Water depths calculated below dam spillway elevation of 947.7 feet NAVD88 (948.3 feet NGVD29).
4. Total sample depths are shown as feet below existing sediment surface.
5. At sampling locations where the existing sediment surface is at or less than 6 feet below the dam crest (i.e., at or above elevation 941.7 feet NAVD88), the total depth of sediment coring will target at least 10 feet below the dam crest, corresponding to a bottom elevation of 937.7 feet NAVD88, or to the depth of refusal if encountered first. At sampling locations where the existing sediment surface is already more than 6 feet below the dam crest (i.e., below elevation 941.7 feet NAVD88), sediment core samples will target a total depth of 4 feet below the existing mudline elevation or to the depth of refusal if encountered first. In addition, sediment cores collected within the headwaters and the outlet channel will target a depth of 4 feet below the existing mudline elevation or to the depth of refusal if encountered first.
6. The estimated total sample depth and number of samples presented herein is based on an interpolated bathymetric surface. The actual total sample depth and total number of PCB samples will be dependent on the sediment elevation encountered during the sampling.

NAD83: North American Datum 1983
NAVD88: North American Vertical Datum 1988
NGVD29: National Geodetic Vertical Datum 1929
PCB: polychlorinated biphenyl

Appendix C
Proposed Floodplain PCB Sample Tracking Matrix

Appendix C
Proposed Floodplain PCB Sample Tracking Matrix

Exposure Area	Location ID	Parcel ID	Township	Coordinates Are in NAD83 Massachusetts State Plane, U.S. Feet		Depth Increment (Below Ground Surface)			
				Easting (X Coordinate)	Northing (Y Coordinate)	0-6"	6-12"	12-24"	24-36"
56	EA56-A/B-23/24	9-18	Lenox	185995.47	2959560.47	X	X	--	--
56	EA56-C-20/21			185852.34	2960817.14	X	X	--	--
56	EA56-AB/AC-7			185178.72	2959550.01	X	X	--	--
56	EA56-AC/AD-23			185989.80	2959495.56	X	X	--	--
56	EA56-AC-17			185668.45	2959510.03	X	X	--	--
56	EA56-AD-15			185578.53	2959474.29	X	X	--	--
56	EA56-AD-6			185137.20	2959467.46	X	X	--	--
56	EA56-AE/AF-10/11			185346.03	2959398.49	X	X	--	--
56	EA56-AE-13			185478.31	2959413.85	X	X	--	--
56	EA56-AE-17			185679.65	2959419.49	X	X	--	--
56	EA56-AF/AG-16			185617.22	2959344.90	X	X	--	--
56	EA56-AF-22			185930.43	2959358.06	X	X	--	--
56	EA56-AG/AH-22			185920.50	2959297.58	X	X	--	--
56	EA56-AG/AH-9/10			185309.20	2959297.07	X	X	--	--
56	EA56-AG-13			185480.61	2959313.38	X	X	--	--
56	EA56-AG-6			185133.65	2959313.96	H	X	--	--
56	EA56-AH-14/15			185551.51	2959257.76	X	X	--	--
56	EA56-AI/AJ-10/11			185341.85	2959201.68	X	X	--	--
56	EA56-AI/AJ-12/13			185448.64	2959197.59	X	X	--	--
56	EA56-AI-16			185638.86	2959215.14	X	X	--	--
56	EA56-AK/AL-10/11			185356.71	2959102.46	X	X	--	--
56	EA56-AK-13/14			185500.86	2959119.82	X	X	--	--
56	EA56-AK-15/16			185610.69	2959113.84	X	X	--	--
56	EA56-AL/AM-12/13			185447.19	2959031.93	H	X	--	--
56	EA56-AM-15/16			185592.32	2959013.07	X	X	--	--
56	EA56-AM-9			185284.97	2959018.63	H	X	--	--
56	EA56-AN-11			185370.76	2958954.90	X	X	--	--
56	EA56-AO-13			185474.76	2958927.33	X	X	--	--
56	EA56-AO-15			185585.58	2958913.87	X	X	--	--
56	EA56-AP-11/12			185412.32	2958863.10	X	X	--	--
56	EA56-AQ-14			185541.46	2958812.90	X	X	--	--
56	EA56-AQ-7/8			185211.51	2958812.41	X	X	--	--
56	EA56-AR-11			185381.62	2958761.13	X	X	--	--
56	EA56-AS/AT-13			185486.08	2958693.37	X	X	--	--
56	EA56-AU-13			185468.30	2958615.46	X	X	--	--
56	EA56-AV/AW-11/12			185409.20	2958532.86	X	X	--	--
56	EA56-AW/AX-12/13			185455.43	2958488.45	H	X	--	--
56	EA56-AW-8/9			185243.51	2958527.45	X	X	--	--
56	EA56-AY/AZ-12			185435.47	2958398.90	H	X	--	--
56	EA56-AZ/BA-7			185173.55	2958338.87	X	X	--	--
56	EA56-AZ-10			185331.25	2958361.41	X	X	--	--

Appendix C
Proposed Floodplain PCB Sample Tracking Matrix

Exposure Area	Location ID	Parcel ID	Township	Coordinates Are in NAD83 Massachusetts State Plane, U.S. Feet		Depth Increment (Below Ground Surface)			
				Easting (X Coordinate)	Northing (Y Coordinate)	0-6"	6-12"	12-24"	24-36"
56	EA56-B/C-3/4	9-18	Lenox	184997.72	2960840.75	X	X	--	--
56	EA56-BA/BB-12			185429.46	2958299.68	H	X	--	--
56	EA56-BB/BC-8			185220.28	2958247.96	X	X	--	--
56	EA56-BC/BD-13/14			185496.29	2958198.97	H	X	--	--
56	EA56-BC-6			185122.02	2958212.40	X	X	--	--
56	EA56-C-6			185126.12	2960808.15	X	X	--	--
56	EA56-D-4			185031.97	2960760.58	X	X	--	--
56	EA56-E-6			185141.80	2960706.32	X	X	--	--
56	EA56-F-4/5			185043.64	2960657.76	X	X	--	--
56	EA56-G/H-7			185176.61	2960600.14	X	X	--	--
56	EA56-H/I-5			185076.02	2960550.66	X	X	--	--
56	EA56-I/J-8			185222.38	2960498.06	X	X	--	--
56	EA56-J/K-10			185325.33	2960443.94	X	X	--	--
56	EA56-J/K-5/6			185093.82	2960440.00	X	X	--	--
56	EA56-K/L-7/8			185212.14	2960399.30	H	X	--	--
56	EA56-K-12			185425.89	2960415.16	X	X	--	--
56	EA56-L/M-10			185325.58	2960343.76	X	X	--	--
56	EA56-L-6			185130.64	2960353.32	X	X	--	--
56	EA56-M/N-8			185216.98	2960286.86	X	X	--	--
56	EA56-N/O-14			185525.14	2960250.94	X	X	--	--
56	EA56-O/P-16			185631.19	2960189.18	H	X	--	--
56	EA56-P-6			185124.50	2960161.60	X	X	--	--
56	EA56-R-6			185124.55	2960057.56	X	X	--	--
56	EA56-T-5			185076.87	2959959.56	X	X	--	--
56	EA56-Y-5/6			185101.76	2959722.81	X	X	--	--
56	EA56-Z/AA-6			185126.05	2959634.17	X	X	--	--
56a	EA56a-AA-17			185677.36	2959609.18	X	X	--	--
56a	EA56a-AB/AC-9			185278.42	2959549.78	X	X	--	--
56a	EA56a-AB-15			185578.35	2959572.19	X	X	--	--
56a	EA56a-AC/AD-11			185379.84	2959491.72	X	X	--	--
56a	EA56a-AC-13			185481.07	2959513.13	X	X	--	--
56a	EA56a-AC-18/19			185764.41	2959521.80	X	X	--	--
56a	EA56a-AE-19			185777.62	2959423.27	H	X	--	--
56a	EA56a-AF-19			185767.01	2959365.33	X	X	--	--
56a	EA56a-AH-18/19			185764.95	2959264.22	X	X	--	--
56a	EA56a-AJ-18/19			185741.85	2959162.46	X	X	--	--
56a	EA56a-AL/AM-18			185722.51	2959050.15	H	X	--	--
56a	EA56a-AN-17/18			185702.33	2958967.12	X	X	--	--
56a	EA56a-AP-17			185680.70	2958866.77	X	X	--	--
56a	EA56a-AR-16/17			185650.77	2958768.04	X	X	--	--
56a	EA56a-AS/AT-15/16			185594.56	2958678.87	H	X	--	--

Appendix C
Proposed Floodplain PCB Sample Tracking Matrix

Exposure Area	Location ID	Parcel ID	Township	Coordinates Are in NAD83 Massachusetts State Plane, U.S. Feet		Depth Increment (Below Ground Surface)			
				Easting (X Coordinate)	Northing (Y Coordinate)	0-6"	6-12"	12-24"	24-36"
56a	EA56a-AU/AV-15	9-18	Lenox	185572.62	2958581.06	X	X	--	--
56a	EA56a-AW/AX-14			185517.35	2958484.29	X	X	--	--
56a	EA56a-AY/AZ-13/14			185505.17	2958385.20	X	X	--	--
56a	EA56a-BB-13/14			185507.68	2958277.13	X	X	--	--
56a	EA56a-BB-9/10			185300.03	2958264.75	X	X	--	--
56a	EA56a-BC/BD-10/11			185348.96	2958192.95	X	X	--	--
56a	EA56a-BC-12/13			185458.33	2958204.44	X	X	--	--
56a	EA56a-BD/BE-5/6			185100.59	2958139.86	X	X	--	--
56a	EA56a-BD-7			185179.80	2958165.46	X	X	--	--
56a	EA56a-BE-4			185035.12	2958112.30	X	X	--	--
56a	EA56a-BF/BG-3			184983.52	2958053.38	X	X	--	--
56a	EA56a-O/P-15/16			185542.53	2960197.13	X	X	--	--
56a	EA56a-O/P-9			185272.04	2960196.15	X	X	--	--
56a	EA56a-P-11			185371.02	2960178.23	X	X	--	--
56a	EA56a-Q/R-9/10			185307.15	2960086.70	X	X	--	--
56a	EA56a-Q-16/17			185599.42	2960106.74	X	X	--	--
56a	EA56a-Q-18			185671.73	2960114.66	X	X	--	--
56a	EA56a-Q-7/8			185208.49	2960119.78	X	X	--	--
56a	EA56a-S-18			185688.44	2960009.56	X	X	--	--
56a	EA56a-S-18/19			185740.54	2960022.22	X	X	--	--
56a	EA56a-S-8			185218.85	2960023.49	X	X	--	--
56a	EA56a-T/U-19/20			185812.26	2959930.09	X	X	--	--
56a	EA56a-T/U-20/21			185863.80	2959933.02	X	X	--	--
56a	EA56a-U-7			185177.69	2959925.35	X	X	--	--
56a	EA56a-V/W-22			185922.96	2959829.58	X	X	--	--
56a	EA56a-V/W-6/7			185140.21	2959830.03	X	X	--	--
56a	EA56a-V-22			185929.29	2959867.02	X	X	--	--
56a	EA56a-X/Y-23/24			186003.48	2959742.33	X	X	--	--
56a	EA56a-X/Y-7/8			185205.36	2959736.22	X	X	--	--
56a	EA56a-Z/AA-7/8			185216.02	2959636.67	X	X	--	--
57	EA57-AA-1/2	1-1	Lee	185964.70	2958711.78	X	X	--	--
57	EA57-AB-15			186634.59	2958657.06	X	X	--	--
57	EA57-AD/AE-14/15			186614.37	2958548.62	H	X	--	--
57	EA57-AF/AG-13			186532.33	2958436.74	X	X	--	--
57	EA57-AG-14/15			186597.92	2958417.46	X	X	--	--
57	EA57-AG-15/16			186664.40	2958423.69	X	X	--	--
57	EA57-AH/AI-11			186424.30	2958348.75	H	X	--	--
57	EA57-AH/AI-13			186529.35	2958326.38	X	X	--	--
57	EA57-AI-14/15			186611.50	2958318.56	H	X	--	--
57	EA57-AI-16			186671.94	2958313.36	H	X	--	--
57	EA57-AJ/AK-12/13			186491.94	2958234.30	X	X	--	--

Appendix C
Proposed Floodplain PCB Sample Tracking Matrix

Exposure Area	Location ID	Parcel ID	Township	Coordinates Are in NAD83 Massachusetts State Plane, U.S. Feet		Depth Increment (Below Ground Surface)			
				Easting (X Coordinate)	Northing (Y Coordinate)	0-6"	6-12"	12-24"	24-36"
57	EA57-AJ/AK-14/15	1-1	Lee	186592.38	2958234.42	H	X	--	--
57	EA57-AK-16/17			186693.54	2958216.46	X	X	--	--
57	EA57-AL/AM-11			186426.55	2958138.81	X	X	--	--
57	EA57-AL/AM-12			186487.44	2958137.93	H	X	--	--
57	EA57-AL-14			186572.32	2958157.16	X	X	--	--
57	EA57-AL-15/16			186653.63	2958156.10	X	X	--	--
57	EA57-AM-17			186733.64	2958120.27	X	X	--	--
57	EA57-AO-16			186671.47	2958022.92	X	X	--	--
57	EA57-AO-16/17			186703.12	2958028.05	H	X	--	--
57	EA57-AP-19			186825.80	2957975.22	X	X	--	--
57	EA57-AQ-16/17			186708.52	2957919.57	X	X	--	--
57	EA57-AR-18			186776.63	2957863.27	H	X	--	--
57	EA57-AS-17/18			186757.42	2957827.89	X	X	--	--
57	EA57-AT/AU-18/19			186803.33	2957737.85	X	X	--	--
57	EA57-AT-17/18			186761.64	2957768.20	X	X	--	--
57	EA57-AU-17			186719.02	2957722.83	X	X	--	--
57	EA57-AV-17			186738.74	2957676.54	H	X	--	--
57	EA57-AW/AX-16			186686.48	2957584.76	X	X	--	--
57	EA57-AW/AX-17/18			186765.69	2957592.90	X	X	--	--
57	EA57-AY/AZ-16/17			186699.57	2957497.79	X	X	--	--
57	EA57-AZ-15/16			186662.51	2957476.15	X	X	--	--
57	EA57-B/C-6			186176.30	2959949.40	X	X	--	--
57	EA57-B/C-7			186236.80	2959947.08	X	X	--	--
57	EA57-B/C-9/10			186353.11	2959943.63	H	X	--	--
57	EA57-BA/BB-15/16			186646.02	2957384.84	X	X	--	--
57	EA57-BA/BB-16/17			186698.28	2957381.13	X	X	--	--
57	EA57-BC/BD-16/17			186715.50	2957300.94	X	X	--	--
57	EA57-BD/BE-16/17			186694.76	2957249.94	H	X	--	--
57	EA57-BF-17/18			186748.11	2957174.92	X	X	--	--
57	EA57-BG-17			186717.66	2957121.71	X	X	--	--
57	EA57-BH-17			186731.97	2957076.62	X	X	--	--
57	EA57-BI-16/17			186709.43	2957020.36	X	X	--	--
57	EA57-BJ-17			186729.12	2956972.63	X	X	--	--
57	EA57-BK-17			186720.85	2956922.22	X	X	--	--
57	EA57-BM-16/17			186716.53	2956824.06	X	X	--	--
57	EA57-C-11/12			186463.93	2959914.16	X	X	--	--
57	EA57-D/E-9			186330.63	2959837.16	X	X	--	--
57	EA57-D-4			186087.37	2959873.55	H	X	--	--
57	EA57-D-6			186180.45	2959868.40	H	X	--	--
57	EA57-E/F-13			186528.16	2959780.40	X	X	--	--
57	EA57-F/G-9			186336.22	2959737.71	X	X	--	--

Appendix C
Proposed Floodplain PCB Sample Tracking Matrix

Exposure Area	Location ID	Parcel ID	Township	Coordinates Are in NAD83 Massachusetts State Plane, U.S. Feet		Depth Increment (Below Ground Surface)			
				Easting (X Coordinate)	Northing (Y Coordinate)	0-6"	6-12"	12-24"	24-36"
57	EA57-F-11	1-1	Lee	186427.57	2959775.99	X	X	--	--
57	EA57-F-5/6			186145.05	2959768.34	X	X	--	--
57	EA57-G-7			186220.19	2959716.66	X	X	--	--
57	EA57-H/I-10/11			186408.19	2959639.79	X	X	--	--
57	EA57-H-5/6			186157.89	2959669.10	X	X	--	--
57	EA57-H-8/9			186306.42	2959663.18	H	X	--	--
57	EA57-I/J-12/13			186503.66	2959592.33	X	X	--	--
57	EA57-I/J-6			186190.21	2959582.47	H	X	--	--
57	EA57-I/J-8/9			186306.29	2959592.40	X	X	--	--
57	EA57-J-10/11			186406.06	2959553.38	X	X	--	--
57	EA57-K-12/13			186505.46	2959520.41	X	X	--	--
57	EA57-K-15			186613.15	2959521.11	X	X	--	--
57	EA57-K-5			186133.04	2959505.48	X	X	--	--
57	EA57-K-9			186327.39	2959517.78	X	X	--	--
57	EA57-L-15			186615.31	2959472.54	X	X	--	--
57	EA57-L-7			186227.84	2959466.10	X	X	--	--
57	EA57-M/N-5/6			186150.68	2959392.42	X	X	--	--
57	EA57-M-16/17			186699.40	2959429.76	X	X	--	--
57	EA57-M-4/5			186112.68	2959419.69	X	X	--	--
57	EA57-N-16			186669.56	2959371.13	H	X	--	--
57	EA57-N-18			186777.43	2959368.33	X	X	--	--
57	EA57-O-17			186734.94	2959311.52	X	X	--	--
57	EA57-O-4/5			186096.65	2959314.89	X	X	--	--
57	EA57-P-16/17			186693.22	2959269.14	X	X	--	--
57	EA57-Q-17			186738.01	2959207.06	X	X	--	--
57	EA57-Q-4			186068.90	2959216.48	H	X	--	--
57	EA57-R-15/16			186644.34	2959165.38	X	X	--	--
57	EA57-S-3/4			186049.50	2959118.62	X	X	--	--
57	EA57-T-15			186640.63	2959054.55	X	X	--	--
57	EA57-T-16/17			186697.01	2959075.44	X	X	--	--
57	EA57-U-3			186033.78	2959023.57	X	X	--	--
57	EA57-V/W-3			186017.62	2958942.26	X	X	--	--
57	EA57-V/W-3/4			186056.89	2958929.78	X	X	--	--
57	EA57-V-16			186689.28	2958962.65	X	X	--	--
57	EA57-W/X-2			185987.02	2958881.83	H	X	--	--
57	EA57-W/X-5			186125.46	2958884.79	X	X	--	--
57	EA57-X-16/17			186699.58	2958863.22	X	X	--	--
57	EA57-Y/Z-3			186029.35	2958806.19	X	X	--	--
57	EA57-Y-2/3			185993.68	2958805.60	X	X	--	--
57	EA57-Z-16			186672.94	2958759.72	X	X	--	--

Appendix C
Proposed Floodplain PCB Sample Tracking Matrix

Exposure Area	Location ID	Parcel ID	Township	Coordinates Are in NAD83 Massachusetts State Plane, U.S. Feet		Depth Increment (Below Ground Surface)			
				Easting (X Coordinate)	Northing (Y Coordinate)	0-6"	6-12"	12-24"	24-36"
58	EA58-B/C-18/19	2-8	Lee	186711.24	2956753.34	X	X	X	X
58	EA58-C-18			186669.02	2956709.76	H	X	--	--
58	EA58-D/E-15/16			186562.27	2956631.73	X	X	X	X
58	EA58-D-16			186582.04	2956658.79	X	X	--	--
58	EA58-D-17/18			186651.33	2956678.33	X	X	X	X
58	EA58-E-14/15			186511.68	2956622.28	X	X	--	--
58	EA58-F-13			186434.22	2956575.81	X	X	--	--
58	EA58-F-13/14			186461.94	2956566.22	X	X	X	X
58	EA58-G/H-11			186327.84	2956480.07	X	X	--	--
58	EA58-G/H-4			185989.69	2956488.41	X	X	--	--
58	EA58-G-12			186387.98	2956513.17	X	X	X	X
58	EA58-H/I-10/11			186294.09	2956443.55	X	X	X	X
58	EA58-H/I-3			185938.92	2956446.94	X	X	--	--
58	EA58-H/I-5			186028.14	2956453.67	H	X	--	--
58	EA58-I/J-3			185928.60	2956391.03	X	X	X	X
58	EA58-I/J-5			186019.27	2956392.07	X	X	--	--
58	EA58-I/J-6/7			186101.65	2956395.45	H	X	--	--
58	EA58-I/J-8/9			186201.10	2956381.86	X	X	X	X
58	EA58-I-8/9			186211.76	2956424.63	X	X	--	--
58	EA58-J/K-5			186017.07	2956337.56	X	X	X	X
58	EA58-J/K-6/7			186108.07	2956354.49	X	X	--	--
58	EA58-K-7			186117.31	2956327.21	X	X	X	X
59	EA59-B/C-9/10	2-4	Lee	184948.29	2957198.99	X	X	X	X
59	EA59-C/D-11			185036.51	2957133.24	X	X	X	X
59	EA59-C-12/13			185109.58	2957160.29	X	X	--	--
59	EA59-C-9/10			184956.13	2957174.75	X	X	--	--
59	EA59-D/E-13			185137.60	2957094.33	X	X	X	X
59	EA59-D/E-15/16			185244.95	2957095.02	X	X	X	X
59	EA59-D/E-17/18			185346.20	2957099.10	X	X	X	X
59	EA59-E/F-10/11			185004.46	2957037.80	X	X	X	X
59	EA59-G-8/9			184903.87	2956959.29	X	X	X	X
59	EA59-H/I-6/7			184801.02	2956894.92	X	X	X	X
59	EA59-J/K-5			184724.79	2956796.53	X	X	X	X
59	EA59-L/M-4/5			184692.65	2956702.17	X	X	X	X
59	EA59-N/O-4			184681.85	2956591.04	X	X	X	X
59	EA59-Q-3/4			184651.88	2956458.41	X	X	--	--
59a	EA59a-A/B-14			185181.59	2957223.85	X	X	--	--
59a	EA59a-C/D-18			185373.16	2957140.82	X	X	--	--
59a	EA59a-C-15/16			185267.92	2957172.23	X	X	--	--
59a	EA59a-D/E-9/10			184957.08	2957090.79	X	X	--	--
59a	EA59a-D-8/9			184909.54	2957118.74	X	X	--	--

Appendix C
Proposed Floodplain PCB Sample Tracking Matrix

Exposure Area	Location ID	Parcel ID	Township	Coordinates Are in NAD83 Massachusetts State Plane, U.S. Feet		Depth Increment (Below Ground Surface)			
				Easting (X Coordinate)	Northing (Y Coordinate)	0-6"	6-12"	12-24"	24-36"
59a	EA59a-F-8/9	2-4	Lee	184892.21	2957009.75	X	X	--	--
59a	EA59a-G/H-6/7			184799.89	2956928.54	H	X	--	--
59a	EA59a-J/K-4/5			184691.65	2956795.28	X	X	--	--
59a	EA59a-L/M-3/4			184647.28	2956703.14	X	X	--	--
59a	EA59a-N-3/4			184645.31	2956621.73	X	X	--	--
59a	EA59a-P-3			184637.80	2956520.36	H	X	--	--
60	EA60-E/F-3/4	9-16	Lenox	184650.01	2957152.71	H	X	--	--
60	EA60-E/F-4/5			184710.51	2957132.32	X	X	--	--
60	EA60-G-2/3			184606.45	2957061.83	H	X	--	--
60	EA60-I/J-2			184582.00	2956947.81	H	X	--	--
60a	EA60a-B/C-5			184723.01	2957282.72	X	X	X	X
60a	EA60a-C/D-6			184781.79	2957231.30	H	X	H	X
60a	EA60a-C-4/5			184703.39	2957262.89	H	X	H	X

Notes:
--: No sample to be collected at interval
H: Sample interval to be collected and request laboratory hold
NAD83: North American Datum of 1983
PCB: polychlorinated biphenyl
X: Sample interval to be collected and analyzed