Global Operations, Environment, Health & Safety

1 Plastics Avenue
Pittsfield, MA 01201

Via Electronic Mail

October 31, 2023

Mr. Dean Tagliaferro
EPA Project Coordinator
U.S. Environmental Protection Agency
c/o HDR, Inc.
75 South Church Street, Suite 403
Pittsfield, MA 01201

Re: GE-Pittsfield/Housatonic River Site
Rest of River (GECD850)
On-Site and Off-Site Transportation and Disposal Plan

Dear Mr. Tagliaferro:

In accordance with Section II.H.10 of the Revised Final Permit issued by EPA for the Housatonic Rest of River, Section 4.3.1.1 of the *Final Revised Rest of River Statement of Work*, and the schedule approved by EPA, GE is submitting herewith for EPA's review and approval the *On-Site and Off-Site Transportation and Disposal Plan* for the Rest of River, prepared for GE by Arcadis.

Please let me know if you have any questions about this plan.

Very truly yours,

Lauren Putnam /for

Matthew Calacone
Senior Project Manager – Environmental Remediation

Enclosure

Cc: (via electronic mail except as noted)
Anni Loughlin, EPA
Tim Conway, EPA
John Kilborn, EPA
Richard Fisher, EPA
Joshua Fontaine, EPA
Christopher Smith, EPA
Alexander Carli-Dorsey, EPA

Christopher Ferry, ASRC Federal
Thomas Czelusniak, HDR Inc.
Scott Campbell, Taconic Ridge Environmental
Izabella Zapisek, Taconic Ridge Environmental
Michael Gorski, MassDEP
John Ziegler, MassDEP
Ben Guidi, MassDEP
Michelle Craddock, MassDEP
Jeffrey Mickelson, MassDEP
Mark Tisa, MassDFW
Jonathan Regosin, MassDFW
Betsy Harper, MA AG
Traci Iott, CT DEEP
Susan Peterson, CT DEEP
Graham Stevens, CT DEEP
Carol Papp, CT DEEP
Lori DiBella, CT AG
Molly Sperduto, USFWS
Mark Barash, US DOI
Ken Finkelstein, NOAA
James McGrath, City of Pittsfield (plus hard copy)
Andy Cambi, City of Pittsfield
Michael Coakley, PEDA
Melissa Provencher, BRPC
Christopher Ketchen, Town of Lenox (plus hard copy)
R. Christopher Brittain, Town of Lee (plus hard copy)
Town Manager, Great Barrington
Town Administrator, Stockbridge
Town Administrator, Sheffield
Jim Wilusz, Tri Town Health Department
Andrew Silfer, GE
Andrew Thomas, GE
Kevin Mooney, GE
Mark Gravelding and Lauren Putnam, Arcadis
Michael Werth, Anchor QEA
James Bieke, Sidley Austin
Public Information Repository at David M. Hunt Library in Falls Village, CT
GE Internal Repository

General Electric Company

On-Site and Off-Site Transportation and Disposal Plan

Housatonic River – Rest of River
Pittsfield, Massachusetts

October 2023

On-Site and Off-Site Transportation and Disposal Plan

Housatonic River – Rest of River
Pittsfield, Massachusetts

October 2023

Prepared By:
Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017

Prepared For:
General Electric Company
Pittsfield, Massachusetts

Our Ref:
ARC31156 (30177139)

Table of Contents

Tables

Figures

Abbreviations

AADT	Average Annual Daily Traffic
BMP	best management practice
BOL	bill of lading
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
Confluence	confluence of the East and West Branches of the Housatonic River
CSX	CSX Corporation
cy	cubic yards
EA	Exposure Area
EPA	United States Environmental Protection Agency
Final Revised OSS	*Final Revised Overall Strategy and Schedule for Implementation of Corrective Measures*
Final Revised SOW	*Final Revised Rest of River Statement of Work*
FWHA	Federal Highway Administration
GE	General Electric Company
HASP	Health and Safety Plan
HRRC	Housatonic Railroad Company, Inc.
I-90	Interstate 90
MA-102	Massachusetts Route 102
MA-183	Massachusetts Route 183
MassDOT	Massachusetts Department of Transportation
mg/kg	milligram per kilogram
PCB	polychlorinated biphenyl
PDI	pre-design investigation
POP	Project Operations Plan
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
Reach 5A Conceptual Work Plan	*Conceptual Remedial Design/Remedial Action Work Plan for Reach 5A*

Revised Final Permit	General Electric Company's Revised Final Resource Conservation and Recovery Act Corrective Action Permit Modification
RFEI	Request for Expression of Interest
ROR	Rest of River
RU	remediation unit
SIP	Supplemental Information Package
SOW	Statement of Work
T&D Plan	Transportation and Disposal Plan
TCLP	toxicity characteristic leaching procedure
TSCA	Toxic Substances Control Act
UDF	Upland Disposal Facility
UHW Manifest	Uniform Hazardous Waste Manifest
U.S. DOT	United States Department of Transportation
US-20	U.S. Route 20

1 Introduction

On December 16, 2020, pursuant to the 2000 Consent Decree (CD) for the GE-Pittsfield/Housatonic River Site, the United States Environmental Protection Agency (EPA) issued to the General Electric Company (GE) a final revised modification of GE's Resource Conservation and Recovery Act (RCRA) Corrective Action Permit (Revised Final Permit) for the Housatonic Rest of River (ROR) (EPA 2020a). The ROR is defined as that 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). The Revised Final Permit set forth a Remedial Action selected by EPA to address polychlorinated biphenyls (PCBs) in the ROR.

The Revised Final Permit required GE to develop and submit a Statement of Work (SOW) specifying the deliverables and activities that GE will conduct to design and implement the ROR Remedial Action. In accordance with that requirement, after receipt of EPA's comments on an earlier version of the SOW, GE submitted a *Final Revised Rest of River Statement of Work* on September 14, 2021 (Final Revised SOW; Anchor QEA et al. 2021), and EPA approved it on September 16, 2021. In addition, as required by the Revised Final Permit, GE submitted a *Final Revised Overall Strategy and Schedule for Implementation of the Corrective Measures* on July 5, 2022 (Final Revised OSS; Anchor QEA 2022), and EPA approved it on July 6, 2022. As described in the latter document, 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. The *Conceptual Remedial Design/Remedial Action Work Plan for Reach 5A* (Reach 5A Conceptual Work Plan; Anchor QEA et al. 2023) was submitted to EPA on September 28, 2023. The design work plans for downstream RUs will be developed and submitted to EPA in an iterative manner in subsequent years. Soil and sediment removed from the RUs will be subject to disposal at an Upland Disposal Facility (UDF) constructed on GE-owned property in Lee, MA, or at an off-site permitted disposal facility, provided that the material meets certain acceptance criteria specified in Attachment E to the Revised Final Permit.

Section 4.3.1.1 of the Final Revised SOW stated that GE would prepare two transportation and disposal plans – an Off-Site T&D Plan and an On-Site T&D Plan. However, after consultation with EPA, GE has combined these two plans into a single document, this *Off-Site and On-Site Transportation and Disposal Plan* (T&D Plan), to avoid unnecessary repetition of activities that apply to both. In accordance with the Final Revised SOW, the on-site component of this T&D Plan (Section 3) identifies and evaluates transportation methods for disposal at the on-site UDF to be constructed for this project. The off-site component of this T&D Plan (Section 4) identifies and evaluates transportation methods and disposal options for the removed material to be disposed of off-site, including identification of potential candidate off-site disposal facilities. This T&D Plan also includes some procedures that apply to both on-site and off-site transportation and disposal, such as health and safety considerations, spill prevention, and emergency response planning.

This T&D Plan details the procedures for transporting and disposing of sediment, soil, and debris (collectively "material") anticipated to be removed during the implementation of the ROR Remedial Action. The preparation of this plan has considered communications from several local municipalities, as discussed in Section 1.4.

As mentioned above, the Reach 5A Conceptual Work Plan was recently submitted to EPA and the design work plans for downstream RUs will be developed and submitted to EPA in an iterative manner in subsequent years. Additional details regarding transportation and disposal activities, including the information listed above, will be included in the Final Remedial Design/Remedial Action (RD/RA) Work Plan and/or the Supplemental Information Package (SIP) for each RU. In addition, as appropriate and in consultation with EPA, addenda to this T&D Plan may be submitted to EPA periodically to summarize the RU-specific updates as they relate to transportation and disposal activities.

Determination of whether material removed from the ROR will be transported and disposed of on-site or off-site will be based primarily on the characterization of the material (using the criteria in Attachment E to the Revised Final Permit for disposal at the UDF), with a minimum of 100,000 cubic yards (cy) of PCB-containing material to be sent for off-site disposal. While preliminary estimates regarding the disposal locations for material from Reach 5A were included in the Reach 5A Conceptual Work Plan, the final determination of which material will be transported and disposed of on-site or off-site will be presented in the Final RD/RA Work Plans for the various RUs.

1.1 Purpose and Scope

This T&D Plan is focused with most specificity on procedures to be used for transportation and disposal of material from Reach 5A to the UDF area and off-site disposal locations, as a conceptual design has been developed for that RU. This plan includes more general information related to proposed transportation and disposal activities for Reaches 5B, 5C, and 6 and Reaches 7 and 8. As noted above, final details regarding transportation and disposal activities will be presented on an RU-specific basis in subsequent documents (i.e., the Final RD/RA Work Plans or SIPs for the various RUs and potentially addenda to this T&D Plan). The development of this T&D Plan has considered several factors, including efficient modes of transportation and routes of travel, professional judgement, experience on other similar projects, and community input.

Because the ROR Remedial Action is being performed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the activities described in this T&D Plan that will be conducted at the ROR are exempt from federal, state, and local permitting requirements and will be conducted in accordance with the substantive provisions of the pertinent federal and state laws and regulations. After the materials leave the site, the transportation and disposal activities will be subject to applicable federal, state, and local laws and regulations, compliance with which will be the responsibility of the transporters (during transport) and the disposal facility operator (for disposal).

Material management for the project will be performed in accordance with the following EPA regulations:

- Toxic Substances Control Act (TSCA) regulations (40 CFR Part 761), which generally cover materials with PCB concentrations greater than or equal to 50 milligrams per kilogram (mg/kg);
- RCRA regulations contained in 40 CFR Parts 258–268, to the extent applicable;[1] and
- Hazardous Material Transportation Act regulations (49 CFR Parts 107, 171, 177).

In addition, material management will be performed in accordance with applicable state and local regulations for the host state (Massachusetts) and for states encountered during transportation and disposal.

1.2 Site Description

As noted above, the ROR is defined as that portion of the Housatonic River and its backwaters and floodplain (excluding Actual/Potential Lawns as defined in the CD) located downstream of the Confluence. Within Reaches 5 and 6, which constitute the portion of the ROR between the Confluence and Woods Pond Dam and is also known as the Primary Study Area, the CD defines the ROR site boundary as the floodplain area extending laterally to the 1 mg/kg PCB isopleth, which corresponds approximately to the 10-year floodplain.

[1] Although it is currently not anticipated that there will be any excavated/dredged ROR material that would be considered a hazardous waste under RCRA, this T&D Plan includes, for the purposes of completeness, RCRA Subtitle C facilities as potential off-site disposal locations in the event that RCRA hazardous waste material is identified in the future.

The applicable ROR reaches where material will be removed and require transportation and disposal, as shown on Figure 1-1 and designated by EPA, are the following:

- **Reach 5**, from the Confluence downstream to Woods Pond (the first significant impoundment). Reach 5 also contains several backwater areas adjacent to the Housatonic River. This reach is further divided into the following subreaches:
  - Reach 5A, Confluence to the Pittsfield Wastewater Treatment Plant;
  - Reach 5B, Pittsfield Wastewater Treatment Plant to Roaring Brook; and
  - Reach 5C, Roaring Brook to the start of Woods Pond.
- **Reach 6**, Woods Pond.
- **Reach 7**, Woods Pond Dam to Rising Pond. This reach is further divided into subreaches 7A through 7H, as illustrated on Figure 1-1.
- **Reach 8**, Rising Pond.

1.3 Plan Organization

The remainder of this T&D Plan is organized as follows:

- **Section 2 – Characterization of Materials for Disposal.** Summarizes the characterization, management, and testing of excavated/dredged materials for purposes of transportation to and disposal at the UDF or off-site disposal facilities.
- **Section 3 – On-Site Transportation and Disposal.** Describes the on-site transport of the removed materials to the UDF and unloading at the UDF, as well as the material tracking process and recordkeeping from material removal/processing until final disposal.
- **Section 4 – Off-Site Transportation and Disposal.** Describes the means of transport of the removed materials from the ROR to the authorized off-site disposal facilities, as well as the material tracking process and recordkeeping from material removal/processing until final disposal.
- **Section 5 – Community Assessment and Mitigation.** Summarizes the traffic assessment and traffic control and monitoring to be conducted during the ROR Remedial Action.
- **Section 6 – Health and Safety.** Summarizes the health and safety plans (HASPs) applicable to the transportation and disposal process.
- **Section 7 – Summary of Next Steps.** Discusses future transportation and disposal work to be conducted during the design process, including off-site disposal facility selection.
- **Section 8 – References.** Lists references of documents cited in this plan.

The discussions in this T&D Plan are supported by various tables, figures, and appendices, as referenced herein.

1.4 Community Coordination

As described above, the preparation of this T&D Plan has considered input from several of the local municipalities. Specifically, GE presented preliminary information regarding transportation and disposal activities for the ROR Remedial Action at meetings held in July 2023 with the Town of Lee, the Town of Lenox,

and the City of Pittsfield. Comments received from these local municipalities were considered in the development of this plan.

In addition, subsequent to final design for each RU and prior to the start of the site work, GE will develop a summary of non-GE owned properties where temporary staging areas and/or access roads will be constructed. Access agreements for properties owned by the Massachusetts Audubon Society (Mass Audubon) and the Commonwealth of Massachusetts are addressed by separate provisions (Section IV.E of the 2020 Settlement Agreement for Mass Audubon and Paragraph 62.a of the CD for the Commonwealth). For the other properties included in the summary, GE will contact the property owners as needed to notify them of the anticipated work and request that they provide a signed Consent for Access form (based on the form included in the CD) allowing GE and the regulatory agencies, including EPA, access permission to perform and oversee the work. Section 5.12 of the Reach 5A Conceptual Work Plan provides further information regarding efforts to obtain the necessary access permission for work in Reach 5A. Similar efforts will be made to obtain access permission for work in other RUs.

2 Characterization of Materials for Disposal

This section provides a summary of the characterization of materials generated during the ROR Remedial Action, which will consist primarily of dewatered sediments and soils, for on-site or off-site disposal. As described in Sections II.B.5 and II.B.6 of the Revised Final Permit, the ROR Remedial Action will use a hybrid disposal approach that includes a combination of off-site disposal and on-site disposal at the UDF.

2.1 Determination of On-Site vs. Off-Site Disposal

Determination of whether material will be transported and disposed of at the UDF or will require transport to off-site disposal facilities will be based primarily on in-situ characterization of the material and application of the criteria in Attachment E to the Revised Final Permit for disposal at the UDF, with a minimum of 100,000 cy of PCB-containing material to be sent off-site.

The criteria set forth in Attachment E to the Revised Final Permit for disposal in the UDF include the following:

- *Sediments:* For sediments from each reach and subreach of the ROR (including backwaters) other than Reach 5B, sediments to be disposed of in the UDF must have a volume-weighted average PCB concentration of less than or equal to 25 mg/kg within a reach or subreach. If the volume-weighted average PCB concentration of sediments to be removed from such reach or subreach exceeds 25 mg/kg, sediments with the highest PCB concentrations will be segregated for off-site disposal until the average concentration of the remaining sediments to be removed decreases to less than 25 mg/kg for subsequent disposal at the UDF. In addition, for all such sediments (including in backwaters), any sediment represented by a three-dimensional polygon associated with a single vertical core that has an average PCB concentration greater than or equal to 100 mg/kg will be segregated for off-site disposal. For Reach 5B, based on the PCB concentrations of the sediments to be removed and as required by Attachment E to the Revised Final Permit, all removed sediments from that reach must be disposed of off-site and may not be disposed of in the UDF.
- *Floodplain Soils:* Floodplain soils to be disposed of in the UDF must have a volume-weighted average PCB concentration of less than 50 mg/kg for each Exposure Area (EA).[2] If the volume-weighted average PCB concentration in the soil to be removed from a given EA equals or exceeds 50 mg/kg, the soils with the highest PCB concentrations in the EA will be segregated for off-site disposal until the average concentration of the remainder of the soil to be removed in the EA decreases to less than 50 mg/kg for subsequent disposal at the UDF.
- *Riverbank Soils:*[3] For riverbank soils in Reach 5A, soils to be disposed of in the UDF must have a volume-weighted average PCB concentration of less than 50 mg/kg. If the volume-weighted average PCB concentration of riverbank soils to be removed from that reach equals or exceeds 50 mg/kg, soil with the highest PCB concentrations will be segregated for off-site disposal until the average concentration of the remaining soil to be removed decreases to less than 50 mg/kg for subsequent disposal at the UDF. For riverbanks soils in Reach 5B, as provided in Attachment E, those soils must be disposed of off-site except that any excavated soils with PCB concentrations less than 50 mg/kg may be disposed of in the UDF.

[2] EAs are as defined in the Revised Final Permit.

[3] The riverbanks subject to remediation are those in Reaches 5A and 5B.

The UDF will be used only for disposal of sediments, soils, and debris that were generated as part of the ROR Remedial Action and only those sediments and soils that meet the acceptance criteria summarized above. The Revised Final Permit also prohibits the disposal of certain types of waste in the UDF, e.g., free liquids, free product, or materials that meet the federal criteria for RCRA hazardous waste.

In addition, no material from the ROR Remedial Action may be disposed of at any other location in Berkshire County (apart from the UDF), and no material from any portion of the GE-Pittsfield/Housatonic River Site (other than the ROR) or from other response actions under the CD may be disposed of at the UDF.

To determine whether sediments and soils from the ROR meet the above-described PCB criteria for disposal at the UDF, sediment and soil samples have been (for Reach 5A) or will be (for other RUs) collected and analyzed for PCBs during the pre-design investigation (PDI) of each RU and evaluated under the above criteria. Based on this in-situ delineation and the evaluation against the above PCB criteria, the sediments and soils from each RU will be designated for on-site or off-site disposal.

It will also be necessary to determine whether any of the material to be removed are subject to any of the above prohibitions on disposal in the UDF. In particular, Attachment E to the Revised Final Permit provides that, for the purposes of determining whether materials designated for the UDF constitute characteristic RCRA hazardous waste, GE may use existing relevant ROR data from GE's RCRA Facility Investigation (RFI) and apply the "20 times rule" (described below) and/or may use relevant data from the 1½-Mile Reach Removal Action. It states further that if existing data are not sufficient to demonstrate that material will not constitute RCRA hazardous waste, GE will propose additional sampling in appropriate work plans.

In accordance with that Attachment E, GE reviewed the existing data from the disposal characterization analysis performed for the Removal Action at the 1½-Mile Reach of the Housatonic River, which is located immediately upstream of the ROR (and at which a remediation action was completed by EPA in 2006). Over 90 sediment and soil samples collected by EPA and GE from the 1½-Mile Reach and adjacent floodplain were analyzed for hazardous waste characteristics by the toxicity characteristic leaching procedure (TCLP). None of the samples showed leachate levels in excess of the regulatory limits that would result in the material being classified as hazardous waste. It is expected that the sediments and soils in the ROR are similar to those in and adjacent to the 1½-Mile Reach and thus would likewise not constitute hazardous waste.

In fact, since that time, GE has conducted screening of existing ROR sediment and floodplain soil data, including RFI data, for non-PCB constituents to evaluate whether sediments and soils designated for removal may be considered RCRA hazardous waste. This screening was performed using the "20 times rule." Under this rule, the results of the existing total constituent analysis were divided by 20 to convert the total results into the maximum leachable concentration. If this concentration is below the regulatory threshold, additional characterization of materials is typically not required using the TCLP. This evaluation of the ROR data indicated that characteristic RCRA hazardous waste would not be expected in the ROR.

Further, as described in the Reach 5A Conceptual Work Plan, a subset of Reach 5A PDI in-river sediment samples collected in 2023 was subject to TCLP testing for disposal characterization; specifically, those sediment samples were analyzed for TCLP metals, volatile organic compounds, semi-volatile organic compounds, pesticides, and herbicides. The results indicated that none of the TCLP parameters was detected above the RCRA hazardous waste toxicity characteristic regulatory levels in 40 CFR § 261.24, which further confirms the conclusion stated above for Reach 5A. For downstream RUs, once removal areas are defined and determination of on-site vs. off-site disposal is made, existing ROR data for non-PCB constituents will again be reviewed (using the 20 times rule) to confirm that materials designated for disposal in the UDF do not contain RCRA hazardous waste. If appropriate GE will propose additional TCLP sampling in appropriate RU-specific work plans to further confirm that conclusion.

Based on the in-situ delineation and the evaluation against the above PCB and hazardous waste criteria, the sediments and soils from each RU will be designated for on-site or off-site disposal. Any debris encountered is planned to be classified in a manner consistent with the surrounding sediment and soil characterization. If large debris is removed that is potentially subject to TSCA or RCRA regulations for disposal or does not conform to the disposal characterization of the surrounding sediment or soil, that debris will be segregated, and additional characterization of the debris will be performed.

Section 4 of the Reach 5A Conceptual Work Plan provides details regarding the in-situ delineation and disposal evaluation conducted for Reach 5A, including for on-site and off-site segregation.[4] It is anticipated that a similar process will be followed for additional RUs.

Section 4 of the Reach 5A Conceptual Work Plan also presents preliminary removal volumes for Reach 5A. Table 2-1 provides a summary of the conceptual Reach 5A removal volume estimates along with estimated volumes for off-site disposal and disposal in the UDF, as presented in the Reach 5A Conceptual Work Plan. These estimated volumes are subject to modification during the final design for the Reach 5A remediation. For other RUs, no specific updated estimates have been made to date of the total removal volumes or the volumes subject to on-site versus off-site disposal. In this situation, in Table 2-1, the total removal volumes presented have been based on the total sediment/soil removal volumes presented in Table 2 of EPA's Statement of Basis for its proposed ROR remedy (EPA 2020b), broken down by reach at that time; and on-site and off-site disposal volume estimates are based on the rough assumption that approximately 10% of the material per reach will be sent for off-site disposal. The actual total removal volumes for those RUs and the volumes subject to on-site versus off-site disposal will be based on PDI sampling and design activities for each such RU.

Table 2-1: Summary of Conceptual Estimated Removal Volumes

Reach	Estimated Removal Volume (cy)[a]	Estimated On Site Disposal Volume (cy)[b]	Estimated Off Site Disposal Volume (cy)
5A	138,700	130,200	8,500[c]
5B	16,000	14,000	2,000
5C	387,000[d,e]	348,000	39,000
6	285,600[e]	256,600	29,000
7	118,000	106,000	12,000
8	87,000	78,000	9,000
Total	**1,030,000**	**933,000**	**100,000**

Notes:

[a] All quantities are preliminary estimates, are rounded, and are subject to change during final design. All volumes are in-situ "neat-line" estimates in cy except that the estimated removal volume for Reach 5A includes an assumed 10% increase over the estimated "neat" volume for the main channel sediment removal to account for uncertainties.

[b] In addition to the material removed from remediation areas, other materials generated during implementation of the ROR Remedial action, such as materials used to build temporary access roads and staging areas, may be disposed of in the UDF. Such materials are not included in the on-site disposal volumes given in this table.

[4] Supplemental data collection activities will be performed to further delineate certain remediation areas and to refine the extent of removal in some areas that would be subject to off-site disposal. The final horizontal and vertical extents of remediation in Reach 5A will be determined during the final design process and will be presented in the Final RD/RA Work Plan for Reach 5A.

[c] This volume assumes that all soils excavated as part of the vernal pool pilot study could be disposed of at an off-site facility; the actual disposition of such vernal pool pilot study soils in the UDF or off-site is dependent on a number of factors and will be determined later.

[d] The estimated removal volume for Reach 5C includes backwater sediments from Table 2 of EPA's Statement of Basis (EPA 2020c), excluding volume of backwater sediments estimated to be removed from Reach 5A.

[e] As provided in the Revised Final Permit, sediments from Reach 5C (including backwaters) and Reach 6 will be transported hydraulically directly to the UDF if feasible. See Section 3.1.2 for additional information regarding hydraulic conveyance and associated estimated disposal volumes.

Once material has been designated for off-site disposal (using the criteria summarized in Section 2.1), it will be further characterized as necessary to the extent required by the selected off-site facility(ies). Such material may fall into three categories: (1) material containing PCB concentrations at or above 50 mg/kg, whose disposal is regulated under EPA's TSCA regulations; (2) material whose disposal is not regulated under the TSCA regulations and which does not constitute hazardous waste under RCRA regulations (referred to herein as "non-TSCA/non-RCRA material"); and (3) material that constitutes characteristic hazardous waste under EPA's RCRA regulations (if any). The material in each category will be designated for transport to the appropriate off-site facilities authorized to receive such material, as discussed further in Section 4.4.

2.2 Material Handling and Staging

The selected locations for temporary material handling and staging areas (hereafter referred to as staging areas) and temporary roads to access those staging areas are to be identified in the RU-specific RD/RA work plans, along with the anticipated material handling and staging activities. The staging areas and access roads for Reach 5A were preliminarily identified in the Reach 5A Conceptual Work Plan.

Site-related material handling activities will be performed in a manner consistent with the updated *Project Operations Plan* (POP) for the ROR Remedial Action, which is scheduled to be submitted to EPA by January 25, 2024. The conceptual approach for handling removed sediments, soils, and debris is being developed for each RU in consideration of (1) the nature and characteristics of the materials to be removed, (2) on-site processes needed to prepare the materials for temporary staging and subsequent disposition (e.g., dewatering of materials containing excessive water), and (3) the overall sequence and schedule of the removal activities. Based on these considerations, several handling-related activities will be performed after the sediments, soils, and debris are removed and before they are transported for final disposal at the UDF or an off-site disposal facility.

In general, removed sediment, soil, and debris will, to the extent practicable, be directly loaded into sealed vehicles for transport to the staging areas for temporary stockpiling and management (e.g., dewatering) prior to transport and disposal at the UDF or transport to an approved off-site disposal facility. In certain circumstances, materials may be loaded and transported directly from the removal areas to the UDF or to the selected off-site disposal facility(ies).[5]

At the staging areas, removed sediment, soil, and debris will be segregated into appropriate stockpiles, with separate stockpiles for materials that will be subject to disposal at the UDF and those to be sent to an off-site disposal facility(ies). Additional segregation of materials to be sent to an off-site disposal facility will be performed, as appropriate, based on their designation for disposal under applicable regulations. Debris encountered during sediment and soil removal will be segregated for disposal based on the designation of the surrounding sediment or soil. As necessary, large debris items will be cut to size at the staging areas to facilitate transport and to meet the requirements of the disposal destination. If appropriate, some debris may be

[5] In some cases, as discussed further below, sediments pumped hydraulically to the UDF may be transported from there to off-site disposal facilities.

decontaminated and beneficially reused; for instance, boulders could be power washed and reused for bank stabilization or channel reconstruction.

Where excavated materials are transported to staging areas, they will be staged and managed there until they have been sufficiently dewatered by gravity to pass the Paint Filter Liquids Test (SW846 Test Method 9095B). If gravity dewatering does not initially yield material that will pass the Paint Filter Liquids Test, the piles will be reworked and repositioned, with consideration of the addition of similar but drier excavated materials (if available), to condition the material so that it is suitable for transport (i.e., contains no free liquids and passes the Paint Filter Liquids Test). In addition, for non-TSCA material designated for off-site disposal, if these dewatering procedures do not yield material that will pass the Paint Filter Liquids Test, drying agents (e.g., Portland cement, cement kiln dust, lime, fly ash, or other suitable and locally available material) may be mixed with the excavated material to allow it to pass that test. In any case, once the excavated materials are sufficiently dewatered to pass the Paint Filter Liquids Test, such drying agents may be used to further dry the materials to facilitate transport. The materials prepared for disposal will then be loaded into lined and covered over-the-road vehicles or other containers, if appropriate, for transport to the UDF or for off-site transport. As appropriate, bench-scale treatability testing will be performed prior to final design for each RU to evaluate the effectiveness of potential dewatering methods for sediment to be removed during the ROR Remedial Action.[6]

The potential for spills during on-site transportation will be addressed in the Contingency and Emergency Procedures Plan to be included in the upcoming POP, which is scheduled to be submitted to EPA by January 25, 2024.

Further details specific to Reach 5A material handling and staging are included in Section 5.9 of the Reach 5A Conceptual Work Plan. It is anticipated that similar procedures will be provided in subsequent RD/RA work plans for downstream RUs.

As noted above, the preliminary layout of staging areas and primary temporary access roads for Reach 5A was presented in the Reach 5A Conceptual Work Plan. For the remaining RUs, the staging area layout will be spaced as needed along or within the subject reaches for access to the removal areas to be defined in forthcoming RU-specific work plans. The final locations of the staging areas will be based on (1) the final remediation areas, (2) the Remediation Contractor's preferred material removal method(s) and associated access requirements, and (3) GE's ability to obtain access agreements for the staging areas and temporary access roads. This information will be identified on an RU-specific basis in the Final RD/RA Work Plans or SIPs for the various RUs.

Transportation modes considered under this T&D Plan start after the material is loaded into containers for shipment and end with delivery of the material at the receiving facility (i.e., UDF or off-site disposal facility). Sections 3.1 and 4.1 provide evaluations of on-site modes of transportation and off-site modes of transportation, respectively.

[6] Section 4.3.3.1 of the Final Revised SOW stated that the Conceptual RD/RA Work Plan for each RU may include a Treatability Study Work Plan to describe any necessary treatability testing to support the final design. GE has determined that treatability studies will be necessary to support the remedial design for Reach 5A. A *Treatability Study Work Plan for Reach 5A* was provided in Appendix H to the Reach 5A Conceptual Work Plan.

3 On-Site Transportation and Disposal

This section identifies and evaluates the potential modes of transportation of removed materials from the temporary staging areas (or removal areas if loaded there for direct transport) to the UDF for on-site disposal.[7] This on-site transportation evaluation considers the modes and logistics of transportation, as well as transportation operations and routes.

The evaluation of modes for on-site transportation to the UDF is discussed in Section 3.1. That evaluation considers the means and methods of material removal (e.g., mechanical versus hydraulic), locations of staging areas, implementation and operation schedule, available loading and offloading options, transportation operations and routes, transportation equipment availability, and potential community impacts. Sections 3.2 and 3.3 provide an overview of transportation requirements and tracking/recordkeeping requirements, respectively. An overview of the initial process for disposal of transported materials in the UDF is provided in Section 3.4.

In accordance with the Final Revised SOW, this T&D Plan does not identify the final modes of transport or the transportation routes to the UDF, as these will be identified on an RU-specific basis in subsequent document(s) (i.e., the Final RD/RA Work Plans or SIPs).

3.1 Modes and Routes of Transportation

Available modes of transportation from the temporary staging areas (or directly from the removal area) to the UDF are truck, hydraulic, and railroad. Each of these modes of transportation is discussed in the following subsections, with preliminary conclusions in Section 3.1.5. Transportation options begin at the staging area (or removal area if loaded there or pumped hydraulically) and end at the point where the materials are received at the UDF.

3.1.1 Truck Transport

Truck transportation is widely used as a method for transporting sediments and soils at many remediation projects and is a technically feasible method for transportation of materials to the UDF for on-site disposal. For truck transportation, it is anticipated that material will be loaded into lined trucks at the temporary staging areas (or removal areas if loaded there for direct transport). From there, material will be driven over temporary access roads and public roadways directly to the UDF. Use of trucks provides flexibility during implementation of remedial activities, as trucks are readily available and can easily access removal areas, staging areas, and the UDF and can travel to the UDF independently without relying on other entities to dictate schedule. Truck transportation was the mode of transportation selected by GE and EPA for all of the sediments and floodplain soils removed from the Upper ½ Mile and 1½ Mile Reaches of the Housatonic River.

At this time, GE has identified the anticipated routes for transportation of materials from the various RUs to the UDF. First, these routes have been selected to avoid restricted roads.[8] Second, considering input received during discussions with local municipalities (see Section 1.4), roads with more limited adjacent residential and other development were prioritized over roads in more developed areas. The currently anticipated routes for transportation of removed materials to the UDF are illustrated on Figure 3-1 for work in Reach 5A (which will be

[7] As noted above, in addition to the material removed from remediation areas, other materials generated during implementation of the ROR Remedial action, such as materials used to build temporary access roads and staging areas, may be disposed of in the UDF. Transport of such material is not specifically discussed in this section.

[8] The restricted roads consist of those identified in Section II.H.11.c of the Revised Final Permit – namely, Brunswick, Kenilworth, Warwick, and Chester Streets; Noblehurst Avenue; Revilla Terrace; and Shetland, Clydesdale, Pinto, Palomino, Anita, Lucia, Quirico, Joseph, and Eric Drives – and are illustrated on Figure 3-1. Avoidance of these roads will be discussed further in GE"s upcoming Quality of Life Compliance Plan, scheduled to be submitted to EPA in December 2023.

the first RU in which remediation will be conducted), on Figure 3-2 for work in Reaches 5B, 5C, and 6 (where remediation will be sequenced after the work begins in Reach 5A), and on Figure 3-3 for work in Reaches 7 and 8 (where the remediation will likely not begin for 10 or more years). The anticipated routes are described in the remainder of this section.

As shown on Figure 3-1, for material removed from Reach 5A, trucks would start from the staging areas (preliminarily identified in the Reach 5A Conceptual Work Plan) or removal areas if loaded there for direct transport and would travel south to the UDF. For staging areas on the western side of the river, trucks would travel on temporary access roads to Holmes Road, cross the river on New Lenox Road and then proceed to Roaring Brook Road. For staging areas on the eastern side of the river, trucks would travel on temporary access roads to East New Lenox Road and then proceed to Roaring Brook Road. From there, all traffic would continue down Roaring Brook Road and Woodland Road, rural roads with limited residential development, and enter the UDF on the eastern side of the UDF property.

As shown on Figure 3-2, for materials removed from Reaches 5B, 5C, and 6, trucks would travel south to the UDF on a similar route to that used for Reach 5A. For staging areas on the western side of the river (if any), trucks are anticipated to cross the river on New Lenox Road, turn right on Roaring Brook Road, and then proceed to the UDF. For staging areas on the eastern side of the river, trucks would travel down the eastern side of the river via Roaring Brook Road to Woodland Road. These routes mainly use rural roads with limited residential development.

Finally, as shown on Figure 3-3, for materials removed from Reach 7 north of Interstate 90 (I-90), truck traffic to the UDF would likely use either US-20 for transportation on the western side of the river or Columbia Street to Mill Street for transportation on the eastern side of the river; both routes would approach the UDF from the south from Willow Hill Road. For materials removed from Reach 7 south of I-90 and from Reach 8, truck traffic to the UDF would likely use Massachusetts Route 183 (MA-183) or U.S. Route 7 to Walker Street and would also approach the UDF from the south via Willow Hill Road.

As of now, the only entrance anticipated to be available for trucks to access the UDF is through the property owned by GE located on Woodland Road adjacent to the UDF. However, at the request of the local community to try to the reduce truck traffic on Willow Hill Road from trucks approaching the UDF from the south, GE is discussing with a property owner the potential for obtaining an easement to build an alternative entrance to the UDF.

The estimated numbers of truck trips for transport from each RU are discussed in Section 3.1.4.

For the local roads that are part of the proposed routes, an evaluation will be made of the need for and type of reconditioning and upgrading of the roads and associated infrastructure to make them suitable for truck traffic. This evaluation will also consider the habitat/ecological impacts of road reconditioning or upgrades. The results of that evaluation and a proposal for such reconditioning and upgrading, where warranted, including the specific roads/infrastructure involved and the type of reconditioning/upgrading to be performed, will be included in the Final RD/RA Work Plan and/or SIP for each RU.

3.1.2 Hydraulic Conveyance

As required by the Revised Final Permit, sediments identified for on-site disposal in Reach 5C (including backwaters) and Reach 6 will, if feasible, be transported hydraulically directly to the UDF. As discussed further in Section 3.1.4, preliminary estimates indicate that implementing this approach would eliminate the need for approximately 55,000 truck trips to the UDF. Hydraulic transport is not considered feasible for sediments from Reaches 5A, 5B, 7, or 8. The pipeline route for hydraulic conveyance from Reaches 5C and 6, if feasible, will likely be within the channel or on the adjacent floodplain. If hydraulic transport is determined not to be feasible, alternative options will be evaluated for Reaches 5C and 6 to move material from the removal areas to the UDF.

Based on the conceptual estimated removal volumes presented in Table 2-1, Table 3-1 provides a summary of the on-site disposal volumes to be transported by hydraulic conveyance from Reaches 5C and 6 (if feasible) and the remaining volumes not transported by hydraulic conveyance (i.e., requiring transportation by truck or railroad). As shown on Table 3-1, if the hydraulic transport approach can be implemented, over 60% of the estimated total remediation volume would be transported to the UDF without additional truck traffic (except for any subsequent off-site disposal truck trips, as discussed in Section 4).

Table 3-1: Summary of Estimated On-Site Disposal Volume Transported by Hydraulic Conveyance if Feasible

Reach	Estimated On Site Disposal Volume (cy)[a]	Approximate On Site Disposal Volume Transported by Hydraulic Conveyance (cy)	Approximate On Site Disposal Volume Not Transported by Hydraulic Conveyance (cy)
5A	130,200	--	130,200
5B	14,000	--	14,000
5C	348,000	334,000	14,000
6	256,600	256,000	600
7	106,000	--	106,000
8	78,000	--	78,000
Total	**933,000**	**590,000**	**343,000**

Notes:

[a] In addition to the material removed from remediation areas, other materials generated during implementation of the ROR Remedial action, such as material used to build temporary access roads and staging areas, may also be disposed of in the UDF. Such materials are not included in the on-site disposal volumes given in this table.

-- = not applicable

3.1.3 Railroad Transport

Railroad transportation is used as a method for transporting sediments and soils, typically over long distances, for disposal. This section provides an evaluation of the potential for transport of materials by railroad to the UDF.

The area near the subject portion of the Housatonic River is serviced by the Housatonic Railroad Company, Inc. (HRRC). HRRC uses a right-of-way owned by the Massachusetts Department of Transportation (MassDOT), with the mainline track running down the center of the right-of-way. HRRC railroad tracks generally follow the Housatonic River and generally run the length of the ROR subject to Remedial Action (Figure 1-1). Under this potential approach, transportation of rail cars loaded with project materials would be under the care and custody of the railroads and would be routed pursuant to railroad transportation agreements between the railroad company and GE and applicable laws and regulations. Transportation by railroad is typically performed using either gondola rail cars or intermodal containers. Gondola rail cars are typically open-top cars that are filled directly on a siding's railroad tracks, and each can hold approximately 100 tons of material. Intermodal containers allow for use of multiple modes of transportation (e.g., truck, railroad) without handling of the material itself when changing modes and can hold approximately 15 to 20 tons of material per container; six 20-foot intermodal containers fit on a typical 60-foot railroad flat car (three end to end and double stacked). The determination of type of railroad container would be based on equipment availability and the preference of the selected contractor.

To use the railroad for transportation of material of the UDF, the first step would involve loading material into lined trucks or intermodal containers at the temporary staging areas (or removal areas if loaded there for direct transport) and driven over temporary access roads to public roadways to a railroad siding (where empty cars would be staged). The second step would involve unloading the truck and loading the material into either a gondola or transferring the intermodal container from the truck trailer to a rail car. The third step would involve moving the rail car(s) to a railroad siding where the material would then be off-loaded into trucks or onto trucks (for intermodal containers) and driven to the UDF. The use of the railroad for such transport is constrained by the railroad's availability to move cars as needed, as well as by other railroad traffic, which could dictate and delay construction sequencing and schedule. This could result in a stoppage of removal activities and/or operations at the UDF.

To use railroad transportation to move material to the UDF effectively and efficiently, a railroad siding for loading materials would be required in proximity to the removal staging areas. There are currently no active railroad sidings available in or near the removal areas or the UDF and there are no previously used railroad sidings in those areas that could be used in their current condition for the ROR Remedial Action. Therefore, a previously used privately owned siding would have to be reconditioned.

Figure 3-4 illustrates several locations of previously used railroad sidings near the Housatonic River. These locations are discussed in the following paragraphs.[9]

A previously used railroad siding is located near Reach 5A adjacent to Industrial Drive in Pittsfield, Massachusetts (nearly due west across US-20 from the Confluence at the start of Reach 5A; see Figure 3-4). This is the closest and most accessible previously used railroad siding location near Reaches 5A, 5B, and the upper portion of Reach 5C.[10] If this location were selected for a railroad siding for loading material from trucks to the railroad, trucks would likely travel generally northwest from the RU-specific removal or staging areas to US-20 and then proceed to Industrial Drive.

For the lower portion of Reach 5C and Reach 6, there is a previously used railroad siding (Willow Creek) located on the western side of Woods Pond in Lenox (Figure 3-4). There is no potential benefit to using this siding for the loading of material from Reaches 5C and 6 that cannot be hydraulically transported to the UDF, because this siding is already relatively close to the UDF and it is on the western side of the river (whereas it is anticipated that staging areas for Reaches 5C and 6 will be on the eastern side of the river). The potential use of this siding for off-loading of materials transported from other RUs is discussed below.

Several previously used railroad sidings are located near the impoundments in Reaches 7 and 8, including near the following locations:

- Greylock Mill (Reach 7B);
- Columbia Mill (border of Reaches 7B and 7C);
- Willow Mill (Reach 7E);
- Glendale (Reach 7G); and
- Rising Pond (Reach 8).

[9] Because locations of potential railroad sidings for loading and off-loading of material have not yet been determined, the potential truck routes to and from railroad siding locations are not illustrated on Figures 3-1 through 3-3. Conceptual general truck routes are discussed in the following paragraphs for some previously used railroad sidings, and routes would be developed in more detail at a later date if rail is selected for on-site transport, based on the location(s) of the siding(s) to be used.

[10] A further railroad siding location exists in the City of Pittsfield, located adjacent to Merrill Road (U.S. Route 9), but was not retained for evaluation due to the longer travel distance.

In addition, previously used railroad sidings are located off Massachusetts Route 102 (MA-102), named Pleasant Street on Figure 3-4 (in Reach 7D), and next to an inactive train station in Stockbridge (Reach 7F, about halfway between Reaches 7E and 7G).

If one of these downstream locations were selected for a railroad siding for loading material transported from the removal or staging areas by truck, trucks would likely travel from the RU-specific removal or staging areas along the most direct route to the railroad siding; this route may be north (e.g., to Greylock Mill or Columbia Mill) or south (e.g., to Rising Pond) depending on where removal activities are located and which railroad siding is selected. To the extent practicable, truck routes would prioritize major roads and avoid local roads.

In addition to the above-listed sidings for loading material onto rail cars, a railroad siding would be necessary near the UDF for the unloading of material from the rail cars for conveyance to and disposal in the UDF. There are two options for such an unloading siding, as discussed in the following paragraphs.

One potential location for such an off-loading siding would be the previously used Willow Creek railroad siding, discussed above, located on the western side of Woods Pond. If this location were selected for a railroad siding for off-loading material from the rail cars for subsequent truck transport, trucks would likely travel south on Willow Creek Road, cross the river on Mill Street, and approach the UDF from Willow Hill Road.

As an alternative, a railroad siding might be constructed on the property adjacent to the UDF property (i.e., on land between the River and the UDF). Under this alternative, truck traffic would still be required on temporary access roads to transfer material from the railroad to the UDF for disposal. In 2020, HRRC conducted an evaluation of options to construct a railroad spur line (i.e., an extended railroad siding) on property adjacent to the UDF property (see HRRC comments in EPA 2020c). The preferred alternative proposed by HRRC for constructing such a railroad spur line adjacent to the UDF property included installing a track under the Mill Street Bridge, along the eastern bank of the Housatonic River (displacing Willow Hill Road), and across private property to reach the UDF property. As noted by HRRC's engineer, the horizontal curve that would be required north of the Mill Street Bridge is in the range of 16 degrees, a radius not acceptable for mainline tracks, but potentially allowable for the proposed spur line. Certain rail cars can navigate a 16-degree curve, but only at low speeds since there is a higher chance of rail cars derailing on these sharp curves. HRRC's proposal was only a feasibility assessment; the Chief Engineer's approval for this geometry was not requested nor has an evaluation been performed by the Town of Lee regarding the feasibility of displacing Willow Hill Road. Additionally, the railroad spur line and off-loading area would be entirely on private property, and thus approval of and access/use agreements with the property owner would be necessary to construct and operate that spur line/siding. Given these complex challenges, it is unlikely to be feasible to construct a railroad spur line/siding on the property adjacent to the UDF property.

At any of the previously used railroad sidling locations, to create a usable railroad siding for the ROR Remedial Action, the infrastructure would need to be fully replaced prior to use by installing new track and ballast. Thus, although a previously used area should already be appropriately graded and cleared for use as a railroad siding, substantial reconditioning would be required to create a usable siding. It is anticipated that a typical railroad siding for use for loading material during the ROR Remedial Action would require approximately 200 to 400 feet of track outside the mainline clearance point (13-foot offset) and would require replacement of approximately 150 feet of the existing railroad line to place a switch for the siding. HRRC could place a new switch and siding anywhere off its mainline track with enough room and appropriate grades; however, the ability to recondition the railroad siding would be subject to obtaining access agreements for the adjacent property(ies). In addition, it is anticipated that approximately one to three acres of space would be needed to accommodate anticipated truck traffic and equipment to load material onto/into the railroad cars.

It should also be noted that none of the identified previously used railroad sidings is located on land owned by GE. As such, use of any of these locations would be subject to GE's ability to obtain access and use agreements for the properties, with enough room for transferring material between truck and railroad. Additionally, this area to the east of the railroad tracks (between the tracks and the river) has been identified as

a Core Area 1 Priority Habitat, for which disturbance is to be avoided during to the extent practicable during the ROR Remedial Action.[11]

3.1.4 Evaluation of Truck Trips

An evaluation has been conducted of the necessary truck trips for the various modes of transportation to the UDF. First, an evaluation of truck trips has been made based on the assumption that hydraulic convenance is used for the transport of sediments from Reaches 5C and 6 to the UDF and that transportation by truck is selected as the mode of transport for all other materials to the UDF. Under these assumptions, based on the conceptual estimated on-site disposal volumes presented in Table 3-1 (above), the estimated numbers of on-site truck trips from the removal or staging areas to the UDF are presented in Table 3-2 by RU.[12]

Table 3-2: Summary of Estimated Truck Trips for On-Site Disposal via Truck from Removal or Staging Areas to UDF Assuming Hydraulic Conveyance of Sediments Removed from of Reaches 5C and 6

Reach	Estimated Duration (year)[a]	Estimated On Site Disposal Volume Transported by Truck (cy)	Estimated Truck Trips[b]	Estimated Average Truck Trips Per Year	Estimated Average Truck Trips Per Day[c]
5A	4	130,200	12,200	3,100	15
5B	1	14,000	1,300	1,300	7
5C	3	14,000	1,300	440	2
6	3	600	60	20	Less than 1
7 and 8	3	184,000	17,300	5,800	29
Total	**13**	**343,000**	**32,000**		

Notes:

[a] The estimated duration for each RU was based on the Final Revised OSS and was rounded to the nearest year (which sums to 14 years); however, the total duration is currently anticipated to be 13 years. Duration and volumes are subject to change as the PDIs and remedial activities progress; changes could affect the estimated number of truck trips.

[b] Truck trips assume a dump truck with a 16-ton capacity.

[c] Daily averages assume 198 days per year, based on an assumed average of 22 working days per month and a nine-month construction season.

Second, an evaluation of truck trips has been made based on the assumption that railroad would be used for on-site transport. Under this scenario, truck transportation would still be necessary to transport material from the RU-specific removal or staging areas to a railroad loading area and then from the railroad off-loading area to the UDF. Under that scenario, again assuming that hydraulic convenance is used for the transport of sediments from Reaches 5C and 6 to the UDF, based on the conceptual estimated on-site disposal volumes presented in Table 3-1, the estimated numbers of such on-site truck trips from the removal or staging areas to railroad and

[11] 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).

[12] Because transportation and disposal of materials from Reaches 7 and 8 are anticipated to start at least 10 years after initiation of construction in Reach 5A, and because such materials will all generally be located south of I-90, those RUs have been combined for simplification.

from the railroad to the UDF are presented in Table 3-3 by RU. As shown in that table, the total number of truck trips under this rail transport scenario would be double the number in the scenario involving direct truck transport to the UDF (Table 3-2), although the distance of the truck trips would generally be shorter and the routes of the truck trips would likely differ from those anticipated for the truck trips directly to the UDF.

Table 3-3: Summary of Estimated Truck Trips from Removal or Staging Areas to Railroad Loading Areas and from Railroad Unloading Area to UDF Assuming Hydraulic Conveyance of Sediments Removed from of Reaches 5C and 6

Reach	Estimated Duration (year)[a]	Estimated On Site Disposal Volume Transported by Rail (cy)	Estimated Associated Truck Trips[b]	Estimated Average Truck Trips Per Year	Estimated Average Truck Trips Per Day[c]
5A	4	130,200	24,400	6,200	30
5B	1	14,000	2,600	2,600	14
5C	3	14,000	2,600	880	4
6	3	600	120	40	Less than 1
7 and 8	3	184,000	34,600	11,600	58
Total	**13**	**343,000**	**64,000**		

Notes:

[a] The estimated duration for each RU was based on the Final Revised OSS and was rounded to the nearest year (which sums to 14 years); however, the total duration is currently anticipated to be 13 years. Duration and volumes are subject to change as the PDIs and remedial activities progress; changes could affect the estimated number of truck trips.

[b] Truck trips assume a dump truck with a 16-ton capacity.

[c] Daily averages assume 198 days per year, based on an assumed average of 22 working days per month and a nine-month construction season.

Finally, it should be noted that, if hydraulic conveyance is determined not to be feasible for the estimated 590,000 cy of sediments from Reaches 5C and 6, an additional 55,300 truck trips (average 9,200 truck trips per year and 47 truck trips per day) would be required to transport the material from the staging or removal areas directly to the UDF or to a railroad loading area and the same number of truck trips would also be required to transport the material from a railroad off-loading area to the UDF (if railroad were the selected mode of transportation). Thus, hydraulic conveyance would save a minimum of 55,300 total truck trips (average of 9,200 truck trips per year and 47 truck trips per day).

Table 3-4 below summarizes the typical traffic on portions of anticipated travel routes to provide perspective on the relative impact of truck traffic associated with on-site disposal on the surrounding communities. This table is based on data reported by MassDOT as Average Annual Daily Traffic (AADT), which equates to average vehicles per day, and it summarizes data available and/or interpolated (depending on station) for the past 10 years (MassDOT 2023). The data in the table are further separated into average total vehicles per day and the portion of that total that is composed of large trucks. The location of the stations evaluated are illustrated on Figure 3-5.

Table 3-4: Summary of Typical Traffic on Portions of Anticipated Travel Routes for On-Site Disposal

Route	Station Reference / Reaches Represented	Average Total Vehicles per Day[a]	Average Large Trucks per Day[a,b]
US-20 North of Holmes Road	**1175**: Representative of typical traffic for routes proposed for work in Reaches 5A, 5B, and 5C[c]	11,800	180
US-20 South of New Lenox Road, North of Route 7A	**40**: Representative of typical traffic for routes proposed for work in Reaches 5A, 5B, and 5C	13,800	360

Notes:

Source: MassDOT 2023

[a] Average per day represents an average of one-way AADT traffic northbound and one-way AADT traffic southbound.

[b] The criteria for the "large truck" category are vehicles with a length >22 feet or a Federal Highway Administration (FHWA) class >3A. The selection of the criteria is dependent on the availability of the classification data provided by MassDOT (2023). The data for vehicles of length >22 feet are not available at Station 40 for the year 2020 and 2021; data included represents vehicles of length >35 feet.

[c] Although the proposed Reach 5A on-site travel routes do not pass the reference stations included, the Reach 5A travel routes use a portion of US-20 between Station 1175 and Station 40. Therefore, the average of information from those stations was used to evaluate the potential relative contribution of Reach 5A truck traffic.

In general, as shown in table 3-4, if trucks are used to transport removed materials to the UDF, the anticipated truck traffic associated with such transport is expected to increase total traffic by less than 1%. When looking at only large truck traffic, estimated on-site truck traffic due to the remediation work scheduled for the first 10 years (covering Reaches 5 and 6) may increase large truck traffic by up to 6% during work in Reach 5A compared to the large truck traffic typically observed on US-20, but no more than 3% for work in Reaches 5B and 5C. For work in Reaches 7 and 8, which will occur more than 10 years from now, a similar evaluation of relative increase to truck traffic may be included in the forthcoming RU-specific work plans.

3.1.5 Conclusions

This section presents preliminary conclusions regarding the preferred mode(s) of on-site transportation to the UDF for each RU, based on the evaluations presented above. The final mode(s) of transport and the associated final transportation routes to the UDF will be identified on an RU-specific basis in the Final RD/RA Work Plans or SIPs for the RUs.

For Reach 5A, it is currently anticipated that transportation by truck will be selected as the mode of transportation for conveying material generated in Reach 5A to the UDF for disposal. This mode is anticipated because hydraulic conveyance of material is not feasible for Reach 5A and transportation of material to the UDF by truck is considered more practicable than transportation by railroad for the following reasons:

- There are currently no usable railroad sidings available in or in proximity to the UDF or Reach 5A (or any RU). (If, at the time of work at a specific RU, a siding has been developed or reconditioned by a third party, GE will reconsider whether it is feasible and/or appropriate to use that siding for railroad transportation of material to the UDF.)
- The use of an existing railroad siding area would require complete replacement of infrastructure at that location by installing new track and ballast.
- There is uncertainty in the ability to obtain access to privately owned rail sidings and to obtain other agreements to recondition and use railroad siding locations and loading areas near Reach 5A or near the UDF (including the Willow Creek siding).

- The distance of travel by truck between Reach 5A and potential railroad siding locations and between Reach 5A staging areas and the UDF (directly) is not substantially different, and the former requires additional inefficiencies to transfer material between truck and railroad twice (for loading and unloading). In addition, if material were unloaded near Woods Pond, it would be on the opposite side of the river from the UDF and would need to be trucked through Lenox and Lee to the UDF location. The route of travel by truck between Reach 5A and the UDF would be primarily on the eastern side of the river – i.e., via Roaring Brook Road, which is a rural road with limited residential development.
- The use of truck transportation provides greater flexibility during implementation of the remedial activities and is not hindered by potential delays with rail transport equipment, schedule, or other rail customers along the route.
- Truck transportation is widely used as a method for transporting sediments and soils and is a technically feasible method for transportation of materials to the UDF. Further, the estimated on-site truck traffic for work in Reach 5A during the ROR Remedial Action is not expected to significantly increase large truck traffic on US-20 compared to truck traffic typically observed on US-20.

For Reach 5B, removal volumes are relatively small, and it is currently anticipated that transportation by truck will be selected as the mode of transportation for conveying material generated in Reach 5B to the UDF for disposal where such material meets the criteria for disposal in the UDF. As with Reach 5A, hydraulic convenance of material from Reach 5B to the UDF is not feasible, and transportation of material from that reach to the UDF by truck is more practicable than transportation by railroad for similar reasons to those given above for Reach 5A.

For Reaches 5C and 6 (and associated backwaters), it is anticipated that hydraulic conveyance will be selected as the mode of transport for conveying sediment generated in these reaches to the UDF for disposal provided that such conveyance is feasible. For soils from these reaches, it is currently anticipated that transportation by truck will be selected as the mode of transportation for conveying material to the UDF for similar reasons to those given above for Reach 5A. Indeed, for Reaches 5C and 6, use of railroad as a mode of transportation to the UDF would likely require *more* miles of truck traffic than driving directly to the UDF. In the event that hydraulic conveyance of sediments from those reaches to the UDF is infeasible, both truck and barge transport for such sediments will be considered.

For Reaches 7 and 8, where hydraulic transport to the UDF is not feasible, the evaluation of transportation by truck or railroad to the UDF will be presented on an RU-specific basis at a later time in subsequent design documents. For each of those RUs, the evaluation of whether rail can and would be used to transport material to the UDF is highly dependent on the availability of and locations for transferring material from truck to railroad, the ability to recondition or construct an off-loading facility near the UDF to transfer material from railroad to truck, and a comparison of the distance required to truck material from the staging areas (or removal areas if loaded there) to the UDF versus to the railroad siding loading areas, as well as the overall efficiency of such an approach. Many of the same considerations discussed above for Reach 5A may apply to these downstream RUs as well.

As noted above, for both Reach 5A and other RUs, the final mode of transport to the UDF and the final transportation routes to be used will be identified on an RU-specific basis in the Final RD/RA Work Plans or SIPs for the RUs.

3.2 On-Site Transportation Requirements

Over-the-road transport of excavated materials to the UDF by truck is considered on-site transport and is subject to the on-site permit exemption specified in Section 121(e) of CERCLA and Paragraph 9.a of the CD for the GE-Pittsfield/Housatonic River Site.[13] Material transport vehicles leaving the work area will be lined and covered to avoid spillage during transportation and will be placarded and documented in accordance with federal and state requirements using bills of lading (BOLs). For such on-site transport by truck to the UDF or to a railroad siding, the Remediation Contractor and transporters (as applicable) will be required to implement the following procedures:

- Employ qualified personnel trained in accordance with U.S. Department of Transportation (U.S. DOT) requirements for handling and shipping hazardous materials, with such training to include general safety, emergency response, exposure protection, accident prevention, preparation of shipping papers, and securing loads;
- Employ drivers that have a Commercial Driver's License with a Hazardous Materials Endorsement;
- Use trucks that are U.S. DOT-inspected and certified;
- Include in the HASP, POP, and Contingency Plan detailed provisions for responding to transportation emergencies such as accidents, spills, releases, or other incidents;
- Maintain records of the number of loads of materials sent to the UDF on a daily basis; and
- Confirm that the materials are suitable for transport (i.e., that they do not contain free liquids).

In addition, the on-site truck transportation of excavated materials to the UDF (or to the railroad siding for loading) will be conducted in accordance with the following guidelines:

- After a safety check of the truck, the truck bed will be lined with polyethylene sheeting.
- Excavated material will be placed in the truck, and the load will be covered.
- An appropriate materials BOL will be prepared in accordance with U.S. DOT requirements and signed by the truck driver.
- After another safety check of the vehicle and placarding, the truck will leave the staging area and proceed to the UDF (or to the railroad siding for loading), using the pre-approved route. If the material is transported on site by railroad, it will be loaded onto a truck for disposal in the UDF following similar procedures.
- Upon arrival of the material at the UDF, receipt of the load will be documented, and the material will be off-loaded and placed as appropriate (see Section 3.4).

In the event that on-site transportation by railroad is selected for one or more RUs, requirements for the Remediation Contractor and rail transporter (as applicable) for such transportation will include the following:

- Comply with all federal and state requirements using BOLs and/or other appropriate railroad shipping documents;
- Placard railroad cars in accordance with U.S. DOT and Federal Railroad Administration requirements;
- Employ qualified personnel trained in accordance with U.S. DOT requirements for handling and shipping hazardous materials, with such training to include general safety, emergency response, exposure protection, accident prevention, preparation of shipping papers, and securing loads;

[13] For railroad transport for on-site disposal, over-the-road truck transport is required to get waste to a railroad siding from the staging area and from a railroad siding to the UDF.

- Transport material in U.S. DOT-approved shipping containers that are covered (e.g., intermodal boxes, gondolas);
- Have detailed provisions for responding to transportation emergencies such as accidents, spills, releases, or other incidents; and
- Maintain transportation and disposal records to include the number of loads of materials sent to the railroad off-loading area on a daily basis and copies of the final manifests, weight tickets, and certificates of disposal.

3.3 Tracking and Recordkeeping

Tracking and recordkeeping of the material transported to and disposed of at the UDF will be in accordance with applicable federal state, and local disposal management regulations (including, if applicable to the material being transported for disposal, EPA's TSCA regulations in 40 CFR Part 761).

3.3.1 Labeling and Placarding

Each waste container or transportation vehicle will adhere to applicable U.S. DOT regulations and utilize a U.S. DOT Hazard Class 9 placard, as referenced on the applicable BOL. In addition, each container or transport vehicle used for on-site transport to the UDF will be marked as containing PCBs, with large PCB mark labels affixed to each side of the container or transport vehicle.

3.3.2 Manifesting Requirements

As noted above, on-site transport to the UDF is subject to the on-site permit exemption specified in Section 121(e) of CERCLA and Paragraph 9.a of the CD for the GE-Pittsfield/Housatonic River Site. As such, on-site movement of material is exempt from manifesting requirements. However, transporters will need to follow U.S. DOT requirements including utilizing BOLs and appropriate placarding.

3.3.3 Documentation of Material Transported to UDF

The amount of material transported to the UDF for disposal will be documented through the estimated volume of material in each truck unloading at the UDF and by counts of those trucks (including trucks transferring material from the rail off-loading area to the UDF if rail is used for a portion of the transport) and by flow measurements for hydraulic transport. The total volume of material disposed of in the UDF will be confirmed by comparing surveys of the UDF consolidation area before, during, and after construction/consolidation.

3.4 Receipt of Transported Materials at the Upland Disposal Facility

Material delivered to the UDF by land-based transportation vehicles will be routed directly to active cells within the UDF for disposal. Delivered material will be placed in designated cell areas where it will be graded and compacted in accordance with fill operation plans and requirements developed for the UDF.

Material delivered to the UDF by hydraulic conveyance will be routed to cell areas designated for dewatering operations (e.g., areas with geotextile filter bags where the material will undergo dewatering and consolidation or other appropriate methods). Liquid generated within the UDF cells during the dewatering process will be collected for subsequent treatment and disposal.

On-Site and Off-Site Transportation and Disposal Plan

Details related to the handling of material at the UDF were presented in the UDF Conceptual Design Plan submitted to EPA on December 6, 2022 (Arcadis 2022). Further details related to the construction and operation of the UDF, including information related to material unloading and handling at the UDF, will be included in the Upland Disposal Facility Final Design Plan, which is scheduled to be submitted to EPA 60 days after EPA approval of the Final PDI Summary Report for the UDF, submitted in August 2023 (Arcadis 2023b).

4 Off-Site Transportation and Disposal

This section identifies and evaluates the potential modes of transportation of materials from the staging areas (or removal areas if loaded there for direct transport) to the selected off-site disposal facility(ies). It also includes off-site transport from the UDF of sediments designated for off-site disposal that are first transported by hydraulic conveyance to the UDF. The off-site transportation evaluation considers the modes and logistics of transportation, as well as transportation operations and routes. In addition, this section describes potential off-site disposal facilities.

The evaluation of modes for off-site transportation is discussed in Section 4.1. That evaluation considers the location of the potential off-site disposal facility(ies), location of staging areas, implementation and operation schedule, available loading options, transportation operations and routes, transportation equipment availability, and potential community impacts. Sections 4.2 and 4.3 provide an overview of transportation requirements and tracking/recordkeeping requirements, respectively. The evaluation criteria for selection of the appropriate off-site disposal facility(ies) are discussed in Section 4.4

In accordance with the Final Revised SOW, this T&D Plan does not include identification of the selected off-site disposal facility(ies), the final modes of off-site transport, or the final transportation routes to the off-site disposal facility(ies), as these will be identified on an RU-specific basis in the Final RD/RA Work Plans or SIPs for the RUs.

4.1 Modes of Transportation and Routes

Available modes of transportation from the temporary staging areas (or directly from the removal areas) to the off-site disposal facility(ies) are truck and railroad. These modes of transportation are discussed in the following subsections, with preliminary conclusions in Section 4.1.4. Transportation options are considered starting from the staging area (or removal area if loaded there) and ending at the point where containers are received by the selected off-site disposal facility(ies).

4.1.1 Truck Transport

For off-site truck transport of removed material from the ROR, it is anticipated that material will be loaded into lined trucks at the temporary staging areas (or removal areas if loaded there for direct transport) and transported over public roadways directly to the selected off-site permitted disposal facility(ies). The trucks will be manifested, covered, and labeled in accordance with federal and state regulations.

Truck transportation is widely used as a method for transporting sediments and soils to off-site disposal facilities and is technically feasible. As with on-site transport, truck transportation provides flexibility during implementation of remedial activities, as trucks are readily available and can easily access removal and staging areas and can travel off-site independently at any time without relying on other entities to dictate schedule. As noted in Section 3.1.1, truck transportation was the mode of transportation selected by GE and EPA for all of the sediments and floodplain soils removed from the Upper ½ Mile and 1½ Mile Reaches of the Housatonic River.

At this time, GE has identified the most likely anticipated routes for transportation of materials from the various RUs off-site for disposal. As with the anticipated on-site transportation routes, these routes have been located to prioritize major roads, avoid the designated restricted roads (discussed in Section 3.1.1), and avoid other local roads through developed areas to the extent practicable; and the selection of these routes has considered input received during discussions with the affected local municipalities (see Section 1.4). The currently anticipated routes for transportation of removed materials to the selected off-site disposal facility(ies) are illustrated on Figure 4-1 for work in Reach 5A, on Figure 4-2 for work in Reaches 5B, 5C, and 6, and on Figure 4-3 for work in Reaches 7 and 8. These anticipated routes are described in the remainder of this section.

As shown on Figure 4-1, for material removed from Reach 5A, trucks would start from the staging areas (preliminarily presented in the Reach 5A Conceptual Work Plan) or removal areas if loaded there for direct transport and would proceed generally west from Reach 5A to travel off-site to the west via US-20. Specifically, for staging areas on the western side of the river, trucks would travel either north or south on Holmes Road to connect with US-20 (northbound traffic will connect through Pomeroy Avenue to Crofut Street), depending on location of the staging area. For staging areas on the eastern side of the river, trucks would travel on East New Lenox Road to New Lenox Road to connect with US-20. From US-20, trucks would enter the interstate system for travel west to the appropriate disposal facility(ies).

As shown on Figure 4-2, for materials removed from Reach 5B on the eastern side of the river, trucks would likely travel from the eastern side to the western side of the river on New Lenox Road. From there, those trucks, as well as trucks transporting material from the western side of the river, would travel off-site on US-20. For materials removed from Reach 5C, staging areas are anticipated to be on the eastern side of the river and trucks would predominantly travel north to New Lenox Road to join US-20, with some traffic traveling south on Roaring Brook Road to cross the river on Mill Street and travel on Walker Street to join US-20. For Reach 6, trucks would similarly travel from staging area(s) to US-20 via Walker Street. For sediments from Reaches 5C and 6 that are transported hydraulically to the UDF but are ultimately designated for off-site disposal, trucks would similarly travel from the UDF to US-20 via Walker Street. From there, trucks would likely travel on US-20 directly to I-90 and then on the interstate system for travel west to an appropriate disposal facility(ies). An alternate truck travel route for accessing I-90 is identified along MA-183 going south to MA-102 West to join I-90 in New York.

Finally, as shown on Figure 4-3, for materials removed from Reach 7 north of I-90, truck traffic for off-site disposal would likely use US-20 to connect to I-90 West. For materials from Reach 7 south of I-90 and Reach 8, the most efficient entrance to the interstate system would be used for transportation for off-site disposal, either by traveling east on MA-102 or by traveling on MA-183 north to MA-102 West to join I-90 in New York.

At present, the only entrances anticipated to be used for access to the interstate system are through established and publicly available entrance ramps. At the request of the local community, GE has evaluated potential alternative options for accessing I-90 West such as service road entrances available to the MassDOT. However, because of concerns regarding the safety risks associated with trucks entering the interstate highway without the length of a publicly available entrance ramp to achieve the speed limit before merging with traffic, and based on initial discussions with MassDOT, alternative entrances to I-90 will not be considered further for transportation of material off-site.

4.1.2 Railroad Transport

This section provides an evaluation of the potential for off-site transport by railroad. As noted in Section 3.1.3, the Pittsfield area is serviced by the HRRC, which generally follows the Housatonic River and runs the length of the ROR subject to Remedial Action (Figure 1-1). HHRC is connected in Pittsfield to a national railroad system owned by CSX Corporation (CSX). To transport material off-site by railroad (if selected), coordination would be directly with HRRC, which would then coordinate with CSX to deliver the material to the selected off-site facility(ies). Transportation of rail cars loaded with project materials would be under the care and custody of the railroads and would be routed pursuant to railroad transportation agreements between the railroad company(ies) and GE and applicable laws and regulations.

Under this option, material would be loaded into trucks at the temporary staging areas (or removal areas if loaded there for direct transport) and then be driven directly to a railroad siding or loading facility for loading (using gondolas or intermodals). Such loading could occur at one of the previously used railroad siding locations described in Section 3.1.3. In that case, the same considerations discussed in Section 3.1.3 regarding the availability, location, and reconditioning of railroad sidings for on-site transport and truck traffic to those sidings would also apply to the use of those railroad sidings for off-site transport from the various RUs, with the

exception that the previously used Willow Creek siding on the western side of Woods Pond would be a potential candidate for the loading of rail cars for off-site transportation.

As an alternative, the material could be driven by truck to an existing off-site commercial rail loading facility (e.g., the CSX facility located in Albany, New York, the Transload facility located in Worcester, Massachusetts) for loading on trains. This would involve the same amount of local traffic and off-site traffic near the site as the use of trucks to travel directly to the off-site disposal facilities (although the routes leaving the site on the interstate highways may be somewhat different), but it would involve use of railroad for the long-distance transport to the disposal facilities.

After a train is loaded, it would travel to the disposal facility(ies) via the trackage of the railroads involved in the movement. The frequency of train movement would vary based on railroad scheduling, rate of loading, travel time required to and from the selected disposal facility, rate of unloading, and other factors. As needed, rail cars could be staged and loaded based on the project sequence and schedule. However, use of the railroad would depend on the railroad's availability to move cars and on other railroad traffic, which could dictate and delay construction sequencing and schedule. As also noted in Section 3.1.3, this could result in a stoppage of removal activities based on the railroad's schedule.

In general, the use of rail for the transportation of material off-site for disposal would reduce the extent of truck traffic for the minimum of 100,000 cy of material designated for off-site disposal. However, as noted above, truck traffic would still be required for transport of material from the staging areas (or removal areas if loaded there for direct transport) and the railroad siding or other loading facility and from the rail off-loading area to the UDF. The distance and route of those truck trips would be based on the location of the railroad siding for transfer of material from truck to rail and the location of the off-loading area. The evaluation of using rail to transport material for off-site disposal will depend, in large part, on the availability of and locations for transferring material from truck to railroad and from the railroad back to truck to transfer the material to the UDF. As noted above, there are currently no usable railroad sidings available in or in proximity to the City of Pittsfield or the Towns of Lee, Lenox, Great Barrington, and Stockbridge.

4.1.3 Evaluation of Truck Trips

As discussed above, even if railroad is used for transportation of material off-site, truck transportation would still be required to transport material from the RU-specific removal or staging areas to the railroad loading area(s). Thus, it is anticipated that both truck and railroad modes of transportation would require the same number of truck trips, although the distance and routes of the trips would differ based on the selected mode of transportation. Based on the conceptual estimated off-site disposal volumes presented in Table 2-1, Table 4-1 presents, for off-site disposal, the estimated numbers of truck trips by RU.[14]

[14] As with the evaluation of on-site truck traffic, because transportation and disposal of materials from Reaches 7 and 8 are anticipated to start at least 10 years after initiation of construction in Reach 5A, and because such materials will all generally be located south of I-90, those RUs have been combined for simplification.

Table 4-1: Summary of Estimated Truck Trips for Off-Site Disposal

Reach	Estimated Duration (year)[a]	Estimated Off Site Disposal Volume (cy)	Estimated Truck Trips[b]	Estimated Average Truck Trips Per Year	Estimated Average Truck Trips Per Day[c]
5A	4	8,500	640	160	1
5B	1	2,000	150	150	1
5C	3	39,000	2,900	980	5
6	3	29,000	2,200	730	3
7 and 8	3	21,000	1,600	530	2
Total	**13**	**100,000**	**7,000**		

Notes:

[a] The estimated duration for each RU was based on the Final Revised OSS and was rounded to the nearest year (which sums to 14 years); however, the total duration is currently anticipated to be 13 years. Duration and volumes are subject to change as the PDIs and remedial activities progress; changes could affect the estimated number of truck trips.

[b] Truck trips assume a dump truck with a 20-ton truck capacity.

[c] Daily averages assume 198 days per year, based on an assumed average of 22 working days per month and a nine-month construction season.

Table 4-2 below summarizes the typical traffic on portions of anticipated travel routes to provide perspective on the relative impact of truck traffic associated with off-site disposal on the surrounding communities. As with Table 3-4 (discussed in Section 3.1.4), Table 4-2 is based on MassDOT's AADT data, which equate to average vehicles per day, and it summarizes data available and/or interpolated (depending on location) for the past 10 years (MassDOT 2023). Again. the data in the table are further separated into average total vehicles per day and the portion of that total that is composed of large trucks. As noted in Section 3.1.5, the location of the stations evaluated are illustrated on Figure 3-5.

Table 4-2: Summary of Typical Traffic on Portions of Anticipated Travel Routes for Off-Site Disposal

Route	Station Reference / Reaches Represented	Average Total Vehicles per Day[a]	Average Large Trucks per Day[a,b]
US-20 North of Holmes Road	**1175**: Representative of typical traffic for routes proposed for work in Reaches 5A	11,800	180
US-20 South of New Lenox Road, North of Route 7A	**40**: Representative of typical traffic for routes proposed for work in Reaches 5B and 5C	13,800	220
US-20 in Lee	**1093**: Representative of typical traffic for routes proposed for work in Reaches 5B, 5C	6,200	120
MA-183 at Boundary between Lenox and Stockbridge	**189**: Representative of typical traffic for alternate route proposed for work in Reaches 5B and 5C	1,300	30

Notes:

Source: MassDOT 2023

[a] Average per day represents an average of one-way AADT traffic northbound or eastbound and one-way AADT traffic southbound or westbound. Station Reference 1093 is associated with east and west bounds, while all other stations are related to north and south bounds.

[b] The criteria for the "large truck" category are vehicles with a length >35 feet or an FHWA class ≥5A. The selection of the criteria is dependent on the availability of the classification data provided by MassDOT (2023).

In general, the anticipated truck traffic associated with off-site disposal is expected to increase total traffic by less than 1%. When looking at only large truck traffic, estimated truck traffic associated with off-site disposal of material from the remediation work scheduled for the first 10 years (covering Reaches 5 and 6) may increase one-way large truck traffic on US-20, anticipated to be used for work in those reaches, by less than 5% compared to the one-way large truck traffic typically observed on US-20. Because the typical volume of one-way large truck traffic is lower on MA-183, the relative increase in traffic for the alternate travel route proposed on MA-183 could be as high as 17% on a given day if all trucks on that day were directed off-site via that route. For the work in Reaches 7 and 8, which will occur more than 10 years from now, a similar evaluation of relative increase to truck traffic may be included in the forthcoming RU-specific work plans.

4.1.4 Conclusions

This section presents preliminary conclusions regarding the mode(s) of off-site transportation for each RU, based on the evaluations presented above.

For Reach 5A, it is currently anticipated that transportation by truck will be selected as the mode of transportation for conveying material generated in Reach 5A to the selected off-site-disposal facility(ies) or to an existing off-site commercial rail loading facility for long-distance transport to the disposal facility(ies) by rail. The reasons for this preliminary conclusion are as follows:

- Truck transportation is widely used as a method for transporting sediments and soils and is a technically feasible method for transportation of materials for off-site disposal. Further, the estimated truck traffic for off-site disposal of material from Reach 5A is expected to consist of an average of only one truck trip per day, which would not significantly increase large truck traffic on US-20 compared to the truck traffic typically observed on US-20.
- There are currently no usable railroad sidings available in or in proximity to Reach 5A (or any RU). (As with on-site transport, if, at the time of work at a specific RU, a siding has been developed or reconditioned by a third party, GE will consider whether it is feasible and/or appropriate to use that siding for railroad transportation of material off-site.)
- There is uncertainty in the ability to obtain access and other agreements to recondition and use railroad siding locations and loading areas near Reach 5A.
- The use of an existing railroad siding area would require complete replacement of infrastructure at that location by installing new track and ballast.
- The route of travel by truck between Reach 5A and potential off-site locations would be primarily on state highways and interstates that are rated for such truck traffic.
- The use of truck transportation provides greater flexibility during implementation of the remedial activities and is not hindered by potential delays with rail transport equipment, schedule, or other rail customers along the route.

For all other RUs, the evaluation of transportation by truck or railroad will be presented on an RU-specific basis at a later time in subsequent design documents. For each RU, the evaluation of whether rail can and would be used to transport material off-site is highly dependent on the availability of and locations for transferring material from truck to railroad and a comparison of the distance required to truck material from the staging areas (or removal areas if loaded there) to the interstate system versus to the railroad siding loading areas, as well as the overall efficiency of such an approach.

For both Reach 5A and other RUs, the final mode of transport to the selected off-site facility(ies) and the transportation routes to be used will be identified on an RU-specific basis in the Final RD/RA Work Plans or SIPs for the RUs.

4.2 Off-Site Transportation Requirements

Over-the-road transport of materials by truck to off-site disposal facilities will be performed by licensed haulers in accordance with appropriate local, state, and federal regulations. Material transport vehicles leaving the work area will be lined and covered to avoid spillage during transportation and will be manifested and placarded in accordance with federal and state requirements using hazardous waste manifests or BOLs.

For the transport of excavated materials from the ROR by truck to the off-site disposal facility(ies) or to a railroad siding to be loaded for further transport by railroad, the Remediation Contractor and the transporters (as applicable) will be required to comply with all off-site transportation and disposal requirements and to implement the same transport procedures listed in Section 3.2 for on-site transport by truck.

In addition, the transport of excavated materials from the staging areas (or from the removal areas if material can be directly loaded) by truck to the appropriate off-site disposal facilities (or rail loading area) will be conducted in accordance with the following guidelines:

- After a safety check of the truck, the truck bed will be lined with polyethylene sheeting.
- Excavated soil will then be placed in the truck and the load will be covered.
- An appropriate hazardous waste manifest or BOL will be prepared and completed by GE (or its authorized representative).
- After another safety check of the vehicle and placarding, the truck will leave the staging areas and proceed to the off-site disposal facility (or loading area) using the pre-approved route.

In the event that off-site transportation by railroad is selected for one or more RUs, requirements for the Remediation Contractor and rail transporters (as applicable) for such transportation will be the same as those listed in Section 3.2 for on-site railroad transportation with the following modifications:

- The transporters will be required to comply with all comply with federal and state requirements for such transport using hazardous waste manifests or BOLs and other appropriate railroad shipping documents; and
- The Remediation Contractor and transporters, as applicable, must maintain transportation and disposal records, including the number of loads of materials sent to the disposal facilities on a daily basis and copies of the final manifests, weight tickets, and certificates of disposal.

4.3 Tracking and Recordkeeping

Tracking and recordkeeping of the material transported to off-site disposal facilities will be in accordance with the applicable federal, state, and local waste management regulations (including provisions of EPA's TSCA regulations in 40 CFR Part 761 for waste subject to those regulations).

4.3.1 Labeling and Placarding

Each material container or transportation vehicle will adhere to applicable U.S. DOT regulations and utilize a U.S. DOT Hazard Class 9 placard, as referenced on the applicable BOL or manifest. For containers or transport vehicles that contain material with PCB concentrations of 50 mg/kg or greater or that contain greater than the Reportable Quantity (RQ) of PCBs (1 pound), the container or transport vehicle will be marked as containing PCBs in accordance with EPA's TSCA regulations (40 CFR § 761.40) and applicable U.S. DOT regulations. Specifically, large PCB mark labels will be affixed to each such container or transport vehicle on all sides. Rail cars (if used) will also be placarded in accordance with Federal Railroad Administration requirements. If it is determined that the waste constitutes RCRA hazardous waste, applicable placarding would accompany the loads based on the predominant hazard identified during RCRA characterization.

These marking, labeling, and placarding requirements are not applicable to transportation of material with PCB concentrations less than 50 mg/kg and containing less than 1 pound of PCB. For such material, in-transit material identification will be accomplished by use of a BOL. Packaging will not be marked, and transportation vessels will not be marked or placarded.

4.3.2 Manifesting Requirements

Manifests will be used to track shipments from the ROR to the selected disposal facilities. Non-hazardous waste manifests will be used for shipments of non-TSCA/non-RCRA waste to Subtitle D facilities, and the Uniform Hazardous Waste Manifest (UHW Manifest) form (EPA Form 8700-22 and, if necessary, continuation sheet Form 8700-22S) will be used for shipments of TSCA-regulated non-hazardous waste and/or RCRA hazardous waste (if any) to Subtitle C facilities.

Waste manifests will accompany the transported material and be signed by the generator (GE) or its representative, the transportation vendor(s), and the final receiving facility. GE will send copies of the generator manifests to the Massachusetts Department of Environmental Protection. The disposal facility will be responsible for reporting to its respective overseeing agency in accordance with applicable state requirements.

Each individual acting as generator signatory on hazardous waste manifests is required by 49 CFR Part 172 to be trained in handling and shipping hazardous materials. Training requirements are outlined in 49 CFR Part 172, Subpart H. Training must be completed at least once every three years.

It is anticipated that one UHW Manifest form or non-hazardous waste manifest form, as appropriate, will be prepared and completed for each loaded truck or each loaded material container transported by rail. For rail shipments (if applicable), a listing of rail cars in each unit train will be prepared, noted on the manifest, and attached to the manifest. This listing will include rail car serial numbers and estimated loaded net weight for each car. For trucks, the listing will include the estimated loaded net weight for each truck.

The Remediation Contractor, on behalf of the generator (GE), will work with the disposal facilities to prepare and print unique and appropriate shipping documents for each truck load or rail load. The shipping documents will include all transporters used during transportation to the disposal facility. Each transporter will sign its section of the shipping document until it reaches the disposal facility. The disposal facility will return shipping documents to the Remediation Contractor to close out the process.

4.3.3 Documentation of Material Transported Off-Site

Documentation of material transported off-site for disposal will be through weight tickets provided by the receiving facility. As a best management practice (BMP), a tracking system will be established to document generation of material, waste characterization and approvals, and off-site disposal for the ROR Remedial Action.

Tracking tables will be generated and updated routinely, and the selected disposal facility(ies) will be required to provide final waste manifests and scale tickets within a reasonable timeframe (to be established at a later date). The following documents and information will be generated and retained to document disposal of waste off-site:

- Off-site disposal tracking table;
- Final manifests and scale tickets;
- Waste characterization summary table (if appropriate);
- Waste approval letter(s); and
- Waste profile(s).

Transportation and disposal-related documents will be provided with the report(s) documenting construction completion following remedy implementation.

4.4 Disposal Destination Screening and Selection

Potential off-site disposal facilities have been identified based on the anticipated waste streams for the ROR Remedial Action. This section outlines the evaluation criteria that will be applied to select the appropriate off-site disposal facility(ies) and provides a summary of the preliminary evaluation performed and information gathered from retained potential facilities.

In general, material to be disposed of at a RCRA Subtitle C facility will fall into either of two categories (or both): (1) materials containing PCB concentrations at or above 50 mg/kg, whose disposal is regulated under EPA's TSCA regulations; and/or (2) materials that constitute characteristic hazardous waste under EPA's RCRA regulations.

Materials whose disposal is not regulated under the TSCA regulations and which do not constitute hazardous waste under RCRA regulations (i.e., non-TSCA/non-RCRA material) may be disposed of at a Subtitle C or Subtitle D facility. The disposal of these categories of material is discussed further below.

4.4.1 Disposal Facility Evaluation Criteria

For development of this T&D Plan, numerous Subtitle D and Subtitle C landfills outside of Massachusetts were identified and reviewed, using professional judgment and experience, for general facility information and capability. Following that effort, additional information was requested from a subset of facilities through a Request for Expression of Interest (RFEI) letter. The information received in reply to each RFEI letter was used to evaluate each facility's capability to meet the conceptual and preliminary needs of the ROR Remedial Action using the following criteria:

- CERCLA approval status;
- Waste acceptance criteria (sampling and analytical requirements);
- Facility capacity limitations (e.g., permitting restrictions, processing requirements, operation schedule, storage limits); and
- Transportation distance, modes, and options.

4.4.2 Disposal Facility Preliminary Evaluation

This section discusses the candidate disposal facility(ies) that were retained after the preliminary screening based on the criteria described in Section 4.4.1. Table 4-3 identifies the five Subtitle C and four Subtitle D candidate off-site disposal facilities retained after the preliminary screening. The locations of those retained facilities are illustrated on Figure 4-4. GE will continue to research and communicate with candidate disposal facilities, including and in addition to those summarized in Table 4-3, throughout the design process; final selection of the off-site disposal facility(ies) will be included in the Final RD/RA Work Plans and SIPs for the various RUs.

4.4.2.1 Subtitle C Facilities (TSCA- and RCRA-Regulated Waste)

Bulk waste with a PCB concentration greater than or equal to 50 mg/kg will be disposed of in a TSCA chemical waste landfill or hazardous waste landfill permitted by EPA under Section 3004 of RCRA or by a state authorization under Section 3006 of RCRA. The retained Subtitle C disposal facilities listed in Table 4-3 constitute such TSCA-permitted landfills. These Subtitle C landfills are also potential disposal options for RCRA-regulated hazardous waste (if any) that is non-TSCA-regulated or waste that is both TSCA-regulated and RCRA-regulated. Due to the unlikelihood of encountering RCRA-regulated hazardous waste with PCB concentrations less than 50 mg/kg during the ROR Remedial Action, Subtitle C facilities that cannot accept waste with PCB concentrations greater than or equal to 50 mg/kg were not retained.

4.4.2.2 Subtitle D Facilities (Solid Waste Disposal)

Non-TSCA/non-RCRA material will be considered acceptable for disposal at RCRA Subtitle D (solid waste) disposal facilities as long as the acceptance criteria of the individual facility permits are met. Based on the initial and preliminary screening, the Subtitle D landfills considered for the disposal of non-TSCA/non-RCRA waste are listed in Table 4-3. These facilities have transportation and disposal experience with similar large-scale waste removal actions and are capable of managing the generated non-TSCA/non-RCRA materials from this project.

5 Community Assessment and Mitigation

As described in Section 1.4, this T&D Plan has considered communications from the local municipalities regarding the transport and disposal of excavated/dredged materials to the UDF and to off-site disposal facilities. As a result of those discussions, changes have been made to potential travel routes (e.g., by avoiding or limiting use of certain roads), and additional efforts are still being made to coordinate with property owners and municipalities to further identify potential travel routes.

A discussion of potential quality-of-life impacts stemming from transportation and disposal activities and mitigation measures for such impacts will be included in the Quality of Life Compliance Plan scheduled to be submitted to EPA by December 20, 2023. That plan will address concerns related to increased traffic in or near residential areas and stress on local roadways that could result in the need for increased road maintenance. The plan will describe methods to minimize and mitigate transportation-related impacts to neighborhoods, infrastructure (e.g., bridges and culverts), and the general public. The plan will also include a description of activities that will be performed to document the pre- and post-remediation conditions of municipal roads and associated infrastructure that may be used for the transportation of materials required for remediation. The Remediation Contractor will implement traffic control measures in the form of BMPs and temporary controls to minimize potential traffic impacts. These measures will include the following:

- Dedicated transportation routes will be developed, tracked, and enforced.
- Truck and project vehicle drivers will comply with project-specific traffic control measures, speed limits, and other local, state, and federal traffic laws.
- Drivers of diesel trucks and other equipment will refrain from idling trucks on local streets to the extent practicable and refrain from overnight parking on city streets unless specific areas are designated and pre-approved.
- Tarps will be installed to cover material loaded onto trucks and trains, and liners will be used to avoid spillage.
- Traffic control signs will be posted (e.g., speed, parking areas) in the work areas.
- Real-time communications (e.g., radios, phones) and tracking systems (e.g., global positioning system) will be developed for project vehicles and/or drivers, as necessary.

During the ROR Remedial Action, project-related truck traffic will be monitored and managed by the Remediation Contractor and GE or their designated representative on site will verify that traffic control measures are functioning as intended.

In addition, during the ROR Remedial Action, GE or its designated representative on site will investigate community complaints regarding traffic and/or congestion to evaluate whether the traffic originated from the project. Where investigations find that the traffic and/or congestion was a result of the project, the Remediation Contractor will implement corrective actions as directed by GE. The forthcoming Quality of Life Compliance Plan will contain a community coordination plan, including a community education and notification program and a complaint management program.

6 Health and Safety

A revised site HASP (Arcadis 2023a) has been submitted to EPA to establish health and safety procedures and requirements to protect workers during the ROR Remedial Action. The HASP includes general requirements specific to waste handling and transportation, including the following:

- Identification of the potential hazards;
- Personal protective equipment requirements;
- Emergency contacts and procedures;
- Roles and responsibilities; and
- Training and medical qualification criteria for site personnel.

The HASP will be reviewed by contractor and subcontractor managers, supervisors, and safety personnel. Project personnel performing field activities will receive a site-specific project orientation summarizing the content of the HASP.

The HASP was written to comply with the requirements of the Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response Standard (29 CFR § 1910.120). Activities covered by the HASP will be conducted in compliance with applicable federal, state, and local health and safety regulations, including 29 CFR § 1910.120 and, for railroad operations (if any), applicable Federal Railroad Administration safety regulations (49 CFR Part 214, Subpart C).

The Remediation Contractor will also be required to develop its own HASP to identify project-specific health and safety procedures, in accordance with 29 CFR Parts 1910 and 1926, for the activities that it will undertake. Contractor requirements will be specified in more detail in forthcoming RU-specific documents (i.e., technical specifications).

7 Summary of Next Steps

The Final Revised OSS presented flow charts (Figures 5-1 and 5-2 in that report) that detail the sequencing and precedents of deliverables and data collection activities that need to be conducted prior to the start of remediation activities in Reach 5A (the most upstream and first RU to be addressed). As discussed in Section 11 of the Conceptual RD/RA Work Plan for Reach 5A. many of those deliverables will need to be approved by EPA prior to submission of the Final RD/RA Work Plan for Reach 5A and implementation of construction. Pertinent updates related to transportation and disposal will be developed as the design proceeds and will be included in the Final RD/RA Work Plan or SIP for Reach 5A. A similar process will be followed for transportation and disposal activities for the further downstream RUs. As discussed in Section 1, such updates, to be included in the Final RD/RA Work Plans and SIPs for the various RUs, will include RU-specific information on the following:

- Final specific methods of transportation and the transportation routes to the UDF and the selected off-site disposal facility(ies);
- Selection of the off-site disposal facility(ies); and
- Evaluation of compliance with the disposal acceptance criteria of the off-site disposal facility(ies).

In addition, as necessary and in consultation with EPA, addenda to this T&D Plan may be submitted to EPA periodically to summarize the RU-specific updates as they relate to transportation and disposal activities.

8 References

Anchor QEA. 2022. *Final Revised Overall Strategy and Schedule for Implementation of the Corrective Measures*. Prepared for General Electric Company, Pittsfield, Massachusetts. July 5.

Anchor QEA, AECOM, and Arcadis. 2021. *Final Revised Rest of River Statement of Work*. Housatonic River – Rest of River. Prepared for General Electric Company, Pittsfield, Massachusetts. September 14.

Anchor QEA, AECOM, and Arcadis. 2023. *Conceptual Remedial Design/Remedial Action Work Plan for Reach 5A*. Housatonic River – Rest of River. Prepared for General Electric Company, Pittsfield, Massachusetts. September 28.

Arcadis. 2022. *Upland Disposal Facility Conceptual Design Plan*. Prepared for General Electric Company, Pittsfield, Massachusetts. December.

Arcadis. 2023a. *Revised Site Health and Safety Plan*. Prepared for General Electric Company, Pittsfield, Massachusetts. July 17.

Arcadis. 2023b. *Final Upland Disposal Facility Pre-Design Investigation Summary Report*. Prepared for General Electric Company, Pittsfield, Massachusetts. August.

EPA. 2020a. *Revised Final Permit Modification to the 2016 Reissued RCRA Permit and Selection of CERCLA Remedial Action and Operation & Maintenance for Rest of River*. December 16.

EPA. 2020b. Statement of Basis for EPA's Proposed 2020 Revisions to the Remedial Action for the Housatonic River "Rest of River". July. Available online at: https://semspub.epa.gov/work/01/647211.pdf.

EPA. 2020c. Combined Industry Written Comments on Draft Revised 2020 Modification to the 2016 Reissued RCRA Permit, Received During the 07/13/2020–09/18/2020 Comment Period—Housatonic Railroad Company. October. Available online at: https://semspub.epa.gov/work/01/649588.pdf.

MassDOT. 2023. Traffic Volume and Classification in Massachusetts. Available online at: https://www.mass.gov/traffic-volume-and-classification-in-massachusetts.

Table

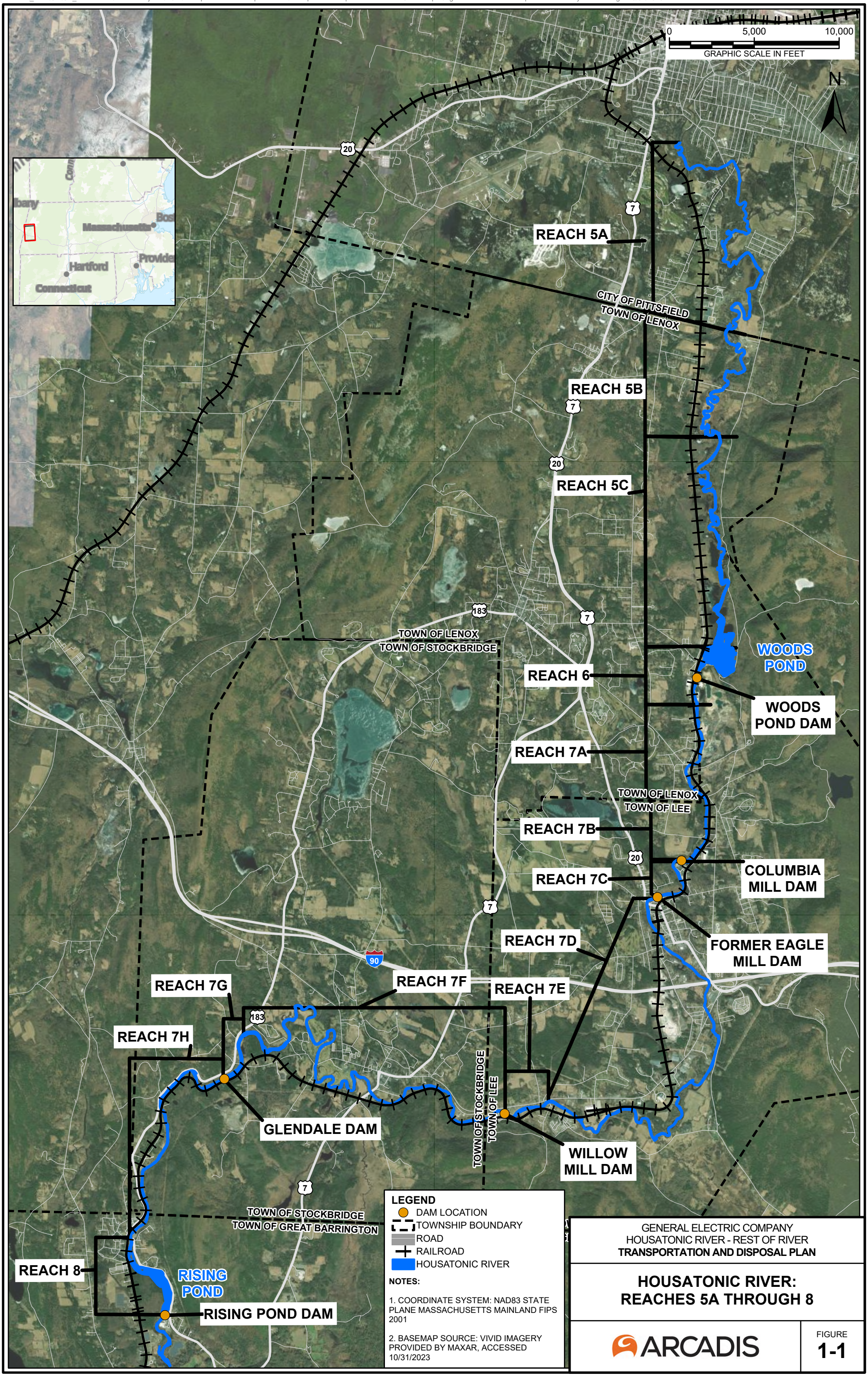
Table 4-3
Off-Site Disposition – Preliminary Facility List
On-Site and Off-Site Transportation and Disposal Plan
Housatonic River – Rest of River

Number	Facility Information				
	Operating Company	Facility Name	Facility Type	Facility ID	Facility Address
1	Clean Harbors	Lone Mountain Landfill	Subtitle C	OKD065438376	40355 South County Road 236, Waynoka, OK 73860
2	Clean Harbors	Grassy Mountain Landfill	Subtitle C	UTD991301748	7 miles north of Knolls, exit 41 off I-80, Grassy Mountain, UT 84029
3	Heritage Environmental Services, Inc.	Roachdale Facility	Subtitle C	IND980503890	4370 West County Road 1275 North, Roachdale, IN 46172
4	US Ecology	Wayne Disposal, Inc. Site #2 Landfill	Subtitle C	MID048090633	49350 North I-94 Service Drive Belleville, MI 48111
5	Waste Management, Inc.	Emelle Landfill	Subtitle C	ALD000622464	36964 AL Hwy 17, Emelle, AL 35459
6	Waste Management, Inc.	High Acres Landfill	Subtitle D	N/A	425 Perinton Parkway Fairport, NY 14450
7	Casella Waste Systems, Inc.	Hyland Landfill	Subtitle D	N/A	6653 Herdman Road, Angelica, NY 14709
8	Casella Waste Systems, Inc.	Ontario County Landfill	Subtitle D	N/A	1879 Routes 5 & 20 Stanley, NY 14561
9	Casella Waste Systems, Inc.	Clinton County Landfill	Subtitle D	N/A	286 Sand Rd. Morrisonville, NY 12962

N/A = not available or not applicable

Figures

Path: T:_ENV\GE\GE_Housatonic\ArcPro Projects\ROR\Transportation and Disposal Plan\Transport and Disp Plan Reaches 7 8 focus.aprx\Fig1 Housatonic River Map Last Saved By: ksinsabaugh 10/31/2023

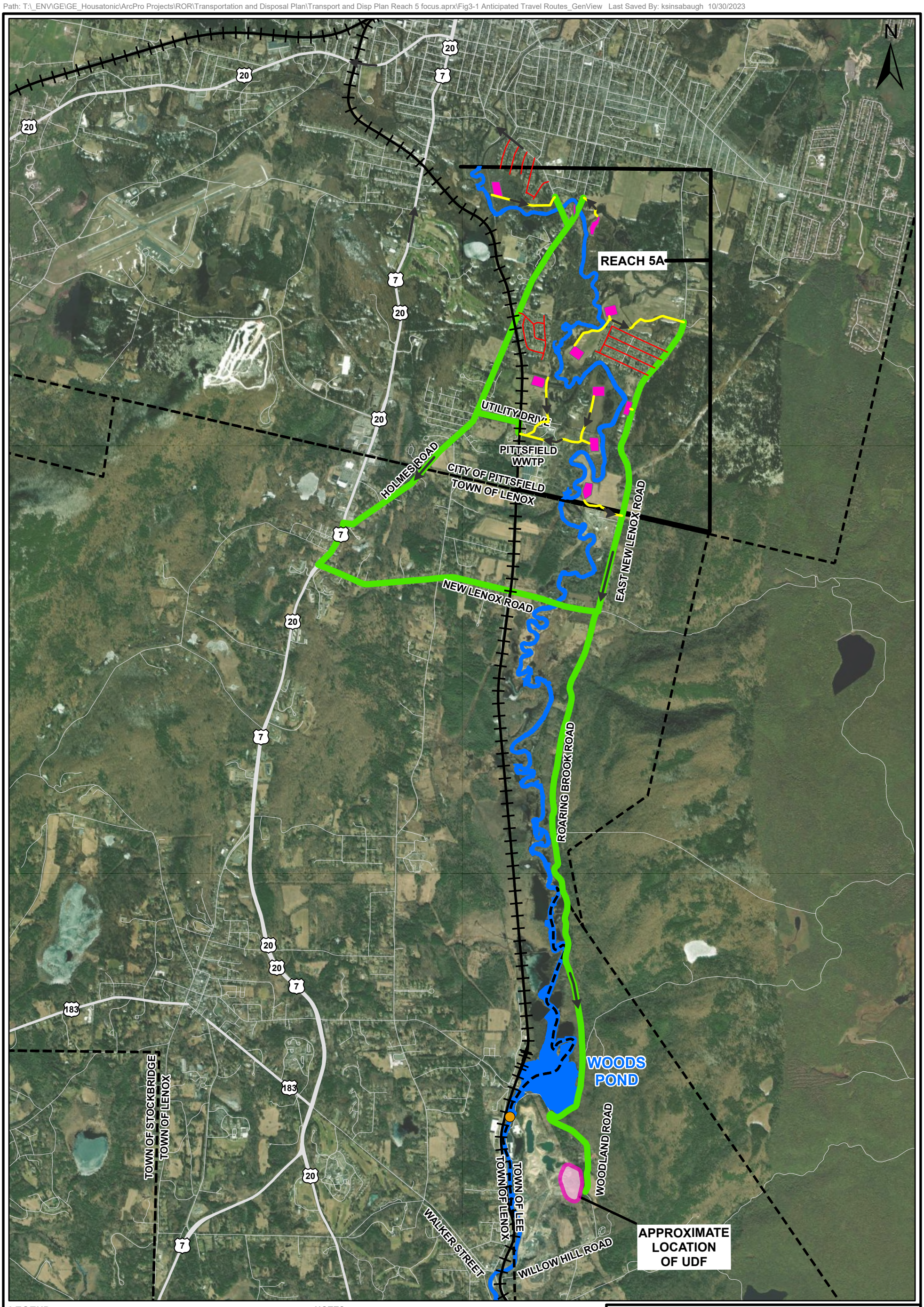


GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
TRANSPORTATION AND DISPOSAL PLAN

HOUSATONIC RIVER: REACHES 5A THROUGH 8

ARCADIS

FIGURE
1-1



LEGEND

- DAM LOCATION
- TOWNSHIP BOUNDARY
- ROAD
- RAILROAD
- PRELIMINARY ACCESS ROAD TO PUBLIC ROAD
- PRELIMINARY STAGING AREA
- ROAD USE RESTRICTED
- HOUSATONIC RIVER
- POTENTIAL TRUCK ROUTE TO UDF
- GENERAL TRAVEL DIRECTION TO DISPOSAL

NOTES:

1. COORDINATE SYSTEM: NAD83 STATE PLANE MASSACHUSETTS MAINLAND FIPS 2001
2. BASEMAP SOURCE: VIVID IMAGERY PROVIDED BY MAXAR, ACCESSED 10/30/2023
3. UDF = UPLAND DISPOSAL FACILITY

0 3,000 6,000

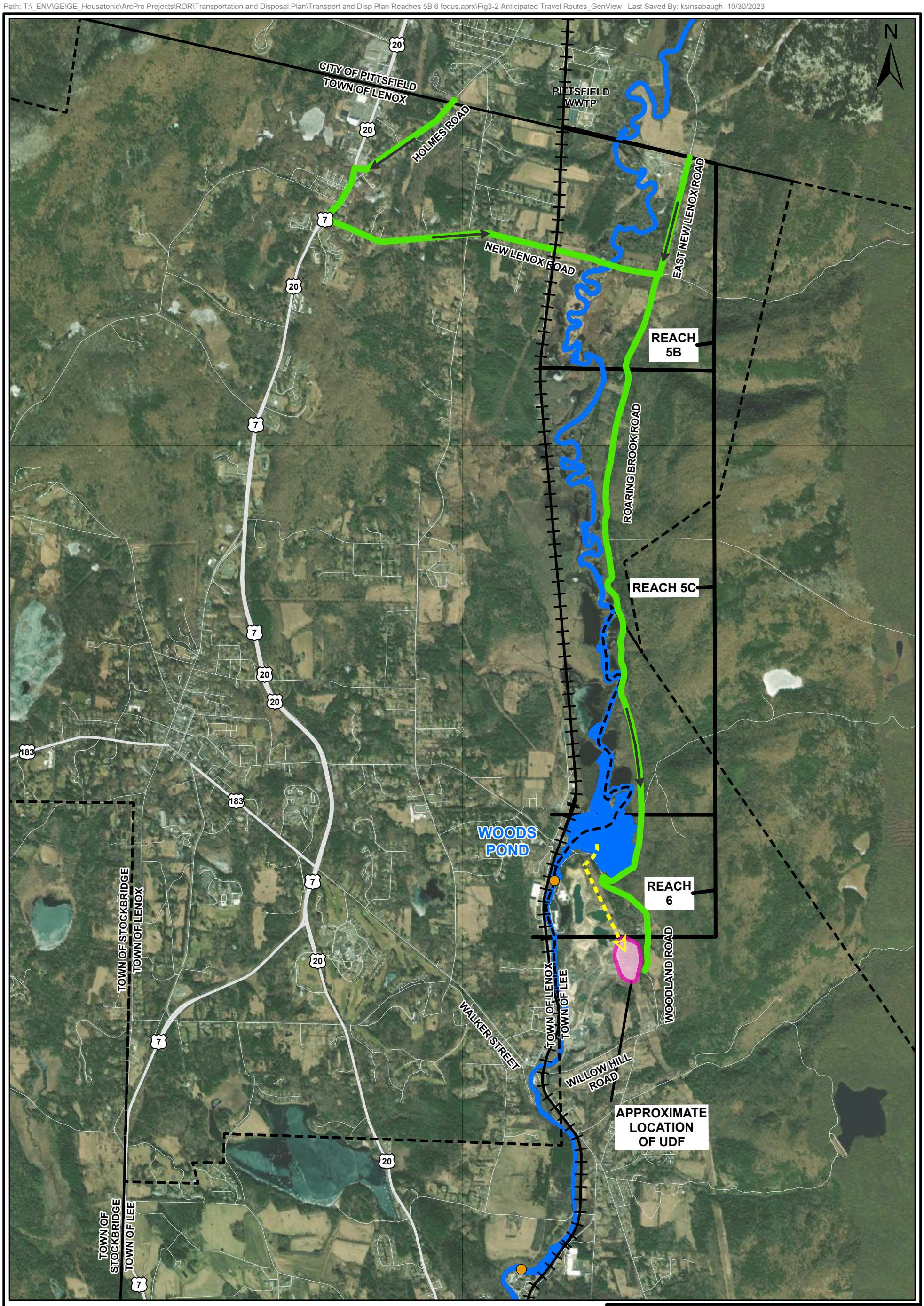
GRAPHIC SCALE IN FEET

GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
TRANSPORTATION AND DISPOSAL PLAN

ANTICIPATED TRAVEL ROUTES FOR ON-SITE DISPOSAL FOR WORK IN REACH 5A

ARCADIS

FIGURE
3-1



LEGEND

- DAM LOCATION
- TOWNSHIP BOUNDARY
- ROAD
- RAILROAD
- HOUSATONIC RIVER
- POTENTIAL TRUCK ROUTE TO UDF
- POTENTIAL PIPING ROUTE
- GENERAL TRAVEL DIRECTION TO DISPOSAL

NOTES:

1. COORDINATE SYSTEM: NAD83 STATE PLANE MASSACHUSETTS MAINLAND FIPS 2001
2. BASEMAP SOURCE: VIVID IMAGERY PROVIDED BY MAXAR, ACCESSED 10/30/2023
3. UDF = UPLAND DISPOSAL FACILITY
4. POTENTIAL TRUCK ROUTES TO RAILROAD SIDING LOCATIONS WILL BE DEVELOPED AT A LATER DATE, IF APPLICABLE, BASED ON LOCATION(S) OF RAILROAD SIDINGS.

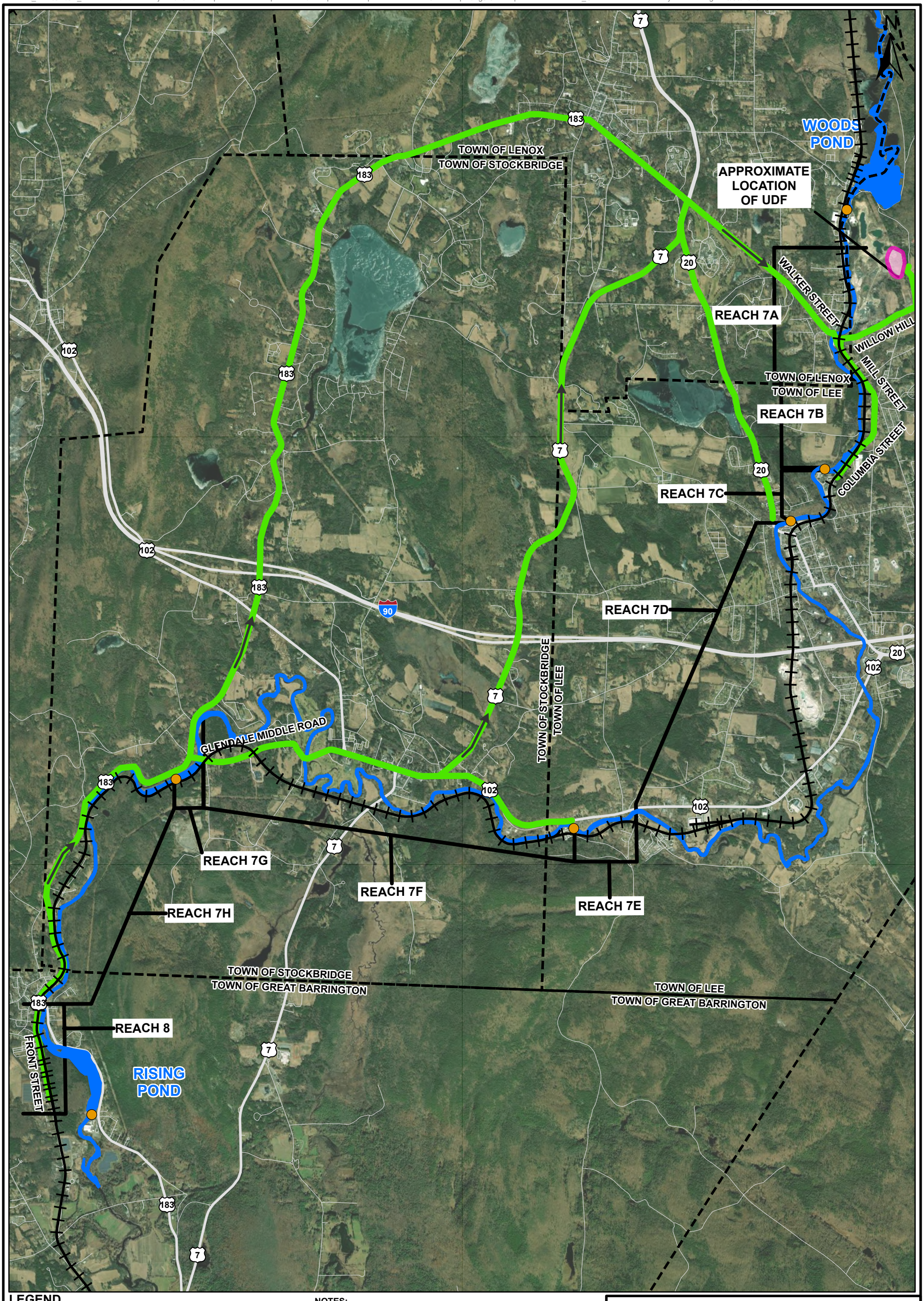
0 2,500 5,000
GRAPHIC SCALE IN FEET

GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
TRANSPORTATION AND DISPOSAL PLAN

ANTICIPATED TRAVEL ROUTES FOR ON-SITE DISPOSAL FOR WORK IN REACHES 5B, 5C, AND 6

ARCADIS

FIGURE
3-2



LEGEND

- DAM LOCATION
- TOWNSHIP BOUNDARY
- ROAD
- RAILROAD
- HOUSATONIC RIVER
- POTENTIAL TRUCK ROUTE TO UDF
- GENERAL TRAVEL DIRECTION TO DISPOSAL

NOTES:

1. COORDINATE SYSTEM: NAD83 STATE PLANE MASSACHUSETTS MAINLAND FIPS 2001
2. BASEMAP SOURCE: VIVID IMAGERY PROVIDED BY MAXAR, ACCESSED 10/30/2023
3. UDF = UPLAND DISPOSAL FACILITY
4. POTENTIAL TRUCK ROUTES TO RAILROAD SIDING LOCATIONS WILL BE DEVELOPED AT A LATER DATE, IF APPLICABLE, BASED ON LOCATION(S) OF RAILROAD SIDINGS.

0 3,750 7,500
GRAPHIC SCALE IN FEET

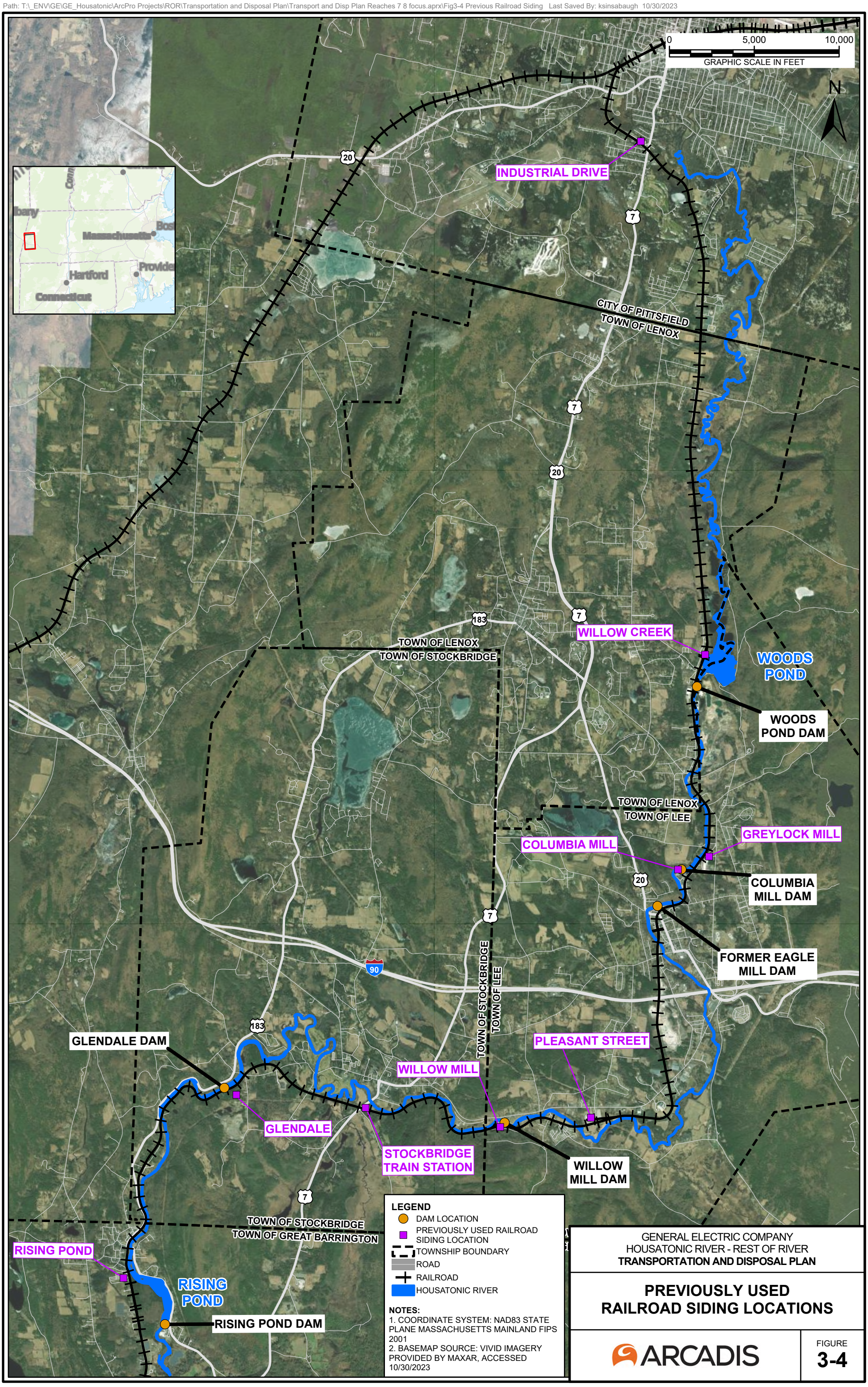
GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
TRANSPORTATION AND DISPOSAL PLAN

ANTICIPATED TRAVEL ROUTES FOR ON-SITE DISPOSAL FOR WORK IN REACHES 7 AND 8

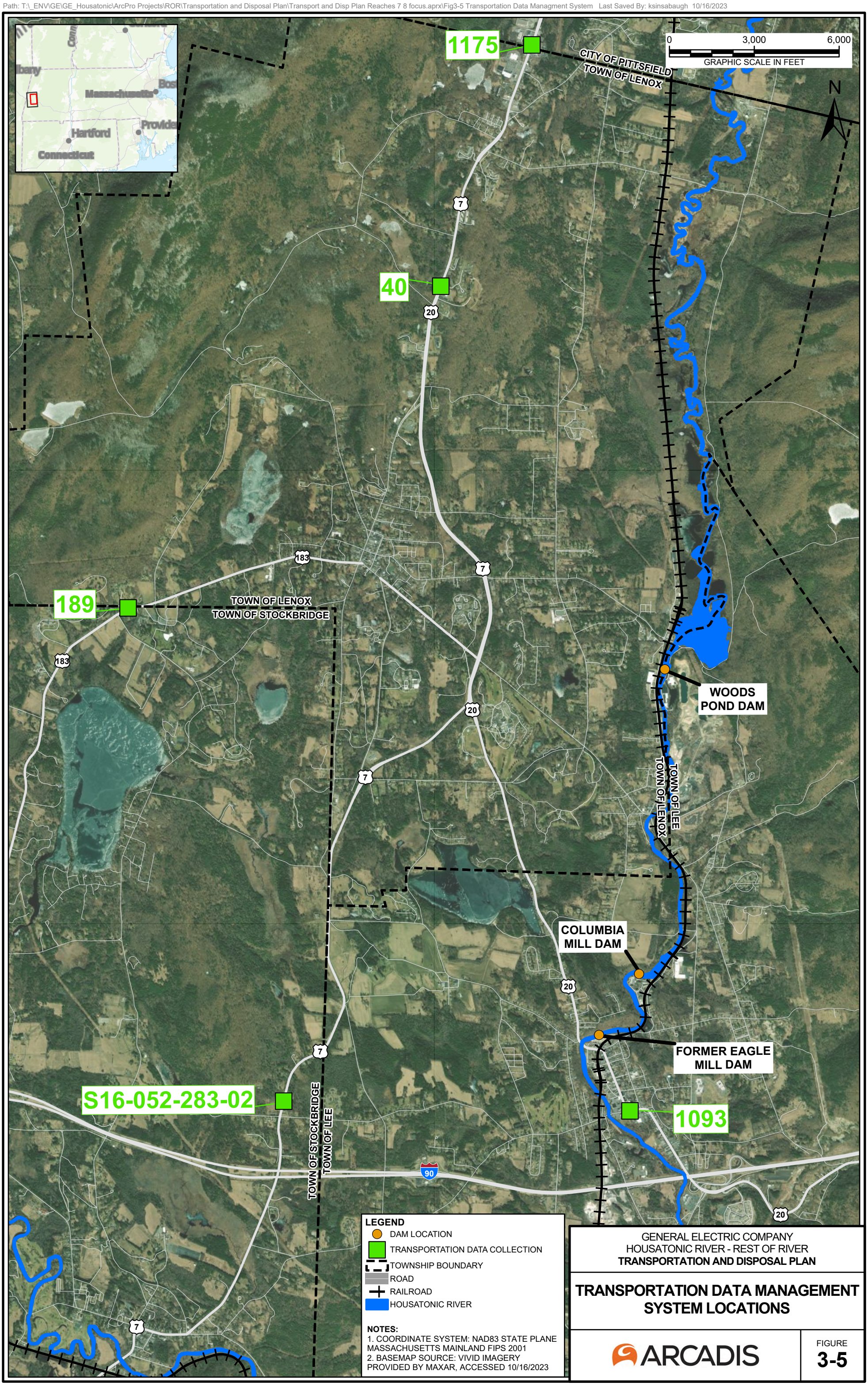
ARCADIS

FIGURE
3-3

Path: T:_ENV\GE\GE_Housatonic\ArcPro Projects\ROR\Transportation and Disposal Plan\Transport and Disp Plan Reaches 7 8 focus.aprx\Fig3-4 Previous Railroad Siding Last Saved By: ksinsabaugh 10/30/2023



Path: T:_ENV\GE\GE_Housatonic\ArcPro Projects\ROR\Transportation and Disposal Plan\Transport and Disp Plan Reaches 7 8 focus.aprx\Fig3-5 Transportation Data Managment System Last Saved By: ksinsabaugh 10/16/2023

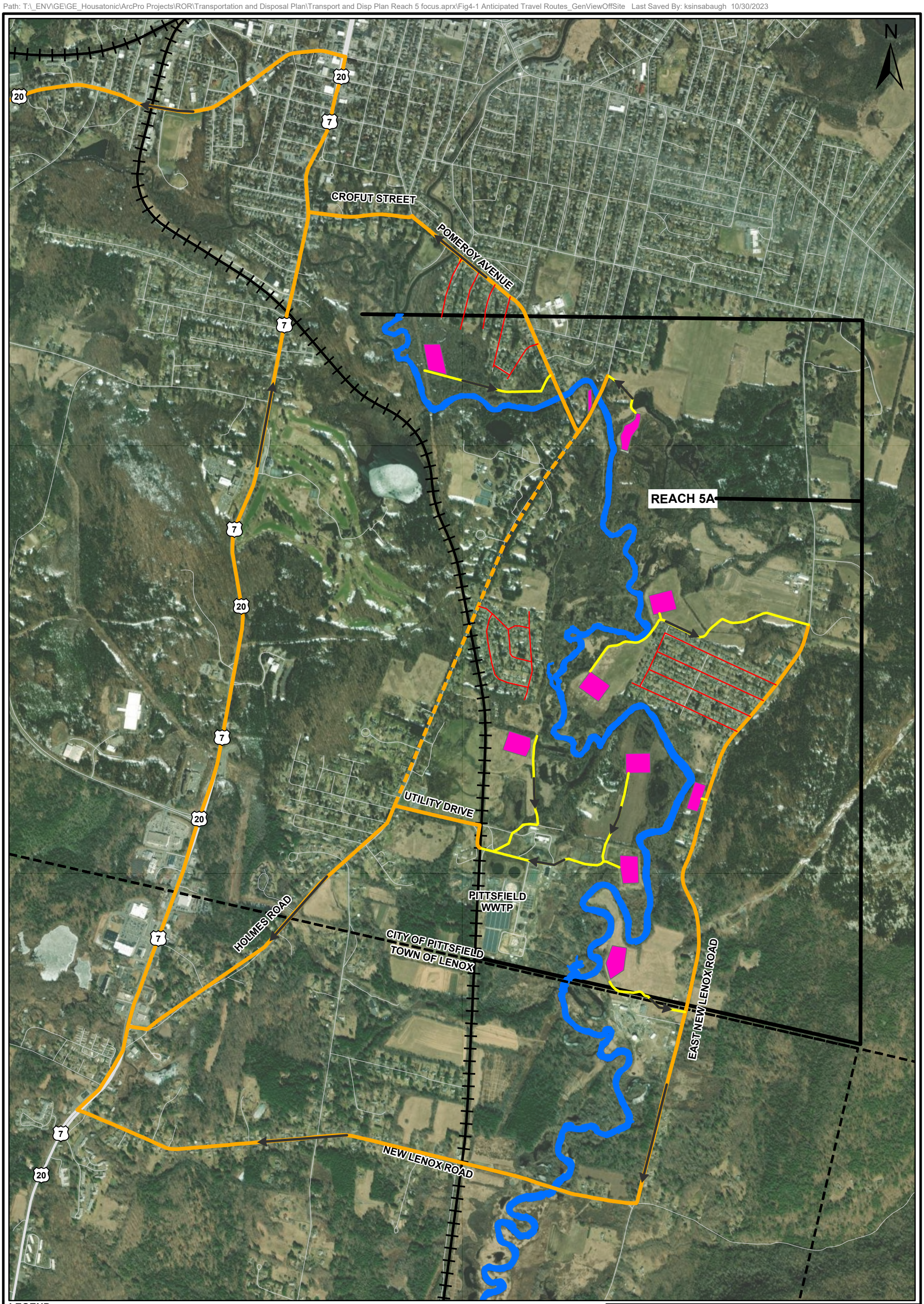


GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
TRANSPORTATION AND DISPOSAL PLAN

TRANSPORTATION DATA MANAGEMENT SYSTEM LOCATIONS

ARCADIS

FIGURE
3-5



LEGEND

- DAM LOCATION
- TOWNSHIP BOUNDARY
- ROAD
- RAILROAD
- PRELIMINARY ACCESS ROAD TO PUBLIC ROAD
- PRELIMINARY STAGING AREA
- ROAD USE RESTRICTED
- HOUSATONIC RIVER
- POTENTIAL TRUCK ROUTE FOR OFF-SITE DISPOSAL
- POTENTIAL TRUCK ROUTE FOR OFF-SITE DISPOSAL (ALTERNATE)
- GENERAL TRAVEL DIRECTION TO DISPOSAL

NOTES:

1. COORDINATE SYSTEM: NAD83 STATE PLANE MASSACHUSETTS MAINLAND FIPS 2001

2. BASEMAP SOURCE: VIVID IMAGERY PROVIDED BY MAXAR, ACCESSED 10/30/2023

0 1,500 3,000

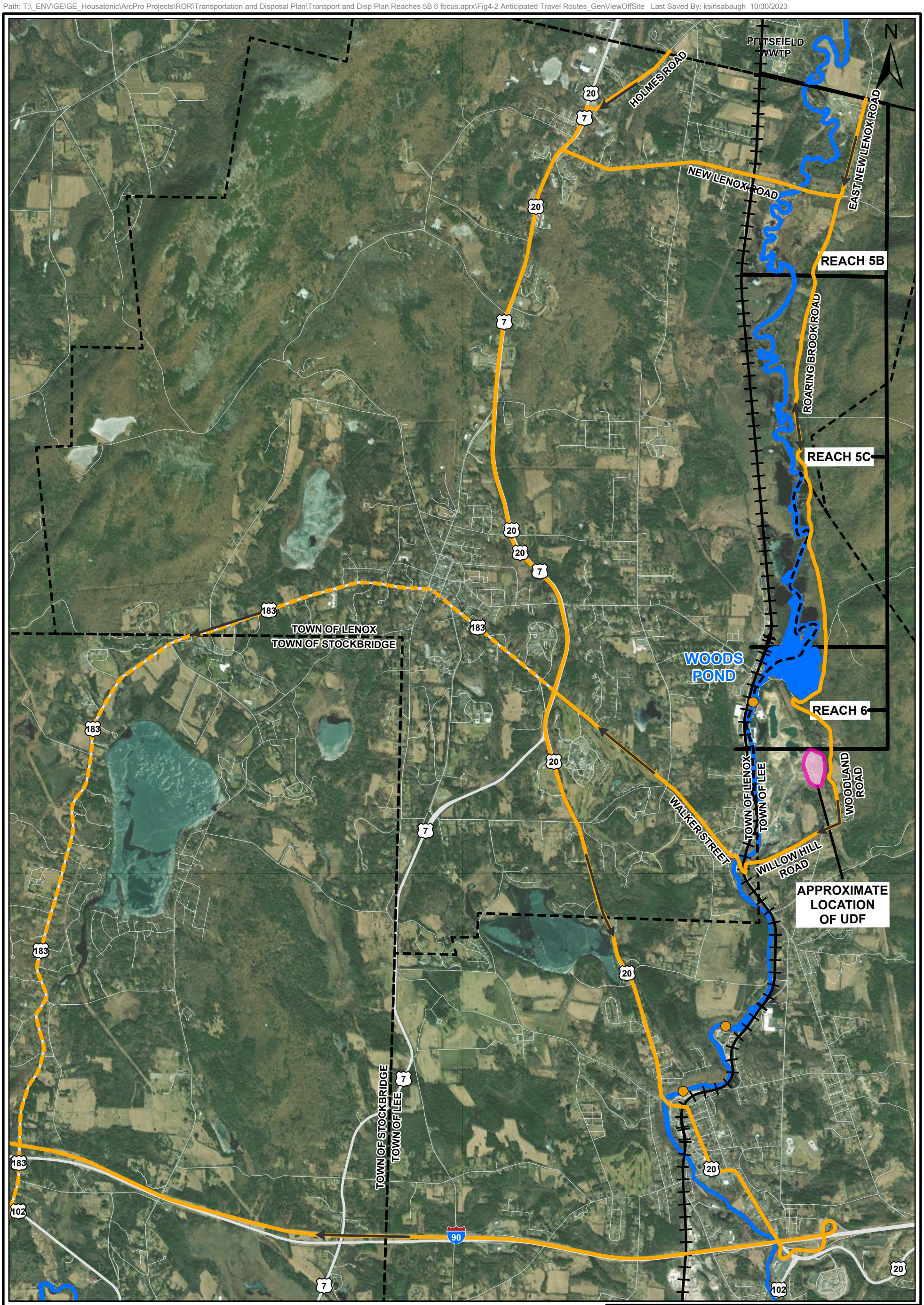
GRAPHIC SCALE IN FEET

GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
TRANSPORTATION AND DISPOSAL PLAN

ANTICIPATED TRAVEL ROUTES FOR OFF-SITE DISPOSAL FOR WORK IN REACH 5A

ARCADIS

FIGURE
4-1



LEGEND

- DAM LOCATION
- TOWNSHIP BOUNDARY
- ROAD
- RAILROAD
- HOUSATONIC RIVER
- POTENTIAL TRUCK ROUTE FOR OFF-SITE DISPOSAL
- POTENTIAL TRUCK ROUTE FOR OFF-SITE DISPOSAL (ALTERNATE)
- GENERAL TRAVEL DIRECTION TO DISPOSAL

NOTES:

1. COORDINATE SYSTEM: NAD83 STATE PLANE MASSACHUSETTS MAINLAND FIPS 2001
2. BASEMAP SOURCE: VIVID IMAGERY PROVIDED BY MAXAR, ACCESSED 10/30/2023
3. UDF = UPLAND DISPOSAL FACILITY
4. POTENTIAL TRUCK ROUTES TO RAILROAD SIDING LOCATIONS WILL BE DEVELOPED AT A LATER DATE, IF APPLICABLE, BASED ON LOCATION(S) OF RAILROAD SIDINGS.

0 3,000 6,000

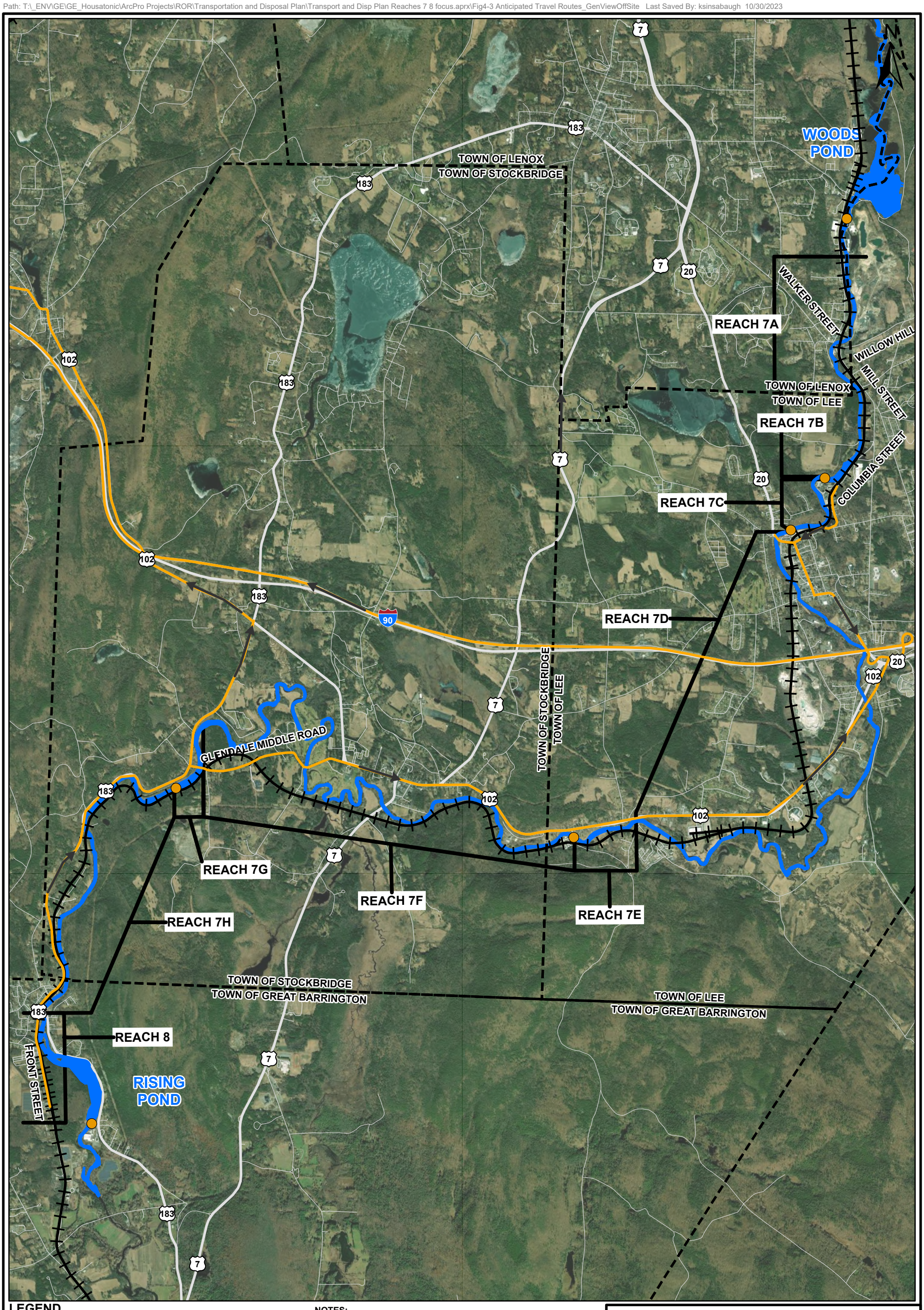
GRAPHIC SCALE IN FEET

GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
TRANSPORTATION AND DISPOSAL PLAN

ANTICIPATED OFF-SITE TRAVEL ROUTES FOR WORK IN REACHES 5B, 5C, AND 6

ARCADIS

FIGURE
4-2



LEGEND

- DAM LOCATION
- TOWNSHIP BOUNDARY
- ROAD
- RAILROAD
- HOUSATONIC RIVER
- POTENTIAL TRUCK ROUTE FOR OFF-SITE DISPOSAL
- GENERAL TRAVEL DIRECTION TO DISPOSAL

NOTES:

1. COORDINATE SYSTEM: NAD83 STATE PLANE MASSACHUSETTS MAINLAND FIPS 2001
2. BASEMAP SOURCE: VIVID IMAGERY PROVIDED BY MAXAR, ACCESSED 10/30/2023
3. UDF = UPLAND DISPOSAL FACILITY
4. POTENTIAL TRUCK ROUTES TO RAILROAD SIDING LOCATIONS WILL BE DEVELOPED AT A LATER DATE, IF APPLICABLE, BASED ON LOCATION(S) OF RAILROAD SIDINGS.

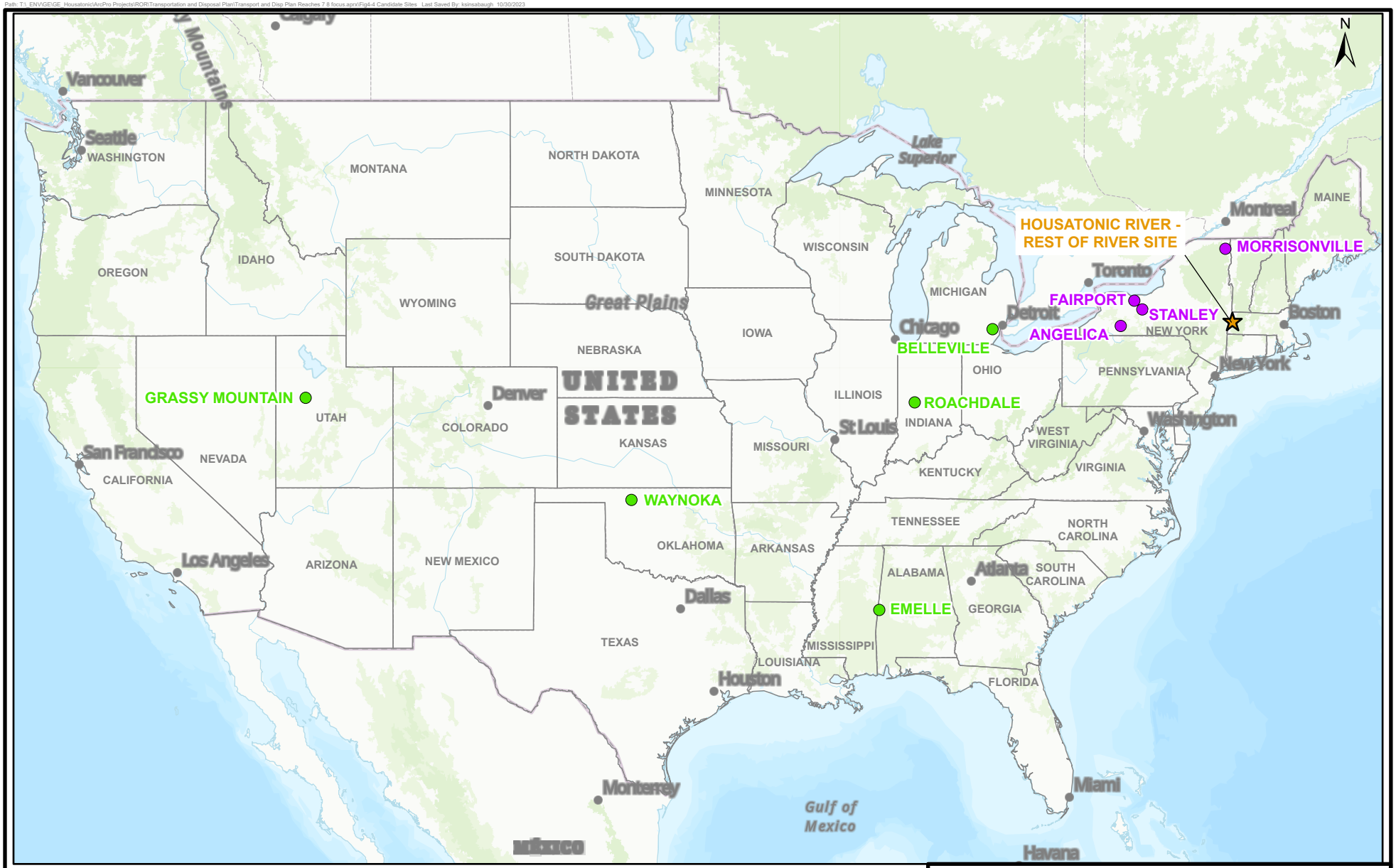
0 3,750 7,500
GRAPHIC SCALE IN FEET

GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
TRANSPORTATION AND DISPOSAL PLAN

ANTICIPATED TRAVEL ROUTES FOR OFF-SITE DISPOSAL FOR WORK IN REACHES 7 AND 8

ARCADIS

FIGURE
4-3



LEGEND

- CANDIDATE OFF-SITE DISPOSAL FACILITY - SUBTITLE C
- CANDIDATE OFF-SITE DISPOSAL FACILITY - SUBTITLE D

0 300 600

GRAPHIC SCALE IN MILES

GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
TRANSPORTATION AND DISPOSAL PLAN

CANDIDATE OFF-SITE DISPOSAL FACILITY LOCATIONS

ARCADIS

FIGURE
4-4

Arcadis U.S., Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse
New York 13202
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com