
HUDSON RIVER PCBs
SUPERFUND SITE
FACILITY SITING
CONCEPT DOCUMENT

Prepared for:



United States Army
Corps of Engineers



United States Environmental
Protection Agency

Prepared by:



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**Hudson River PCBs
Superfund Site
Facility Siting Concept
Document**

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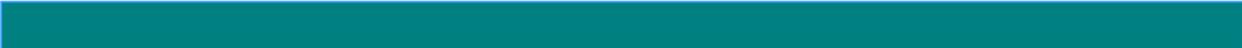
**UNITED STATES ARMY CORPS OF ENGINEERS
KANSAS CITY DISTRICT**

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Executive Summary

The Record of Decision (ROD) for the Hudson River PCBs Superfund Site was issued by the United States Environmental Protection Agency (USEPA) on February 1, 2002. The primary objective of the Hudson River PCBs Superfund Site remedy is to protect public health and the environment from unacceptable risks due to PCB-contaminated sediments in the Upper Hudson River. As stated in the ROD, the remedial action (RA) includes the dredging of approximately 2.65 million cubic yards of PCB-contaminated sediments. The ROD specifies that the dredging will occur between the former Fort Edward Dam and the Federal Dam at Troy (USEPA 2002).

The siting of one or more sediment-processing/transfer facilities is critical to the implementation of the remedy. Important components of the remedial design (RD) and the RA, therefore, are the design and construction of sediment-processing/transfer facility(ies). Such a facility(ies) will be used to transfer sediment from the edge of the river to a processing area, dewater the sediment, treat the water from the dewatering process, and transfer stabilized (as needed) sediment to a rail or barge for transport to a disposal facility. If a beneficial use of some of the dredged material is identified, then an appropriate transportation method (i.e., rail, truck, or barge) will be determined (USEPA 2002a). Where a facility(ies) will be built and how many facilities will be needed have not yet been determined.

The purpose of facility siting is to identify locations (within the defined boundaries of the study area) that meet the objectives of a sediment-processing/transfer facility. The study area for facility siting is approximately one-half mile inland from the edge of each side of the river and extends from the Hudson Falls Dam to the Port of Albany. Some locations further inland could be identified during the facility-siting process.

The key steps in the facility-siting process include:

- Developing facility-siting criteria that can be used in the decision-making process;

- Establishing a procedure for identifying, screening, recommending, and selecting potential facility locations; and
- Identifying locations that meet the requirements of siting a sediment-processing/transfer facility.

The facility-siting process will include coordinating and communicating with various groups over the course of the process, including the public, state and federal agencies, and the Remedial Design (RD) team.

Criteria have been developed for facility siting that will assist in making decisions for identifying, evaluating, and selecting potential sites. Engineering criteria identified include:

- Space availability for facility construction and operations;
- River access;
- Rail access;
- Road access;
- Utilities; and
- Proximity to dredge areas.

Additional considerations include:

- Identification of/proximity to sensitive resources;
- Cultural resources;
- Existing and historic land uses;
- Documented rare or unique ecological communities;
- Threatened and endangered species issues;
- Ease of purchasing/land ownership;
- Wetlands;
- Geology and/or surface features; and
- Mapped 100-year floodplain and floodway.

Facility-siting criteria will be used to evaluate and screen potential sites to determine which candidate sites should be eliminated and which should be carried forward for further investigation. The criteria have been grouped into three categories that reflect engineering criteria (Group 1), additional considerations (Group 2), and site-specific information gathered from field investigations (Group 3).

After public review and finalization of the facility-siting process, facility siting will involve:

- Identifying preliminary candidate sites;
- Screening and evaluating the preliminary candidate sites;
- Identifying final candidate sites;
- Conducting site-specific field investigations of the final candidate sites;
- Recommending site(s) for selection; and
- Selecting site(s) for remedial design.

Ultimately, a number of recommended sites will be presented to the RD team for review. The final selection of sites will be provided to the RD team after both public and RD team review. A final facility siting report will be prepared that will document the results of the facility-siting process. There will be continuing opportunities for public review of various aspects of the project during the intermediate and final design phases of the RD.

1

Introduction

1.1 Background to Facility Siting: Selected Remedy

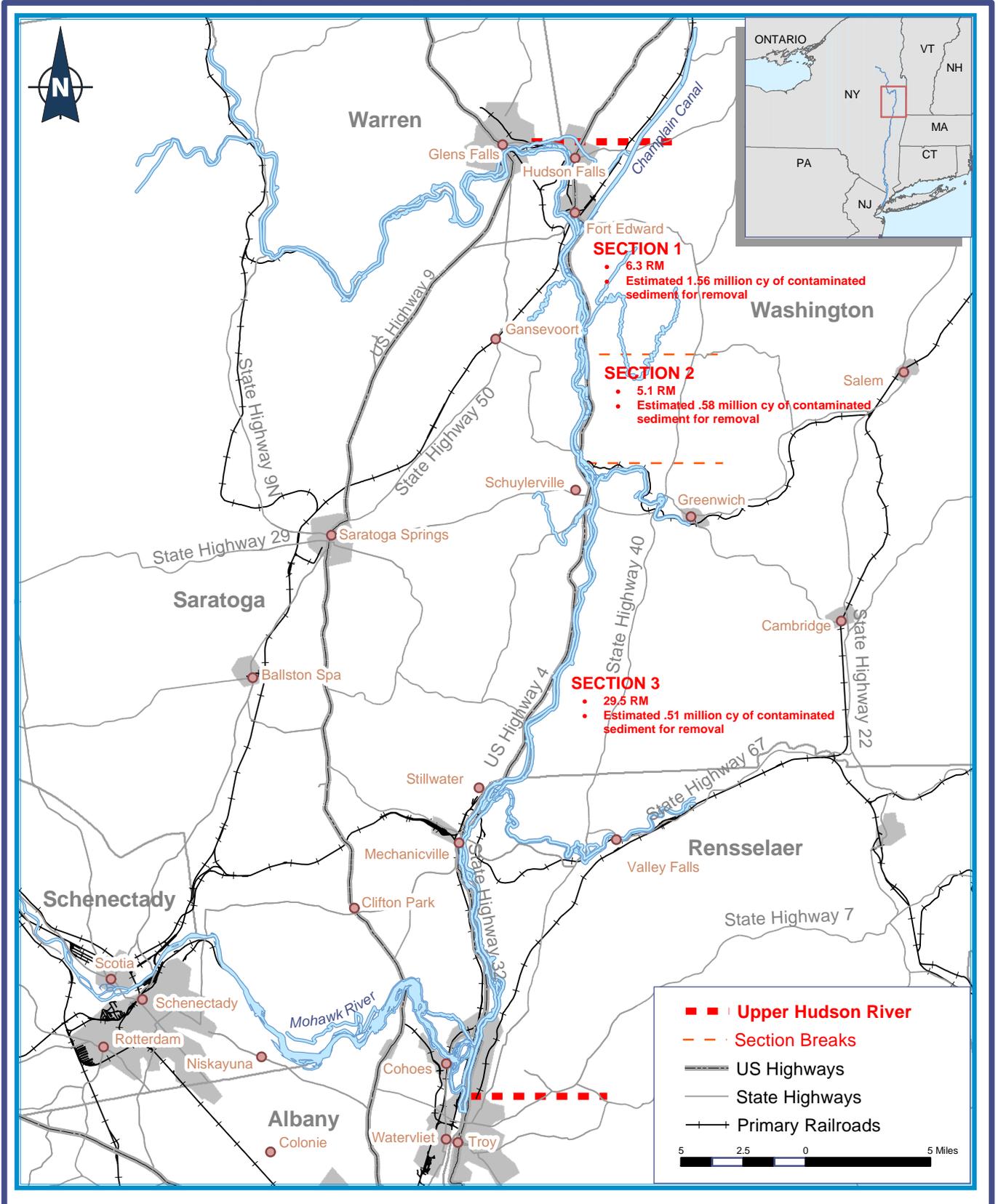
The Record of Decision (ROD) for the Hudson River PCBs Superfund Site (Site) was issued by the United States Environmental Protection Agency (USEPA) on February 1, 2002. The ROD specifies that the selected remedy includes the dredging of approximately 2.65 million cubic yards of PCB-contaminated sediments from the Upper Hudson River portion of the Site, and that only off-site disposal options (i.e., outside the Hudson Valley) be examined. Although off-site land filling is projected, beneficial-use options will be evaluated during the design phase (USEPA 2002a). The ROD identifies specific reaches of the Upper Hudson River (i.e., River Sections 1, 2, and 3) where the dredging activity will occur. River Sections 1, 2, and 3 extend from the former Fort Edward Dam to the Federal Dam at Troy (see Figure 1-1) (USEPA 2002).

As noted in the ROD, siting of sediment-processing/transfer facilities is critical to the implementation of the remedy. The remedial design (RD) and RA involve the removal, transport, processing, and disposal of the PCB-contaminated sediments. In order to transfer the sediments from the Hudson River to appropriate disposal locations, one or more sediment processing/transfer facilities will be required to process and transfer the sediments prior to shipment of the sediments to the final disposal facilities. Therefore, an important component of the RD/RA will be the design and construction of the sediment-processing/transfer facility(ies).¹

1.2 Previous Activities

In the late 1990s, the USEPA conducted a preliminary evaluation to determine the engineering characteristics necessary to site a sediment-processing/transfer facility or landfill and preliminarily identified several potentially suitable areas with those characteristics (TAMS Consultants, Inc. 1997). This work was performed in connection with the development of the EPA's Hudson River PCBs Site Phase 3 Report: Feasibility Study (FS) (USEPA 2000). In the FS, the USEPA determined that it was not feasible to dispose of Hudson River sediments in an "on-site" (i.e.,

¹ Due to the preliminary nature of the facility-siting process and the concurrent development RD, it is not known how many facilities will be needed to successfully implement the selected remedy. The Responsiveness Summary of the ROD preliminarily identified two theoretical facilities; however, the RD will establish the number of facilities that will be required.



SOURCE: ECOLOGY & ENVIRONMENT, INC. 2002; ESRI 2002, USEPA 2002a;
Note: **cy** = Cubic Yards
RM = River Miles

**Figure 1-1: Hudson River PCBs Superfund Site
Major River Sections, Upper Hudson River**

near the river) landfill. The USEPA also determined that it would be necessary for dredged sediments to be dewatered and stabilized (as needed) at facilities near the river before the sediments would be transported to licensed off-site disposal facilities.

Previous siting activities were partially based upon finding suitable locations for the siting of a treatment facility or a landfill. Given the determination in the ROD that sediments are to be transported to licensed off-site disposal facilities (with the exception of any beneficial-use options) however, a different type of facility is needed. The siting process therefore will start from the beginning. To date, no determination as to the location of a sediment-processing/transfer facility has been made.

1.3 Description of a Sediment-Processing/Transfer Facility

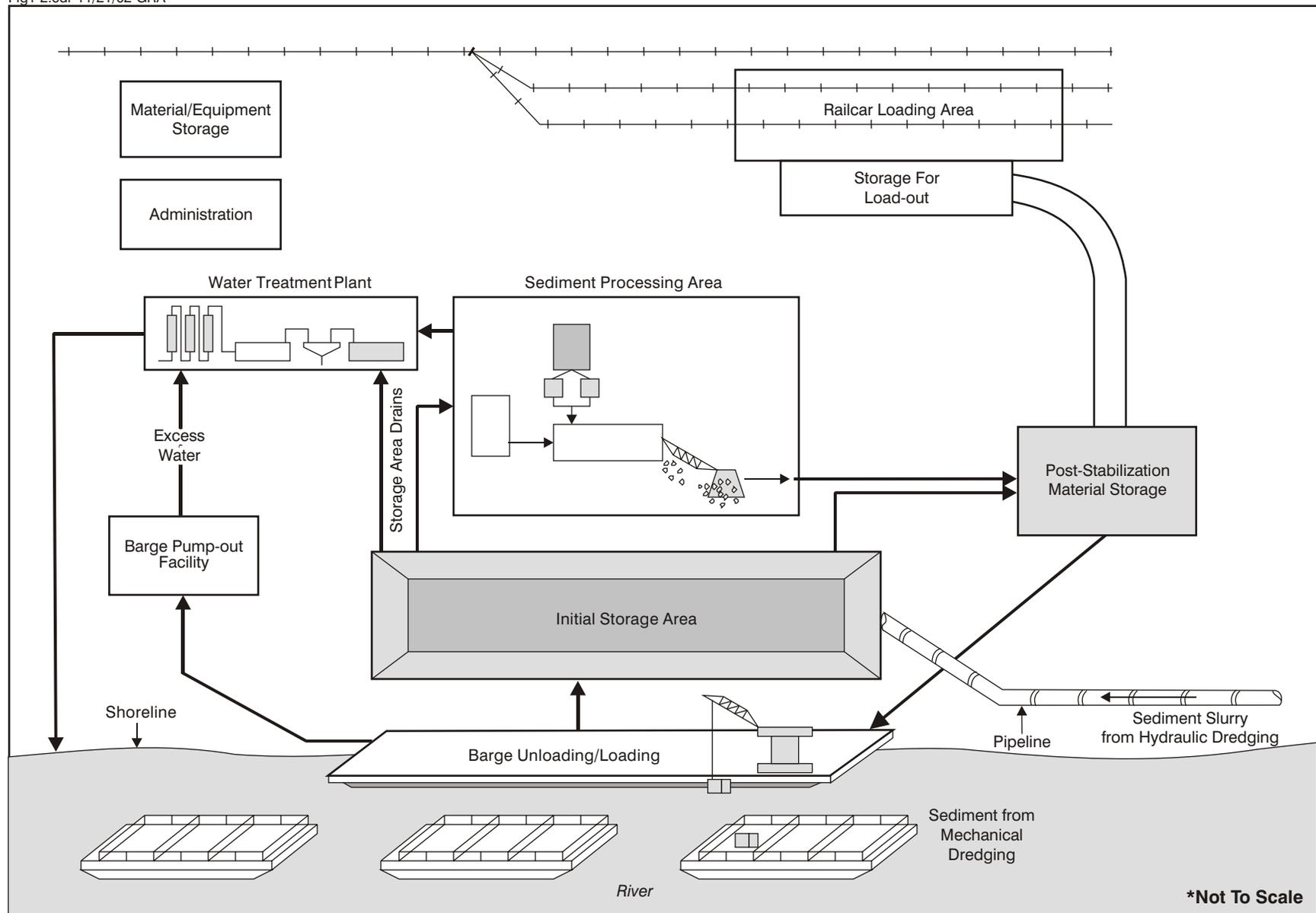
A sediment-processing/transfer facility is expected to have the equipment needed to perform several major functions, including:

- Transferring sediment from the edge of the river to the processing area;
- Sediment processing, including dewatering and stabilization;
- Treating water from the dewatering process; and
- Transferring stabilized sediment to rail or barge for transport to a disposal facility.

A schematic design of a processing/transfer facility is presented in Figure 1-2.

In addition to the steps identified above, several other activities are expected to occur at a facility, including:

- Project administration/management/laboratory analyses;
- Temporary storage/staging of river sediment and stabilization materials, including additives and backfill;
- Water storage and discharge;
- Maintenance of equipment and facilities; and
- Equipment and material storage.



SOURCE: Adapted from Hudson River PCBs Reassessment RI/FS Phase 3 Report: Feasibility Study (USEPA 2000).

Figure 1-2 Conceptual Processing/Transfer Facility Plan



1. Introduction

As the RD continues, more specific information on facility requirements may be identified. Additional information will be assessed to determine whether any adjustments to the facility-siting criteria are warranted.

2

Facility-Siting Purpose and Objectives

2.1 Facility-Siting Purpose

The purpose of facility siting is to identify locations within the defined boundaries of the study area (see Section 3) that meet the requirements of a sediment-processing/transfer facility. A well-documented process of the methods for selecting these potential locations and evaluating each location is a key component of the facility-siting task.

2.2 Facility-Siting Objectives

The key steps in the facility-siting process are identified below:

- To develop facility-siting criteria that can be used in the decision-making process.
- To establish a procedure for identifying, screening, recommending, and selecting potential locations.
- To identify locations that meet the requirements of siting a sediment-processing/transfer facility. Ultimately, a number of recommended sites will be provided to the RD team for review. The final selection of site(s) will be provided to the RD team after public and RD team review.

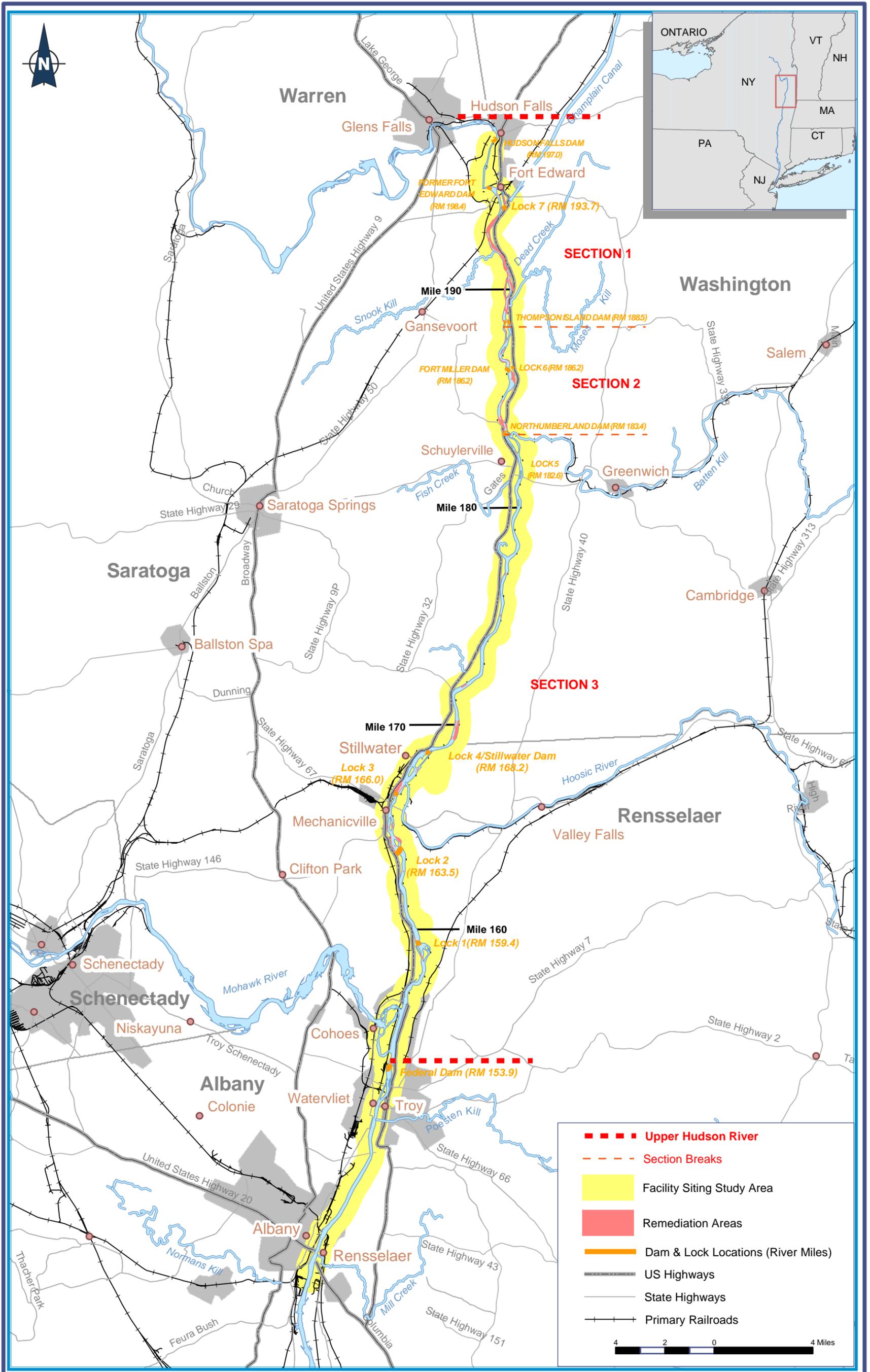
Facility siting will provide opportunities for public comment on the process of facility siting at specific points during the course of the process (see Section 6).

3

Facility-Siting Study Area

The Hudson River watershed originates in the Adirondack Mountains and flows south more than 300 miles, entering the Atlantic Ocean at the Battery, New York. The Hudson River PCBs Superfund Site extends from the Village of Hudson Falls to the Battery in New York Harbor, a distance of approximately 200 river miles (RM). Remedial dredging is planned to take place within the Upper Hudson River portion of the site, which extends from Hudson Falls to the Federal Dam at Troy.

The facility-siting study area (study area) will extend beyond the area of the remedial dredging activities to the downstream end of the Port of Albany (RM 141.5) (see Figure 3-1). The initial focus of facility siting will extend approximately one-half mile inland from the edge of each shoreline. Identified locations further inland may be considered if they should prove to meet some of the siting criteria (see Section 5).



SOURCE ECOLOGY & ENVIRONMENT, INC. 2002, ESRI 2002, USEPA 2002a
Note: RM = River Miles

Figure 3-1: Hudson River PCBs Superfund Site Facility Siting Study Area, Upper Hudson River

4

Overview of the Facility-Siting Process: Coordination and Milestones

The siting of a facility will determine the most appropriate location(s) to process and transfer the contaminated sediments. The siting process provides procedures used to identify candidate locations, recommend a site(s), and select a list of final location(s) to be considered during the RD process. The RD team, federal and state agencies, and public input will be coordinated at various points throughout, and there are a number of milestones identified that occur within the siting process.

4.1 Facility Siting Process Coordination

The facility siting process has been developed to include interaction with various entities during the process. Coordination and interaction will occur with the following:

- **The Public.** The public will have various opportunities to review and comment on the entire project, including the facility-siting process (see Section 6). Other opportunities may include visiting and discussing issues with USEPA personnel at the Hudson River Field Office in Fort Edward, attending availability sessions and public meetings, and reviewing fact sheets and other documents. Continuing opportunities for public review will occur during the RD process. This document and the associated fact sheet provide the public with the opportunity to review the process of facility siting.
- **State and Federal Agencies.** State and federal agencies will review documents prepared during various stages of the facility-siting process and will provide input and comments throughout the process.
- **The RD Team.** Near the end of the facility-siting process, a list of recommended sites will be presented to the RD team for consideration. Final selection of locations for a facility will be determined after interaction with the public and the RD team. During the course of the facility-siting process, consideration will be given to design issues (i.e., facility requirements) or any specifications identified by the RD team during preliminary design that may affect the siting of the facility.

4. Overview of the Facility-Siting Process: Coordination and Milestones

4.2 Facility-Siting Process and Milestones

The facility-siting process provides the approach for selecting a final site(s) for sediment-processing/transfer facility(ies) (see Section 6). The process involves multiple steps, which are discussed in more detail in the following sections of this document. Major milestones in the process include the following:

- Determining the critical siting criteria (engineering and additional considerations);
- Implementing community involvement activities;
- Identifying Preliminary Candidate Sites;
- Screening and evaluating the Preliminary Candidate Sites;
- Selecting Final Candidate Sites;
- Conducting site-specific field investigations of the Final Candidate Sites;
- Recommending site(s) selection; and
- Selecting final site(s) for the RD process.

5

Facility-Siting Criteria

Siting criteria will be used to assist in decision-making for the identification, evaluation, and selection of sites. The criteria will be used to determine how well potential locations would achieve the stated objectives of the process (see Section 2.2) and contribute to the successful completion of the RD/RA.

Because operational efficiencies are important, the site-selection process will be influenced by the stated engineering criteria. However, the identification and evaluation of potential sites and the selection of sites will also include community involvement, quality of life issues, and other considerations (e.g., sensitive resources, cultural resources, natural resources, land use).

Six basic engineering criteria will be considered when evaluating potential sites:

- Space available for facility construction and operations;
- River access;
- Rail access;
- Road access;
- Utilities; and
- Proximity to dredge areas.

Descriptions of the engineering criteria and additional siting considerations are provided below.

5.1 Facility-Siting Engineering Criteria

5.1.1 Space Available for Facility Construction and Operations

A critical aspect of facility siting and design will be finding locations that have a suitable area available for locating the various components of a sediment-processing/transfer facility. A minimum-site area determination or a range of potential area needed, based on in-depth analysis, has not yet been established.

However, the FS and RS indicate that 10 to 15 acres would be required for processing mechanically dredged material and that 15 to 20 acres would be required for processing hydraulically dredged material. Thus a minimum area of 10 acres will be used as an initial criterion in the Preliminary Candidate Site identification process, although there is an understanding that the acreage may change as more information is gathered.

5.1.2 River Access

River access for a sediment-processing/transfer facility is a necessity. Therefore, important considerations for siting include accessibility to the river and the condition of the land-to-river boundary. The transport of dredged sediments by barge or pipeline to a sediment-processing/transfer facility is a requirement of the ROD. Issues of siting as they relate to river access might include depth to bedrock, width of the river channel, the presence of existing bulkheads and offloading structures, topographic relief, length of river frontage, and related design-feasibility issues.

5.1.3 Rail Access

As identified in the ROD, it is anticipated that following the sediment dewatering/processing operations the dredged sediments will be shipped off-site via rail or barge. Therefore, access to existing rail, or the ability to construct rail access and tie into an existing rail line, is a siting consideration. Ideally, the facility would be located in an area where rail access can be gained with little or no modification of existing rail lines.

5.1.4 Road Access

Roads must be available or be able to be constructed to allow project personnel to enter and leave the facility. Additionally, as noted in the ROD, if a beneficial use of some portion of the dredged material is arranged, then appropriate transportation (rail, truck, or barge) will be determined. Therefore, proximity to local roads and public highways is another siting consideration. Siting design issues will take into account the existing road network. Additional road design/road use issues include examination of road and traffic capacity considerations, road conditions, and road surface ratings relative to types and numbers of vehicles that will be used for constructing and operating the facility.

5.1.5 Utilities

The processing/transfer facility will require a reliable source of electrical power and potable water. The ability to access utilities such as electric, water, and communication services will be an important consideration during facility siting. Types and levels of utility service will be determined during the design phase of the project.

5.1.6 Proximity to Dredge Areas

The proximity of a sediment-processing/transfer facility to dredge areas will influence numerous aspects of the engineering design for the removal, processing, transport, and shipment of dredged material. The proximity of locations that are

to be dredged can be expressed as (1) the actual distances of the majority of dredging target locations to a sediment-processing/transfer facility and (2) the distance of a facility to the locations where the majority (as percentage of total volume) of the dredged material will come from.

Potential locations relatively close to the dredging areas would influence RD/RA factors such as transport efficiencies (time of transport from dredge location to facility), size of the barges, numbers of tows and trips, and fuel consumption. A sediment-processing/transfer facility located near the material that will be removed would result in engineering, environmental, cost, and project schedule benefits.

5.2 Additional Considerations

Because of the nature of facility siting, other factors must also be examined when identifying and evaluating potential locations for a sediment-processing/transfer facility. As indicated in the ROD, potential adverse impacts to properties near a sediment-processing/transfer facility will be minimized through careful siting and design of the facility. Additional considerations therefore involve issues identified as “quality of life” concerns and other variables that may influence the candidate siting identification and screening processes. These considerations will largely involve avoiding and minimizing impacts to the community and to other resources (i.e., sensitive resources, cultural resources, threatened or endangered species, wetlands, etc.). The following sections describe additional considerations that may influence the facility-siting process. The following considerations are not necessarily all-inclusive because more may be developed as the facility-siting process continues.

5.2.1 Identification of/Proximity to Sensitive Resources

USEPA intends to avoid siting a sediment-processing/transfer facility close to sensitive resources. Examples of these areas include schools, hospitals, nursing homes, day care facilities, churches, municipal water intakes, private water wells, and public parks and recreational areas (i.e., boat launches, beaches, etc.). These areas generally contain higher concentrations of people.

5.2.2 Cultural Resources

The 1966 National Historic Preservation Act (as amended) provides for the National Register of Historic Places (NRHP) to include districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture. Section 106 of the Act requires that federal agencies with jurisdiction over a proposed federal project take into account the effect of the undertaking on cultural resources listed or eligible for listing on the NRHP and affords the State Historic Preservation Offices and the Advisory Council on Historic Preservation a reasonable opportunity to comment with regard to the undertaking.

USEPA has been in consultation with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) regarding cultural resource issues that relate to the Upper Hudson River portion of the Hudson River PCBs Site. Coordination and consultation continue between the USEPA and OPRHP. A Phase 1A Cultural Resource Investigation was conducted and presented in the Responsiveness Summary (USEPA 2002b). The results of this preliminary assessment regarding the distribution of cultural resources indicate that the Hudson River PCBs Superfund Site Area of Potential Effect (APE) contains 89 resources listed on the National Register of Historic Places (NRHP) and 693 resources eligible for NRHP listing. The APE also contains 329 archaeological resources that have been identified but not evaluated for the NRHP eligibility status (USEPA 2002b). It should be noted that only a small portion of the APE has been subjected to prior archaeological or architectural surveys.

The process of facility siting involves awareness and sensitivity to cultural resources and cultural resource issues, and will be accomplished in a manner consistent with Section 106. Cultural resources issues will be addressed early in the facility-siting process, with input from public and professional entities. Consultation will be maintained with OPRHP throughout. The process of determining the significance of cultural resources as it relates to screening and evaluating candidate sites will be developed by the USEPA in consultation with OPRHP.

5.2.3 Existing and Historic Land Uses

A number of factors (i.e., indicators [see Table 6-1]) are associated with this criterion, including the existing and/or historic land uses of a given site (industrial, commercial, agricultural, etc.) and the proximity of existing land uses to a given site. The current and/or historic land use of a site (as well as surrounding land uses) will be relevant to the siting process and may influence engineering and design issues. For example, a site that was previously used for industrial purposes is likely to be fairly level, likely has road access and possibly rail access, and might contain structures that potentially could be modified into a sediment-processing/transfer facility. However, a site currently or historically utilized for industrial purposes may have been impacted by previous operations. Engineering and restoration considerations may affect selection of the site, even though many of the basic engineering criteria (e.g., road, rail, and river access) may be met.

The land uses of surrounding areas will also be considered in facility siting. Some local communities are concerned about the potential impacts of a sediment-processing/transfer facility on their overall quality of life and human health. Some members of the public have expressed concern that they may be affected by the proximity of a sediment-processing/transfer facility near their homes and agricultural areas. Therefore, the focus of EPA's siting efforts will be on industrial or commercial properties.

5.2.4 Documented Rare or Unique Ecological Communities

The Hudson River is located in a large, diverse watershed that extends from the headwaters in the Adirondack Mountains to the Atlantic Ocean. Due to the size, structure, and diversity of the Hudson River watershed, there are many different types of aquatic and terrestrial habitats within the Hudson River valley.

Areas identified as unique or sensitive may be considered biologically diverse and/or may be utilized by rare plants or animals. Accordingly, these areas are important to New York State and are protected under state laws. The facility-siting process will identify any such resources and identify appropriate measures to avoid and/or mitigate any adverse impacts.

5.2.5 Threatened and Endangered Species Issues

The presence of threatened and endangered species in the study area will be considered during the siting process. Federally endangered and threatened species fall under the protection of the Endangered Species Act (1973), which requires consultation with the United States Fish and Wildlife Service and the National Marine Fisheries Service, depending upon the species. If an action jeopardizes a threatened or endangered species population, then the action must be avoided or appropriate mitigation measures developed. A facility will not be sited in an area designated as a unique or sensitive area or an area designated as critical habitat for any of the federally listed endangered or threatened species unless appropriate mitigation measures are developed.

5.2.6 Ease of Purchasing/Land Ownership

This consideration involves assessing the potential ability to secure land for the development of a sediment-processing/transfer facility and will involve a number of purchasing or leasing issues, including type of ownership (commercial versus private versus public), existing leases, existing easements, and number of owners.

Publicly owned lands are more likely to be protected under local, state, or federal laws. The purchase or lease of private lands is typically a less complicated process, depending upon landowner interest.

5.2.7 Wetlands

New York State has established the Freshwater Wetlands Act, which protects wetlands 12.4 acres (5 hectares) or larger or that are identified as unique or sensitive habitats. The U.S. Army Corps of Engineers (USACE) also protects wetlands, regardless of size, under Section 404 of the Clean Water Act. The USEPA must avoid, to the extent practicable, adversely affecting wetlands through the implementation of the remedy and/or must develop appropriate mitigation measures.

5.2.8 Geology and/or Surface Features

The characteristics of the underlying soil and bedrock material of an area are important considerations in the siting, design, and construction of a facility. Con-

struction of a sediment-processing/transfer facility would require suitable soil and bedrock conditions/features and adequate drainage.

5.2.9 Mapped 100-year Floodplain and Floodway

The Federal Emergency Management Agency (FEMA) has mandated that projects cannot cause any rise in the regulatory floodway, and no more than a 1-foot cumulative rise can occur for all projects in the base (100-year) floodplain. A facility will need to be close to the river in order to unload barges but cannot adversely impact the capacity and conveyance characteristics of the floodplain and floodway.

Siting may be affected by hydraulic flow characteristics, based upon the landside topographic and physical issues, floodplain features, river flow, and flow variations through a particular river channel-floodplain cross section. A facility will need to be protected from potential 100-year flood damage by either its existing elevation above the floodplain or with engineering design features such as berms. There are also regulatory requirements for constructing hazardous waste facilities in a 100-year floodplain (e.g., New York Environmental Conservation Law), as well as requirements that actions of federal agencies avoid, to the extent possible, adverse effects on floodplains.

6

Application of Siting Criteria

The site-selection process establishes the procedures that will be used to determine candidate locations for sediment-processing/transfer facility(ies). An evaluation framework has been established to analyze the study area, identify potential locations for facility siting, select Final Candidate Sites, recommend site(s) selection, and select a final site(s). In general, the evaluation and screening framework involves the following:

- Determining the critical engineering criteria and additional considerations (see Section 5);
- Developing indicators related to the engineering criteria and additional considerations for use in the identification and evaluation of candidate sites;
- Conducting evaluations to determine which candidate sites should be eliminated from further consideration and which should be carried forward for further investigation;
- Performing site-specific environmental and engineering feasibility investigations for the Final Candidate Sites;
- Using the information collected from the site-specific field investigations to recommend a site(s) for selection; and
- Selecting a final site(s) for the RD process.

6.1 Siting Criteria Categories

The siting criteria (presented in Section 5) have been organized into three categories, referred to as Groups 1, 2, and 3 (see Table 6-1). The criteria groups have been organized to reflect:

- Basic engineering criteria that are fundamental to the design and implementation of the selected remedy (Group 1);
- Additional considerations (Group 2); and

6. Application of Siting Criteria

- Site-specific variables based on detailed field investigations that may affect facility design (Group 3). Specific analyses, based upon information derived from the field investigations, may consider issues of simplicity of design, ease of acquisition and construction, and cost issues.

Table 6-1 Facility-Siting Criteria Groups: Definitions and Indicators

Criteria	Definitions	Indicators ⁽¹⁾
Group 1 Criteria: Engineering Criteria		
Space Available for Facility Construction and Operations	The spatial characteristics needed to site and construct a facility for transfer and processing of sediments/water, operational activities, storage/laydown, and maintenance.	<ul style="list-style-type: none"> ■ Footprint or configuration of the site. ■ Total area of site. ■ Topographic relief across the site.
River Access	The presence of land that would provide direct access between the river and a facility, based on the anticipated sediment-processing/transfer and dredging approach (mechanical and/or hydraulic).	<ul style="list-style-type: none"> ■ Bordering the river shoreline. ■ Distance from the edge of the site to the river shoreline. ■ Shoreline topography. ■ Shoreline frontage (length of)
Rail Access	The presence of existing rail connections or rail lines for potential future connections near or at a facility, with sufficient capacity to accommodate the possible shipment of sediments, backfill, equipment, and supplies.	<ul style="list-style-type: none"> ■ Presence of a rail access to site. ■ Presence of a rail storage area. ■ Distance from the edge of the site to a rail line or spur.
Road Access	The presence of existing roadways near or at the site with sufficient characteristics to support the construction and use of the site by a sediment processing/transfer facility.	<ul style="list-style-type: none"> ■ Existing road access. ■ Distance of the site to a primary road. ■ Distance to secondary or tertiary roads. ■ Status of roads (i.e., cross-section, presence of shoulders, etc.).
Utilities	Access to electric, water, and communication services necessary to operate the site.	<ul style="list-style-type: none"> ■ The capacity and location of electric, gas, water, and communication services.

6. Application of Siting Criteria

Table 6-1 Facility-Siting Criteria Groups: Definitions and Indicators

Criteria	Definitions	Indicators ⁽¹⁾
Proximity to Dredge Areas	The location of a facility in relation to designated dredge areas.	<ul style="list-style-type: none"> ■ Navigational or haul distance to the removal areas containing the greatest volumes of sediments. ■ Absolute distance to removal areas. ■ The number of locks and dams between the site and the dredge locations. ■ The direction of river flow between the dredge areas and the site.
Group 2 Criteria: Additional Considerations		
Identification of/ Proximity to Sensitive Resources	Areas that contain higher concentrations of people, including areas where people congregate or there are public or private services.	<ul style="list-style-type: none"> ■ Distance to or presence of schools, hospitals, nursing homes, churches, and public parks, and other sensitive resources. ■ Existence of buffer areas around these resources and/or the ability to use physical (i.e., landscape) or engineering controls as a buffer.
Cultural Resources	Significant or potentially significant cultural properties and/or sites.	<ul style="list-style-type: none"> ■ Presence of NRHP-listed, NRHP eligible, and unevaluated cultural resources. ■ Proximity to significant architectural properties.
Existing and Historic Land Uses	The existing land use (type of activity or land coverage) for the site.	<ul style="list-style-type: none"> ■ Current/historic land use: industrial, commercial, residential, agricultural, undeveloped (forested). ■ Distance to industrial, commercial, residential, agricultural, forested, open water, and barren land use/land cover types.
Documented Rare or Unique Ecological Communities	NY State-classified unique or sensitive natural areas.	<ul style="list-style-type: none"> ■ Direct and indirect impacts on NY State-classified unique and sensitive sites.
Threatened and Endangered Species	Plants and animals that are classified as threatened or endangered by the state and federal governments.	<ul style="list-style-type: none"> ■ Direct and indirect impacts to threatened or endangered species and habitats.

Table 6-1 Facility-Siting Criteria Groups: Definitions and Indicators

Criteria	Definitions	Indicators ⁽¹⁾
Ease of Purchasing/ Land Ownership	Legal ownership of a site by a public or private entity.	<ul style="list-style-type: none"> ■ The number of different private and/or public legal landowners of the site.
Wetlands	Areas that are classified by the state and/or federal governments as wetlands.	<ul style="list-style-type: none"> ■ Proximity to and potential for impacts on documented habitats or locations of NYSDEC- and USACE-identified wetlands.
Geology and/or Surface Features	The characteristics of the bedrock and surficial geologic formations of the site.	<ul style="list-style-type: none"> ■ The type of geology of the site. ■ The presence of bedrock outcrops and other surface features.
Mapped 100-year Floodplain and Floodway	The regulatory and engineering restrictions of the site relative to floodplain and floodway issues.	<ul style="list-style-type: none"> ■ Amount of area within the FEMA-classified 100-year floodplain and mapped floodway. ■ Distance to the FEMA 100-year floodplain and mapped floodway.
Group 3 Criteria		
Group 3 criteria will be developed during site-specific investigations and will depend on characteristics of the sites.		

⁽¹⁾ Indicators are those variables or characteristics of each criterion that can be quantified or measured. The indicators are preliminary and will be further refined as the siting process progresses.

6.2 Use of Siting-Criteria Categories

The use of siting-criteria categories will involve identifying the indicators that are most applicable, given the stage of the siting process (see Figure 6-1). Basic engineering Group 1 criteria will be used to identify Preliminary Candidate Sites. There is flexibility in the process, however, in that some Group 2 criteria (e.g., existing and historic land uses) may be used to reduce the list of potential locations to a more manageable number. Group 1 and Group 2 criteria will be used to identify potential sites based on preliminary engineering and project design considerations (see Table 6-1 above).

The Group 3 criteria and indicators will be applied to assess site-specific conditions of the Final Candidate Sites. Generally, Group 3 considerations may include on-site geologic, topographic, engineering, and/or environmental characteristics (e.g., geotechnical characteristics). Specific analyses of the Final Candidate Sites leading to the recommended site(s) selection may consider a number of issues (e.g., simplicity of design, ease of construction, ease of acquisition, and cost issues).



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Figure 6-1 Hudson River PCBs Superfund Site
Use of Siting Criteria in the Facility Siting Process

Once the Preliminary Candidate Sites have been identified, Group 1 and all relevant Group 2 criteria will be used in the subsequent stage of evaluating and screening these Preliminary Candidate Sites and identifying the Final Candidate Sites. Site-specific field investigations (see Section 6.5), from which Group 3 criteria will be developed, will occur at each of the Final Candidate Sites. The Group 3 criteria, along with Groups 1 and 2, will be used to evaluate and screen the Final Candidate Sites and will result in the recommended site(s) selection.

The siting criteria will have variable input into the evaluation and selection process based upon the characteristics of the sites identified and the resulting applicability of each of the siting criteria. While it is possible that a selected candidate site may not be the optimal location with respect to each siting criterion, all selected candidate sites should offer an acceptable balance of trade-offs among the criteria. For instance, a number of Preliminary Candidate Sites may have similar distances to dredging locations. Upon further analysis, other factors such as underlying geology, site topography, or lack of existing transportation/loading facilities may indicate limitations at several of these locations that could increase the complexity of the design or affect construction of a facility. Potential locations for facility siting will be evaluated during the three principal phases of the facility-siting process (see section 6.4 below).

6.3 Identification of the Preliminary Candidate Sites

After this document has been finalized, the next phase in the facility-siting process will involve identifying Preliminary Candidate Sites. A comprehensive list of locations that are suitable for siting, as demonstrated by consistency with Group 1 criteria, will be established. In brief, this phase of the investigation will require the following:

- Assessing the accuracy of the collected information and corresponding mapping;
- Applying the Group 1 criteria to the entire study area to identify those locations that are consistent with all, or most, of the criteria;
- Conducting analyses of sites within the study area and completing any necessary field-verification activities; and
- Determining whether other criteria (e.g., existing and historic land uses [Group 2]) could be used to assist in reducing the initially identified sites to a more manageable number.

A list of Preliminary Candidate Sites will be made available for public review and comment. A public availability session may be held to inform the public of the process of preliminary candidate site identification. It is expected that members of the public will provide comment and input.

6.4 Screening and Evaluation of Preliminary and Final Candidate Sites

A screening and evaluation process provides a framework for examining an initial list of sites and then establishes the rationale for reducing that list to a smaller number of potential sites through the use of screening criteria.

The objective of the screening and evaluation of Preliminary and Final Candidate Sites is to identify a reduced number of potential locations considered well-suited for facility siting. The degree of suitability is demonstrated by agreement with a number of siting criteria and the ability to meet the goals and objectives of the process. Consequently, some candidate sites will be eliminated from further consideration and others will be carried forward.

Evaluation will occur during three principal phases of the facility siting process: (1) identification of the Preliminary Candidate Sites, (2) screening of the Preliminary Candidate Sites in order to select the Final Candidate Sites, and (3) screening of the Final Candidate Sites in order to select the Recommended Site(s).

6.5 Site-Specific Field Investigations of the Final Candidate Sites

Field investigations will be conducted to characterize the site-specific environmental, physical, and geological information for the Final Candidate Sites. These detailed data will be used to (1) contribute to the understanding of the relationships between site features and the intermediate and final design of the processing/transfer facilities; (2) determine whether any other site conditions (cultural resource, wetlands, state or federally listed species of concern, etc.) are present that may impose limitations on facility design; and (3) develop Group 3 criteria.

Site surface characteristics, for example, typically influence site design, extent and degree of pre-construction site preparation work (e.g., grading, blasting, tree removal), and site development costs. Some of these features include elevation of the land surface (in the area to be developed) relative to the normal pool elevation of the river; slope; aspect; topographic diversity; and locations and characteristics of bedrock outcrops. It is expected that coordination will occur with the RD team on the issues of site-specific information needs relative to design considerations.

It is expected that the following field studies, at a minimum, may be performed as part of the final phase of the facility-siting process:

- Inventory of site utilities;
- Conceptual site layout development;
- Title search;

- Geotechnical analyses;
- Phase I/II environmental audits;
- Phase I cultural resource investigations;
- Wetland determinations/delineations; and
- Natural resource assessments.

Work plans will be prepared for all field investigations before any field work is initiated.

The field investigations will be documented in a report. A public meeting may be held to present the site-specific investigations, the subsequent evaluations of the Final Candidate Sites, and the recommended site(s) selection. Ultimately the Recommended Site(s) selection will be based on a combination of Group 1 criteria and relevant Group 2 criteria and the information collected from the detailed field investigations (Group 3 criteria). There will be coordination with the RD team on the issues of the site(s) recommended for selection to obtain feedback relative to any additional preliminary design information they may have.

6.6 Preparation of the Facility Siting Report

A report will be produced that provides an overview of the entire facility siting process. This report will include documentation of each phase of the facility siting process, a summary of the community involvement process related to facility siting, the rationale used to screen and evaluate the Preliminary and Final Candidate Sites, the identification of those sites recommended for selection, the selected site(s), and the reasons for the decision.

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