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Recommended Sites

As previously noted, the facility siting process and the remedial design of the dredging program are interdependent. It is important that the selected facility(ies) enhance the opportunity for designing a project that will meet the engineering and quality of life performance standards and, inherent in meeting those standards, will be protective of human health and the environment. As a result, EPA has been working closely with the GE design team to ensure that these interdependencies are considered.

EPA and the GE RD Team evaluated the Suitable Sites to determine those sites that had characteristics that appeared to be best suited for optimizing the success of the dredging program. These Recommended Sites are being recommended for further detailed evaluation during the next phase of the dredging design (i.e., Phase 1 intermediate design) and will be further assessed against additional key project design information/evaluations (e.g., sediment transportation logistics, material handling, determination of dredging methods, etc.) as this information is developed during the intermediate design. It is EPA's intent to work collaboratively with the RD Team during site selection from the list of Recommended Sites to support the Phase 1 and Phase 2 dredging. If unforeseeable issues arise during the intermediate design that indicate a Recommended Site, or Sites, should not continue forward in intermediate design, there is a possibility that another Suitable Site could be brought forward as a Recommended Site. However, this scenario is considered unlikely and EPA fully intends to select the dewatering sites from the list of Recommended Sites.

While EPA has found all the Suitable Sites to be feasible for the construction and operation of a sediment processing/transfer facility, Recommended Sites show certain key characteristics. For purposes of this evaluation, it has been assumed that the sites evaluated would each house a processing facility that would be constructed and would operate to dewater the sediments, treat the removed water, and load the dewatered sediments at an on-site rail yard for transport and disposal. During the design process it may be possible to consider the use of multiple processing sites with varying functions (i.e., a site that would function as a processing and barge-out facility); however, the evaluation of Suitable Sites and selection of Recommended Sites is being performed under the assumption that each site

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would perform all the functions of a sediment processing/transfer facility (as listed above).

Recommended Sites have been identified:

- To provide a group of Suitable Sites to the RD Team for the detailed engineering design analyses that would provide the necessary flexibility for designing a successful dredging program, and
- To communicate to the public the results of the facility siting process by putting forward sites that exhibit greater benefits with fewer, or potentially more manageable, potential limitations and/or additional design considerations relative to the other Suitable Sites.

The following section describes the further refinement of the benefits, limitations, and other design considerations that produced the list of Recommended Sites.

5.1 Site Characteristics and Information Supporting the Identification of the Recommended Sites

The five Suitable Sites all demonstrate and, in some cases share, a number of benefits while indicating generally lower complexity and fewer potential limitations and additional design considerations. However, to arrive at the Recommended Sites, engineering judgment was employed. These key site-specific decision factors are summarized below in order of importance for the successful design and operation of the facilities and the ultimate selection of the Recommended Sites.

Key Design and Logistical Considerations

The following key design and logistical considerations are described on a site-by-site basis and were the primary decision factors used to identify the Recommended Sites.

- **Useable Acreage.** The area within each site that does not include potential limitations to design is useable acreage. Criteria limiting useable acreage include hilly or steep topography, locations of wetlands and floodplains, environmental conditions, and cultural resources. Energy Park/Longe/NYSCC, Bruno/Brickyard Associates/Alonzo, and OG Real Estate contain large, relatively level topographic areas of useable acreage that could allow the development of waterfront offloading/berthing/bulkhead areas, a processing (dewatering) facility, and a rail yard facility. However, the Old Moreau Dredge Spoils Area/NYSCC site and the eastern portion of the NYSCC/Allco/Leyerle site have hilly terrain but acceptable acreage. Although it is conceivable that a site could be used only as a “barge in - barge out” facility, the additional useable acreage for the construction and operation of both processing and rail transfer on a single site affords greater efficiencies and enhanced capabilities for meeting the production standards of the project.

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- **Rail Yard Suitability.** The construction and operation of the rail yard facility is a highly site-specific issue and is a function of the useable acreage, the condition and location of existing rail lines, available acreage for various track configurations, and the layout of the sediment processing/transfer facility. Four of the Suitable Sites contain relatively large, level areas with adequate frontages to active rail (Energy Park/Longe/NYSCC - approximately 2,350 feet; Bruno/Brickyard Associates/Alonzo - approximately 3,850 feet; NYSCC/Allco/Leyerle - approximately 3,050 feet; and OG Real Estate - approximately 3,400 feet) that would allow for the design of acceptable configurations for accessing the existing rail lines and for on-site rail yards. Having a larger area on-site—with longer rail frontage—is an important aspect in the design of rail switching and rail car movement (i.e., staging, loading, and transfer of rail cars onto the site and off-site). In contrast, the areas that parallel rail on the Old Moreau Dredge Spoils Area/NYSCC site are characterized by uneven topography, and the area/frontage near the rail is much shorter (rail frontage is approximately 1,350 feet), indicating that using the rail transfer option would be dependent on using the Fort Edward rail yard for additional staging space. In order for access to be obtained between the Old Moreau Dredge Spoils Area/NYSCC site and the Fort Edward rail yard, a second set of tracks would have to be constructed on the rail bridge that crosses the Hudson River and Rogers Island. There are also no identified potential limitations or additional design considerations (i.e., wetlands, drainages, cultural resources concerns, etc.) identified for the Energy Park/Longe/NYSCC, Bruno/Brickyard Associates/Alonzo, and OG Real Estate sites in the vicinity and along the rail frontages. However, at the NYSCC/Allco/Leyerle site there are a series of wetlands that are perpendicular to the existing rail that, in effect, break up the contiguous length of rail frontage, creating an additional design consideration for optimal rail access and a rail yard but not a potential limitation for constructing and operating rail access and the rail yard.

- **Waterfront Suitability.** Waterfront suitability takes into consideration whether adequate shoreline exists for construction of the waterfront facilities and structures and river channel depth and the potential for navigational dredging. Energy Park/Longe/NYSCC as it presently exists presents some design complexity for developing the waterfront. However, the area is sufficient to design and construct suitable facilities. In addition, movement of material by barge will require passing through Lock 7. Old Moreau Dredge Spoils Area/NYSCC, while having adequate river frontage, will require extensive navigational dredging initially and, potentially, annually. This site may require the design and construction of an in-river channel. Both the Bruno/Brickyard Associates/Alonzo and NYSCC/Allco/Leyerle sites are located directly on the river with adequate river frontage. However, each site will require significant initial navigational dredging and potential annual re-dredging. In contrast, OG Real Estate is located directly on the river with adequate river frontage and with a deeper navigational channel, which can be

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accessed by larger freight ships. The RD Team has conducted some initial research that suggests that use of these ships may be an additional option for transferring processed material, increasing flexibility in designing cost-efficient and effective alternatives for the transfer of processed material to the final disposal location(s).

- **Environmental Conditions.** The environmental conditions, as defined in Section 3.4, are additional design considerations that are normal precursors to site development. Further environmental sampling may likely be conducted to further characterize the conditions of any site selected. The known environmental conditions on Old Moreau Dredge Spoils Area/NYSCC are considered to be a potential limitation to the extent that development could be limited due to historic dredge spoils disposal and to the uncontrolled dumping that has occurred. The site is known to have surface and sub-surface PCB contamination. In contrast, the sampling that has occurred on the other four sites (see Section 3.2) does not indicate significant environmental concerns.
- **Road Access.** There are additional design considerations associated with creating access to each of the Suitable Sites. Such issues are typical for construction projects and can be readily resolved by the RD Team to design a safe and efficient system of access between the sites and access roads. Energy Park/Longe/NYSCC may require access through a residential area, and challenges associated with crossing the railroad and the potential need to relocate the Lock 8 access road is an additional design consideration associated with this site. Old Moreau Dredge Spoils Area/NYSCC has existing access roads to the site already in place. Bruno/Brickyard Associates/Alonzo is bisected by Knickerbocker Road, requiring the movement of materials over or under the road to access the processing and/or rail facilities. In contrast, although there are likely design solutions that could be developed, the potential need to cross over, under, or across U.S. Highway 4/State Route 32, which has relatively high volumes of traffic (AADT of 5991 [2003 data]), is a potential limitation associated with the NYSCC/Allco/Leyerle site that the other sites do not have. At OG Real Estate, the access is limited and may entail obtaining an ingress/egress easement.
- **Proximity to Dredge Areas.** Proximity to dredge areas is a critical factor associated with siting a sediment processing/transfer facility and therefore was identified as a Group 1 criterion at the outset of the facility siting process. Having a sites or sites near a larger percentage of the material to be dredged is clearly an advantage as it relates to time-efficient transfer of material from the locations that are dredged to the site, or sites, where the material will be processed. Being near dredge areas may also offer the alternative of using hydraulic dredging. The analysis of proximity to dredge areas at this stage of the facility siting process is associated with relative distance to the majority of the dredge areas, whereas previous evaluations looked at the amount of material

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within each section of the river. The volume estimates used in this evaluation were based on the estimates in the ROD.

- **River Section 1.** Based upon estimates of volume, River Section 1 contains the majority of the sediment to be removed (approximately 59%). Absent other evaluation criteria, locating a facility close to the layout volume of material to be dredged would be advantageous to the design of a successful dredging program. Energy Park/Longe/NYSCC and Old Moreau Dredge Spoils Area/NYSCC are Suitable Sites in River Section 1.
- **River Section 2.** Based upon estimates of volume, River Section 2 contains approximately 22% of the sediment to be removed. There were no Suitable Sites identified in this section of the river. Location of a facility in River Section 2, while appealing for overall river coverage, is not necessarily required. Dredge material could be transported north or south to a selected site.
- **River Section 3 and Below.** Two Suitable Sites are located in River Section 3, the Bruno/Brickyard Associates/Alonzo and NYSCC/Allco/Leyerle sites. Approximately 19% of the material to be dredged is located within River Section 3. OG Real Estate is the only Suitable Site below River Section 3. Once material is on a barge (presuming mechanical dredging), the transfer of the material downriver is feasible for any of the three Suitable Sites.

Other Site Considerations

It should be noted that other site considerations were also evaluated during the process of recommending sites for development of intermediate design. These considerations included wetlands, floodplains, access to borrow material, geology and/or surface features, cultural resources, etc. Although these considerations were evaluated, they were not determined to be key decision factors but could affect facility layout and placement of equipment.

5.2 Recommended Sites

Based upon the evaluation of the Suitable Sites relative to key design and logistical considerations, EPA is recommending three sites for advancement in the facility siting process as those locations to be considered by the RD Team in the intermediate design.

The Recommended Sites are:

- Energy Park/Longe/NYSCC;
- Bruno/Brickyard Associates/Alonzo; and
- OG Real Estate (see Figure 5-1).

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These three sites have the necessary key characteristics for locating a sediment processing/transfer facility. With the combination of key design and logistical considerations and discussions held with the RD Team, it is expected that the Recommended Sites are adequate for remedial design.

