2 Introduction

In order to address the need for increased resiliency within the Hurricane Sandy-affected region, the United States Department of Housing and Urban Development (HUD) launched the Rebuild by Design (RBD) competition in 2013 inviting communities to craft pioneering resiliency solutions. During the course of this competition, a comprehensive urban water strategy was developed for the Hoboken, Jersey City and Weehawken area that included hard infrastructure and soft landscape for coastal defense (Resist), policy recommendations, guidelines and urban infrastructure to slow stormwater runoff (Delay), green and grey infrastructure improvements to allow for greater storage of excess rainwater (Store), and water pumps and alternative routes to support drainage (Discharge). The Hudson River RBD proposal was selected in the first round of RBD grants and HUD has awarded $230 million to the State of New Jersey for the "Hudson River Project: Resist, Delay, Store, Discharge" (the Project). As presented in the Notice of Intent (NOI), dated September 4, 2015 and located at 80 FR 53555, the scope of this Draft Environmental Impact Statement (DEIS) addresses the entire Project. Because the need for solutions is urgent, an engineering feasibility study and cost benefit study for the Project is being prepared simultaneously with a Draft Environmental Impact Statement (DEIS).

The project study area as shown in Figures 2-1 and 2-2, comprising the entire City of Hoboken, and adjacent areas of Weehawken and Jersey City, is vulnerable to flooding from both coastal storm surge and inland rainfall events. On October 29th, 2012 during Hurricane Sandy, the coastal storm surge clearly demonstrated the flood risk vulnerability within the study area. With half of Hoboken flooded for several days, emergency services were unavailable, residents were evacuated, and the National Guard was deployed to rescue those who could not evacuate. The magnitude of Sandy’s devastation, primarily attributed to a record-breaking storm surge during mean high tide, has somewhat dimmed the fact that little precipitation fell during that storm. Had matters been different, the study area’s past history of flooding during heavy rainfall events could have resulted in increased flooding levels and property damages.

The main purpose of the RBDH project is to reduce the flood risk within the study area. The project intends to minimize the impacts from flood events on the community, while providing benefits that would enhance the urban condition, recognizing the unique challenges that exist within a highly developed urban area. On behalf of the State of New Jersey, the New Jersey Department of Environmental Protection (NJDEP) is the lead agency to execute the RBDH project. The State of New Jersey engaged Dewberry Engineers (Dewberry) to assist NJDEP to carry out a feasibility study and perform an Environmental Impact Statement (EIS) on the RBDH project.
Dewberry assembled a multi-disciplinary team consisting of specialized firms to conduct a feasibility study which would provide solutions to meet the project purpose of reducing flood risk within the study area. Table 2-1 provides a list of Dewberry Team members and their roles in the feasibility study.

Table 2-1 Dewberry Team Roles

<table>
<thead>
<tr>
<th>Firm Name</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of Metropolitan Architecture (OMA)</td>
<td>Architecture and Urban Design</td>
</tr>
<tr>
<td>SCAPE PLLC</td>
<td>Landscape Architecture and Stormwater Management</td>
</tr>
<tr>
<td>Boswell Engineering</td>
<td>Waterfront Inspection</td>
</tr>
<tr>
<td>E-Consult Solutions</td>
<td>Economic Analysis</td>
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</tbody>
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Dewberry initiated the feasibility and EIS study in June 2015 and completed the feasibility portion of the RBDH project in October 2016. During the entire feasibility study, the Dewberry Team conducted numerous meetings with community, agency stakeholders and utility companies to obtain feedback on various aspects of the feasibility study.
Figure 2-1. Project Study Area Boundary Map
Figure 2-2. Project Study Area Boundary Map over Aerial Imagery

Source: Imagery - New Jersey Geographic Information Network (NJGIN)

NOT TO SCALE

LEGEND
- Study Area
- City of Hoboken
- City of Jersey City
- Township Of Weehawken
This feasibility report is a comprehensive report that provides all the relevant information gathered, developed, and analyzed during the feasibility portion of the RBDH project. This feasibility report is organized into the following sections –

- **Background** – This section provides background information on the existing flooding problems within the study area and the goals and objectives of this project. Additionally, this section describes the objectives of the feasibility study and provides overall feasibility study methodology for this project.
- **Data Collection and Review** – This section provides a summary of all the relevant data collected and reviewed during the project.
- **Existing Conditions** – This section analyzes the collected data and provides a summary of various project relevant features that currently exist within the study area.
- **Concept Development and Screening** – This section provides a summary of all the flood risk reduction concepts developed, analyzed and screened with a screening criteria that lead into the development of alternatives.
- **Alternative Analysis** – This section provides a multi-disciplinary assessment of the three alternatives and compares the three alternatives that lead to a recommendation for the preferred alternative.
- **Recommendation for the Preferred Alternative** – This section describes details of the criteria used to select the recommended preferred alternative and provides description of the design considerations for the preferred alternative that is recommended for further design.
- **Conclusions and Recommendations** – This section describes in details the conclusions of the report and provides recommendations for the future design phase.
- **References** – This section lists all the applicable references used in this feasibility report.
- **Appendices** – The appendix contains all the relevant detailed information pertaining to the above sections.