Project Summary
Barge Terminal 2 Dockwall Rehabilitation

Location

The Barge Terminal 2 (BT2) facility is located on the right descending bank of the Mississippi River, in St. Paul, Ramsey County, Minnesota. The BT2 facility is approximately 3.5 acres, partially located under the Trunk Highway (TH)-52 (Lafayette) bridge, and on the river side of the existing federal flood protection system (levee/flood wall structure) on adjacent property owned by the City of St. Paul. The address of the facility is 283 Alabama Street East (also referred to as 40 State Street), which is centered at the approximate coordinates of 44°56'42.82"N, -93°4'46.66"W, within the NW ¼ of Section 5, Township 28N, Range 22W.

Existing Operations

The BT2 facility is owned by the Saint Paul Port Authority (SPPA) and leased to Upper River Services, Inc. (URSI) to provide local barge cleaning and repair operations. The facility has been used for barge cleaning and repair operations for more than 50 years. The BT2 facility is level, with a vertical drop off at the Mississippi River created by an existing steel sheet pile (SSP) dockwall that was constructed in 1964. A floating wharf barge is located at the upstream end of the BT2 dockwall and serves as a working platform to support operations at river level. Temporary stairs provide access to the wharf barge from the landside operations area and emergency ladders along the dockwall provide access down to the water surface of the Mississippi River. Large concrete blocks placed along the top of the dockwall provide a partial physical barrier between the river and the landside operations area. The existing office building and adjacent maintenance shop were constructed in 2015.

Proposed Project Details

New SSP Installation, Safety, and Resiliency Improvements

New SSP is proposed to be installed directly in front of the existing SSP along the entire length of the dockwall (1,325 feet). The existing SSP will remain in place, but the space between the new and existing SSPs will be filled with clean, imported crushed rock (aggregate) to stabilize the dockwall structure. To provide structural support for the new SSP, a new system of grouted anchors and tie rods will also be installed. The existing SSP dockwall will be left in place, but the top six feet will be cut off to allow installation of the new structural elements. Additionally, the downstream end of the dockwall is proposed to be lowered in elevation by 8 feet to provide a river level working area and additional operational flexibility for servicing tow boats, line boats, and other support vessels. A new concrete utility service trench will be installed above the cut SSP and a new concrete cap will be installed to finish the new SSP. Additional new/updated features, including fenders, guard rails, handrails, stairways, mooring couplings, bollards, etc. will be installed along the top of the new SSP to improve worker safety and operational efficiency.

Boat Ramp

A new boat ramp is proposed to be constructed on the downstream end of the BT2 facility for waterborne law enforcement/first responder emergency services and rescue operations. The new boat ramp would not be available for public use. The boat ramp design includes an area of 5-inch thick concrete pavers, placed in area 18 feet wide, 150 long, and sloped ~13%, aligned parallel with the downstream end of the dockwall and offset 32 feet south, with SSP walls to secure soils on each side. The proposed design/alignment takes advantage of an existing embankment to minimize the excavation and grading needed to safely bring boats in and out of the water. Associated additional features including floating dock sections, a hinged access ramp, bumpers, fenders, shielded lighting, and a designated vehicle pathway will also be installed.

Project Need

Both public and private stakeholders rely on BT2 as a key facility within the Port of St. Paul that enables Minnesota industries to compete in worldwide bulk commodities markets via Marine Highway M-35 and the U.S. Gulf Coast. The efficiency of Minnesota's inland water transportation industry relies on two-way hauls of cargo, and URSI's operations at BT2 provide a cost-effective and environmentally sustainable solution for barges bringing commodities upstream into St. Paul to be unloaded, cleaned and repaired locally, and immediately reloaded and sent downstream.

Recent structural inspections and engineering assessments performed on the BT2 dockwall have concluded that the SSP structure and the corresponding tie-back anchor system are dilapidated, have exceeded their original design life, and are structurally deficient. Without urgent permanent rehabilitation, the failing dockwall will no longer be able to provide safe access to port facilities, maintain current barge cleaning volumes, or support future needs and will substantially impact the transport of southbound agricultural commodities (corn, soybeans, and wheat). The proposed dockwall rehabilitation at BT2 is also needed to improve deckhand safety and maintain and improve switch boats services within Pool 2 of the Mississippi River.

The proposed boat ramp is needed to create an access point to the Mississippi River that is within downtown Saint Paul for waterborne law enforcement/first responder emergency services and rescue operations. Currently, the closest boat ramps to access downtown Saint Paul are located six river miles upstream and over six river miles downstream of the BT2 facility, which significantly delays incident response time for law enforcement/first responders. The proposed boat ramp at BT2 will create an infrastructure asset that does not currently exist, which is needed to provide waterborne law enforcement/first responders 24/7 unfettered access to launch a vessel for emergency responses, improve incident response times, and provide secondary layer protection to all Marine Transportation Security Act (MTSA) and non-MTSA regulated facilities within the Port of Saint Paul and soft targets/crowded places within the high-density area of downtown Saint Paul.

Project Benefits

The proposed project will provide the following benefits:

- Proactively prevent failure of the SSP structure.
- Restore and strengthen 1,325 linear feet of dockwall.
- Upgrade and increase the longevity of the facility.
- Improve barrier systems, promoting safer operations.
- Provide additional service flexibility/operating elevations.
- Provide emergency access for waterborne law enforcement/first responders.
- Improve emergency response times and layered protection.

Project Funding

- Minnesota Department of Transportation Port Development Assistance Program ($7.10M)
- United States Maritime Administration Port Infrastructure Development Program ($4.14M)
- Federal Emergency Management Agency Port Security Grant Program ($999,750)
- URSI and SPPA (Balance)

Project Schedule

Anticipated Construction Start – Fall 2024

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