Project Narrative

The purpose of the proposed project is to provide a recreational amenity, naturalize the river and improve habitat, and increase safety of river users. There is a need to remove the existing instream hazard presented by the Fourth Street Dam and provide navigability to the reach as well as restore the river and connect the aquatic habitat of the river upstream and downstream of the dam.

River corridor improvements proposed in the project include safety modifications to the existing dam, in-stream structures for recreational use and habitat enhancement, riverbank and river access improvements, and a multi-use trail system spanning the project area.

Modifications to the existing Fourth Street Dam incorporate instream recreation and habitat enhancement features. The modifications will allow reasonably safe passage for all river users and abilities. A new channel through the existing dam embankment will allow instream users to pass through a series of drop-pool features, creating a recreational amenity, improving instream safety, and providing new aquatic habitat and improving fish passage. These drop-pool features will serve instream recreational users of all types and abilities, including beginner canoeists, family tubers, and even swimmers. These structures are constructed using large rocks anchored into the bed and bank of the river. Deep pools with aerated water occur downstream of these structures, enhancing aquatic habitat and water quality. They are strategically located based on gradient constraints, material deposition, and the layout of the park.

The existing dam superstructure, bridge, radial tainter gates, and sluiceway stoplogs will be removed and an adjustable whitewater feature constructed on the existing dam foundation. This feature would be designed for expert paddlers to enjoy surfing and freestyle action and will include a pneumatically actuated gate to create different shapes depending on flow conditions. The existing headrace and tailrace will be filled to create new parkland and trail connections.

A proposed trail will run the length of the project area and provide access to the proposed river improvements. It is configured to connect upstream and downstream to the future regional trail system. The trail will connect all parts of the park and create easy river access and fluid commuting capabilities for all users including paddlers, families, cyclists, anglers, etc. The existing headrace and tailrace for the powerhouse will be filled to accommodate the proposed trail and vegetated areas. The proposed trail extends from upstream of the existing Fourth Street Dam on the north bank of the river, through the river left (north) culvert underneath the Fourth Street Bridge, and downstream connecting to the trail and pedestrian bridge included in the City of Stoughton's Riverwalk project (currently under construction).

Downstream of the Fourth Street Bridge, a boulder structure is proposed which will enhance aquatic habitat, provide grade control, and improve safety for river users passing through the upstream culverts. Other improvements downstream of Fourth Street include riprap protection of an existing sewer line, and several current deflectors which improve habitat by providing hydraulic heterogeneity and complexity. Boulders will also be placed at multiple locations throughout the project to create a similar effect by forming small eddies and creating flow complexity.

Bank stability and river access improvements are included throughout the project. Existing concrete walls along the river's edge downstream of Fourth Street will be removed. Native riparian vegetation will be incorporated where possible. Boulder access points will minimize negative impacts that can result from heavily used areas and provide safe access to the water. The improvements are envisioned to be attractive, functional, and designed to blend with and mimic the natural environment.

Project Narrative

The project will be constructed by dewatering the work site, with appropriate water and sediment controls to minimize turbidity and impacts to the river outside of the project area. The first phase of dewatering and construction will route river flows through the existing powerhouse, similar to how previous repair work on the Fourth Street Dam has been accomplished. The work will require earth moving equipment including hydraulic excavators, concrete and steel demolition and removal equipment, and reinforced concrete formwork and associated equipment. All excavated clean material will remain on-site, all concrete, rebar, railing, gates, steel, etc. will be removed from the site and properly disposed of or recycled. Once instream improvements in the phase one dewatered area are complete, river flows will be routed through the constructed improvements allowing the existing headrace and tailrace to be dewatered then filled.

The project design plans, specifications, temporary cofferdams, hydrologic and hydraulic analysis, erosion control measures and sediment management and stabilization plan have been or will be developed by a professional engineer registered in the State of Wisconsin. Erosion control measures exceeding the stormwater management technical standards will be required of the contractor for this project.