Yahara Riverfront Development Project

BUILD Grant Application

May 15, 2020

City of Stoughton

Capital Area Regional Planning Commission

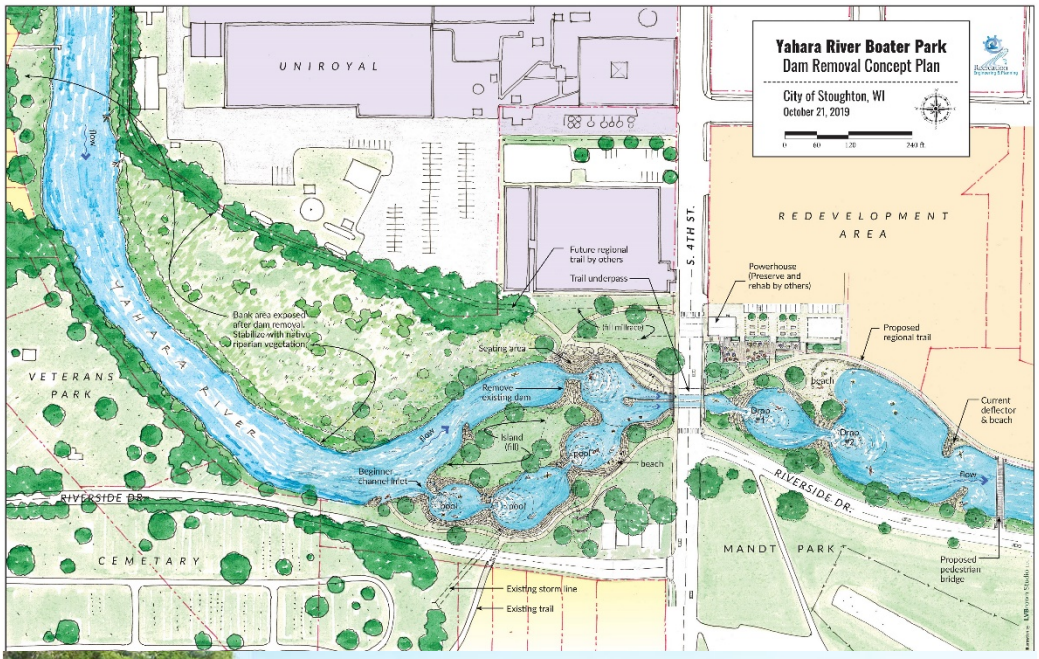


Table of Contents

1. Project Description 4
   - Project History 5
     - Plan Alignment 6
2. Project Location 8
   - All Sites 8
   - Redevelopment Area 9
   - Mandt Park 10
   - Stoughton Dam and Riverside Park 11
   - Stoughton Millpond 12
   - Water Trail 13
   - Regional Trail 14
3. Project Parties 15
4. Grant Funds, Sources, and Use of Project Funding 16
5. Merit Criteria 17
   - Primary Criteria 17
     - Safety 17
     - State of Good Repair 17
     - Economic Competitiveness 18
     - Environmental Sustainability. 19
     - Quality of Life 19
   - Secondary Criteria 20
     - Innovation 20
     - Partnership 20
6. Project Readiness 21
   - Project Phases 21
     - Phase I 21
     - Phase II 23
     - Phase III 25
   - Demonstrates Feasibility of Expending Funds 26
   - Cost Estimates 26
   - Technical Feasibility 27
   - Environmental Approvals 27

Phase I 27
Phase II 28
Phase III 28
Public Participation 29
7. Benefit-Cost Analysis 29
Baseline Scenario 29
Alternative Scenario 29
Parkland Increase 30
Safety 30
Economic Competitiveness 30
Quality of Life 31
Property Value Increase 31
Flood Control 31
Environmental Benefits 32

1. Project Description

The Yahara Riverfront Development Project includes many different components along the Yahara River in a half mile stretch near downtown Stoughton, WI. These improvements will include the removal of the Stoughton dam, which will be replaced with a standing wave and five drop crests that provide recreational whitewater amenities. This aspect will also include improved fish passage, better canoe and kayak launches, trails, signage, pedestrian bridges, and parking.

Recreational trails include "aquatic or water activities," according to U.S. Code, Title 23. Highways, Chapter 2. OTHER HIGHWAYS, Section 206 Recreational trails program.

The Yahara Riverfront Development Project is a critical step to enhance the Rock River National Water Trail and the regional Lower Yahara River Trail. The creation of the recreational whitewater amenities will provide a highlight for both trail systems and create a regional destination for outdoor recreation.

In addition to the Stoughton Dam site, there are three other sites within the project. These include Mandt Park, Redevelopment Area, and the Stoughton Millpond. The entire project area is located within a quarter mile of U.S. Highway 51 and less than 10 miles from Interstate 39/90.

- Mandt Park is located adjacent and downstream of the Stoughton Dam. It is owned by the City of Stoughton. It is a community park that is 33.20 acres in size. Existing amenities include an ice arena, fair grounds, aquatic center, pickleball complex, and a skate park. Mandt Parkway also currently goes through the park, including a section that runs parallel to the river. Improvements at Mandt Park include removing the section of Mandt Parkway that runs parallel to the Yahara River, shoreline restoration and naturalization, creation of two new parking areas, and a one mile looped multi-use pedestrian trail system within the park. The park and newly created looped trail system will connect to a new pedestrian bridge with the other section connecting to the Redevelopment Area.

- The Redevelopment Area is located on the opposite side of the river from Mandt Park and is 9.21 acres in size. It is owned by the Stoughton Redevelopment Authority. Historical use for the site was manufacturing which housed Mandt Wagon Works. The buildings on the site have been demoed and it is planned to be a residential development. Improvements in this area include a multi-use pedestrian trail, trail lighting, shoreline restoration, and native landscaping. It is also the home to one side of the pedestrian bridge which will connect the area to Mandt Park. The multi-use pedestrian trail will link the area to the regional Lower Yahara River Trail.

  The City of Stoughton and Stoughton Redevelopment Authority and the City of Stoughton agreed to a memorandum of understanding in April 2020 whereas the City of Stoughton is responsible for the engineering and construction for the shoreline restoration, multi-use pedestrian trail, and pedestrian bridge. In return the Stoughton Redevelopment Authority will transfer a 100-foot tract of land adjacent to the river for $1. This will create a public park on the site of approximately 1.5 acres in addition to new public access to the river for fisherman.

- The Stoughton Dam and Riverside Park Area is located to the west of the Redevelopment Area and Mandt Park. Both the Stoughton Dam and Riverside Park Area are owned by the City of Stoughton. The area also includes the spillway and tailrace area, Fourth Street bridge, and the

powerhouse for the dam. These are also all owned by the City of Stoughton. The powerhouse for the dam is a registered local landmark and is scheduled to be redeveloped as well. Riverside Park is classified as a mini park and is 1.36 acres.

Improvements in this area will include removing the Stoughton Dam and creating recreational whitewater amenities. The whitewater amenities will include a standing wave for surfing and five drop crest features for novice paddlers. The standing wave will be the only one of its kind in the Midwest. The headrace and tailrace for the dam will be filled in to create public pedestrian plazas and viewing areas. Other improvements will include canoe and kayak launches, access points for fishing, multi-use pedestrian trail that will link this area to the Redevelopment Area, the Millpond Area, and the regional Lower Yahara Trail. An underpass will be created utilizing one of the Fourth Street bridge's box culverts.

- The Millpond Area is directly upstream of the Stoughton Dam Area. Current conditions include industry on the north side of the millpond and Veterans Park on the south side of the millpond. Water is often stagnant, causing poor water quality and fish habitat.

  Sediment in the millpond was sampled and tested according to Wisconsin Department of Natural Resources standards in 2019. The sediment was found to be contaminated and will need to be remediated. The water levels in the millpond will drop 2.6 feet with the dam removal causing 3.3 acres of sediment to be exposed. This sediment, now soil, will be remediated by spreading out any concentrated areas and covered with clean topsoil. Native vegetation will be planted and the bank will be protected by riprap. The City of Stoughton owns the flowage rights to the dam, so any exposed areas of the millpond will become City of Stoughton property; thus, the 3.3 acres will become parkland. Other improvements will include a multi-use pedestrian trail connecting from Water Street to the Stoughton Dam Area. At the far northern boundary of the Millpond Area is a pedestrian bridge that needs to be replaced. The Jefferson Street Pedestrian Bridge Rehabilitation Study estimates that the bridge was installed in the 1930s (the specific date is unknown, but aerial photography from 1937 shows the bridge). The new bridge will be in the same location.

Project History

The roots of the project can be traced back to the City of Stoughton's Comprehensive Parks and Open Space Plan 2014-2018. Public input for the plan developed goals for the preservation and enhancement of shorelines and waterways for public use. Management within the City of Stoughton Parks Department started looking for ways to reach this goal. This became public knowledge and a citizen came forward in November 2016 with the idea of creating whitewater amenities like she had seen in Iowa. Department staff investigated the possibility over the next 12 months. Staff came to the conclusion that it was worthwhile to explore further and the City of Stoughton hired Recreation Engineering and Planning from Boulder, CO in January 2018 to complete a concept plan for the park.

Recreation Engineering and Planning completed the concept plan and presented it to the public in May 2018. The concept plan called for keeping the Stoughton dam in place and a series of crest drops south of the dam creating an artificial channel. The public presentation was attended by 200 people, with

individuals traveling as far away as the Chicago area. During this same time, the Stoughton Redevelopment Authority was having a difficult time finding a developer for their property. Members of the Stoughton Redevelopment Authority decided to use the whitewater improvements, trails, and other recreation improvements to market their property. Due to the newfound public support and importance to the Redevelopment Authority, the project was scheduled to move forward.

Due to the complexity of the project, a steering committee was formed over the course of the summer in 2018. The steering committee, tasked with developing the best project and making crucial decisions, is comprised of local and regional stakeholders including representatives from the business community. During the summer of 2018 there were two major events that influenced the steering committee's decision-making: a. Dane County experienced record flooding causing $154 million in damage, and b. a kayaker nearly drowned at the Stoughton dam. Over the next year the steering committee hosted experts to assist them in making future decisions.

In May 2018, Recreation Engineering and Planning was hired to complete a preliminary design or 60% engineering documents. The steering committee made the decision to move forward with a dam removal design option to make the project safer and improve flood conditions. During this same time there was coordination between the project and Dane County Land & Water Resources Department as they were developing a plan to remove sediment from the Yahara River to improve flow. The preliminary design for the whitewater amenities was completed in January 2020 and the updated plan was presented to the public in February. Over 100 people attended the presentation and support for the project is still strong.

The project has had success in acquiring state grants to fund many of the improvements. In 2018 the Stoughton Redevelopment Authority obtained a Wisconsin Economic Development Corporation Idle Sites Grant. The grant provides $500,000 that can be used towards trail development and shoreline restoration for the redevelopment area and the pedestrian bridge that connects the redevelopment area to Mandt Park. The City of Stoughton was awarded a Wisconsin Department of Natural Resources Stewardship Fund Grant in the amount of $168,979 in 2019. The grant provides funding for shoreline restoration and trail development in the redevelopment area.

Plan Alignment

It is important to note how well this project aligns with state, regional, local plans for outdoor recreation. Below is list of goals from the applicable plans.

- Wisconsin Statewide Comprehensive Outdoor Recreation Plan - 2019-2023
    - Goal 1 – Boost Participation
        - Objective – Increase the economic, social, and public health benefits resulting from residents' and out-of-state visitors' participation in outdoor recreation in Wisconsin.
        - Desired Actions - Expand efforts among federal, state, county, and local governments to coordinate and collaborate on providing recreation opportunities that leverage the unique features and facilities available at their lands and waters.

- Dane County Parks and Open Space Plan - 2018-2023

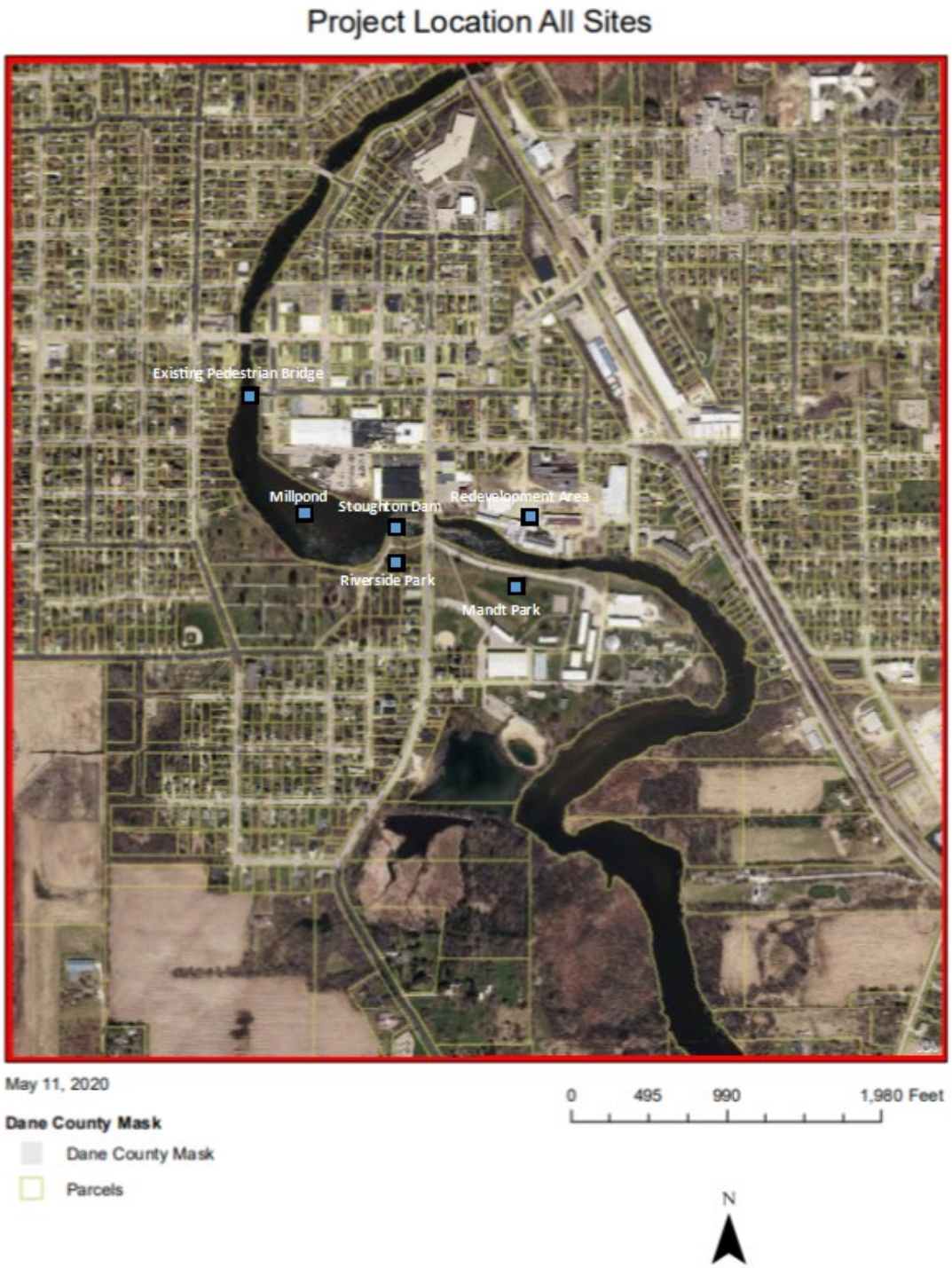
    - Goal 5 – Protect lakes, rivers and streams, including shorelines, wetlands, high infiltration areas and associated vegetative buffers to maintain high water quality, manage water quantity, and sustain water-related recreation throughout Dane County.

- City of Stoughton Comprehensive Outdoor Recreation Plan – 2018-2023
    - Goal 1.2.4: Promote bicycle and pedestrian facilities throughout Stoughton and the surrounding area.
        - Objective A – Improve local route connectivity through the area to parks, conservancies, schools, local businesses and regional trails
    - Goal 1.2.7: Promote water recreation throughout the community.
        - Objective A – Utilize riverfront parks for potential water based recreational improvements.

2. Project Location

All Sites

The four sites included in the Yahara Riverfront Development Project are located within a half mile stretch of the Yahara River near downtown Stoughton.



Redevelopment Area

The Redevelopment Area is located downstream of the Stoughton Dam and on the north side of the Yahara River facing Mandt Park.

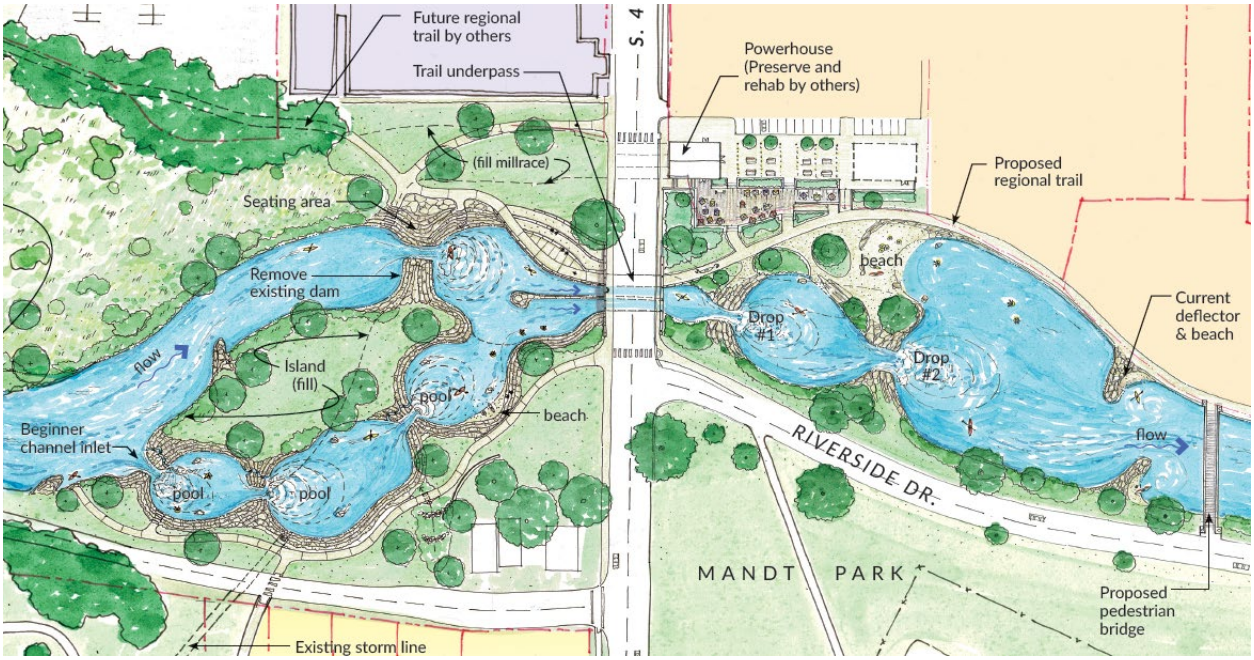
Mandt Park

Mandt Park is located downstream of the Stoughton Dam and on the south side of the Yahara River facing the Redevelopment Area.

1 - Park Entry Sign
2 - Shelter and Restrooms
3 - Pickleball/Tennis Courts
4 - Parking Lot
5 - Turn-Around/ADA Parking
6 - Relocated Grandstand with Restrooms and Concessions
7 - Relocated Pull Track/Outdoor Areas
8 - Pedestrian connection to RDA site
9 - Pedestrian Mall
10 - Shared Pedestrian and Vehicular Street
11 - Canoe/Kayak Launch
12 - River Overlook/Fishing
13 - Multi-use Path
14 - Overlook
15 - Bathhouse with Park shelter
16 - Enlarged Beach Parking Lot
17 - Splash Pad
18 - Playground
19 - Open Lawn and Shelter
20 - New Fair Buildings/Expo. Center
21 - Picnic Sites
22 - Skatepark
23 - Park Monument/Possible Memorial/Donor Wall

Stoughton Dam and Riverside Park

The Stoughton Dam and Riverside Park are in the heart of the project area and located on Fourth Street. They are less than 1200 feet south of Main Street which is also U.S. Highway 51.

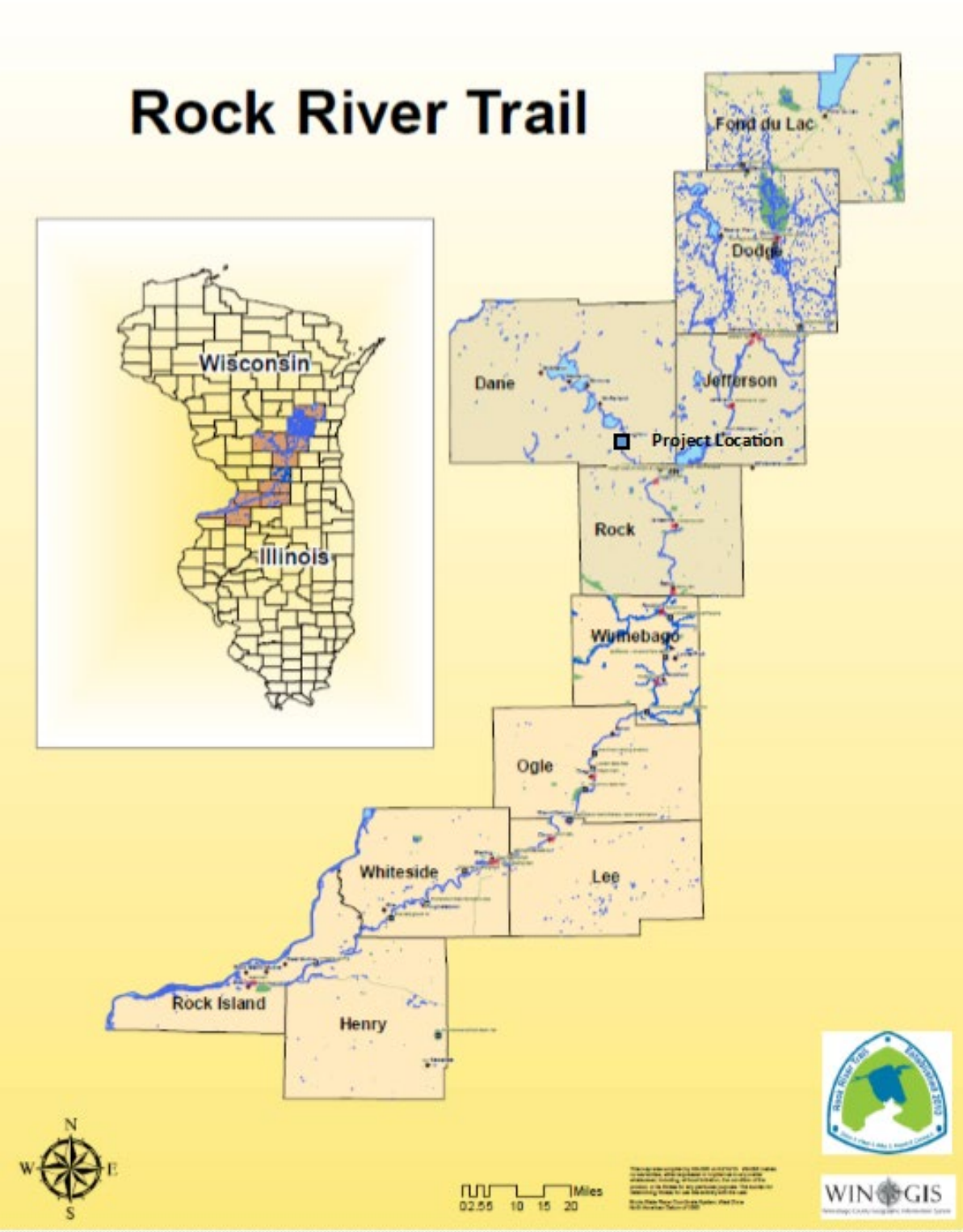


Stoughton Millpond

The Stoughton Millpond is located directly upstream of the Stoughton Dam. The Jefferson Street pedestrian bridge is located to the northern edge of the millpond.

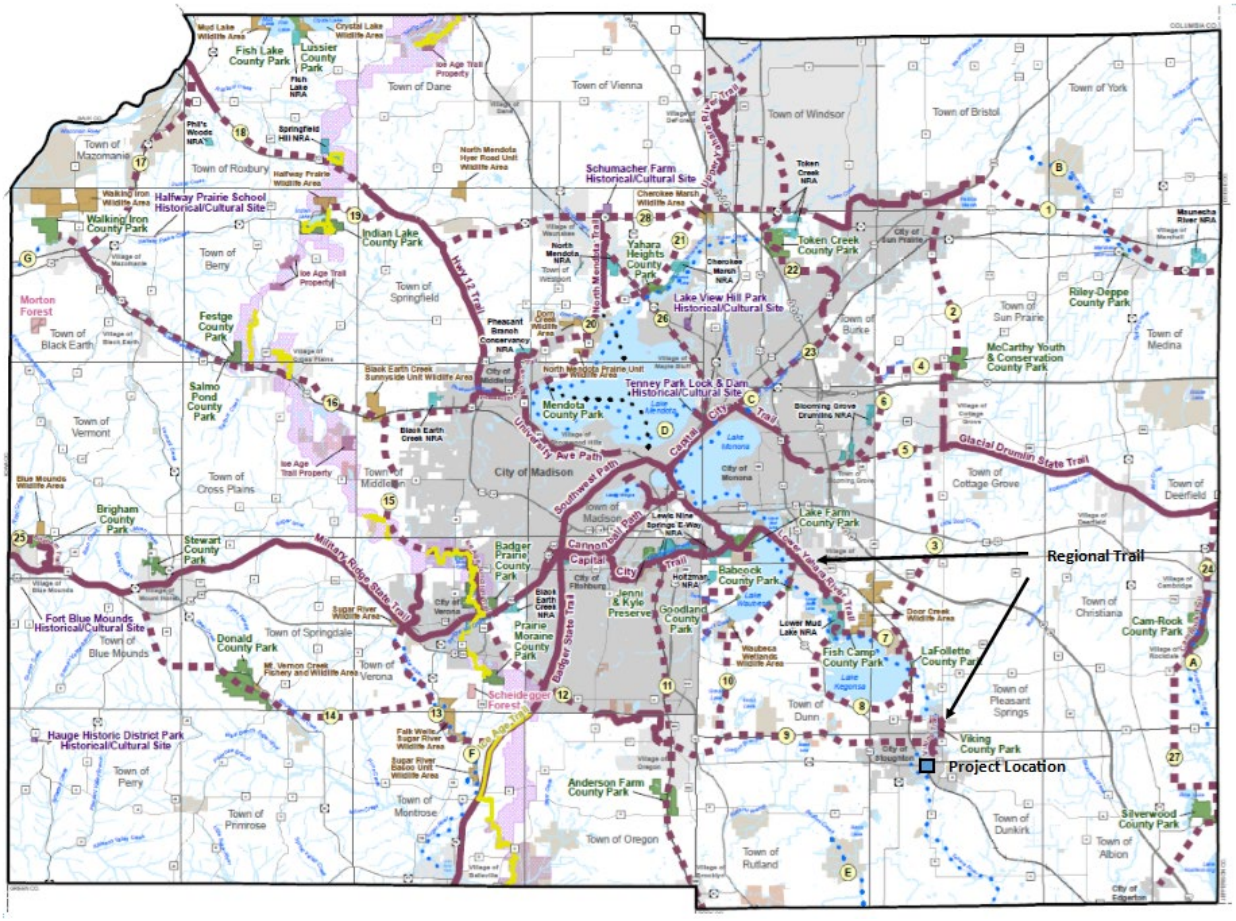
Water Trail

The Yahara River is a tributary of the Rock River. The project location is part of the Rock River National Water Trail.



Regional Trail

The project entails a connection of the project site to the Lower Yahara River Trail. The Lower Yahara River Trail is a regional multi-use pedestrian trail system that connects Madison, McFarland, and Stoughton.



3. Project Parties

A steering committee for the project was formed in 2018. Members of the steering committee serve from a variety of backgrounds, including Stoughton City Council, Dane County Board, Dane County Parks, Madison Sports Commission, Stoughton Redevelopment Authority, local contractors, and business owners. Other members include end-users such as fishermen, and paddling and biking enthusiasts.

The project has a high-level of support, both locally and regionally. Project support letters have been received from the following partners. Many of these letters came unsolicited. The letters are included as Attachment A.

Congressional & State Offices

- Tammy Baldwin, U.S. Senate
- Mark Pocan, U.S. Congress
- Mark Miller, Wisconsin Senate
- Gary Hebl, Wisconsin Legislature

Local Government Units

- County of Dane
- City of Stoughton
- City of Madison

Businesses

- Stoughton Trailers
- Curt Vaughn Brink LLC
- Rutabaga Paddlesports
- Rock Realty
- Stoughton Hospital
- McFarland State Bank
- PUPS Unleashed
- Midwest Mortgage

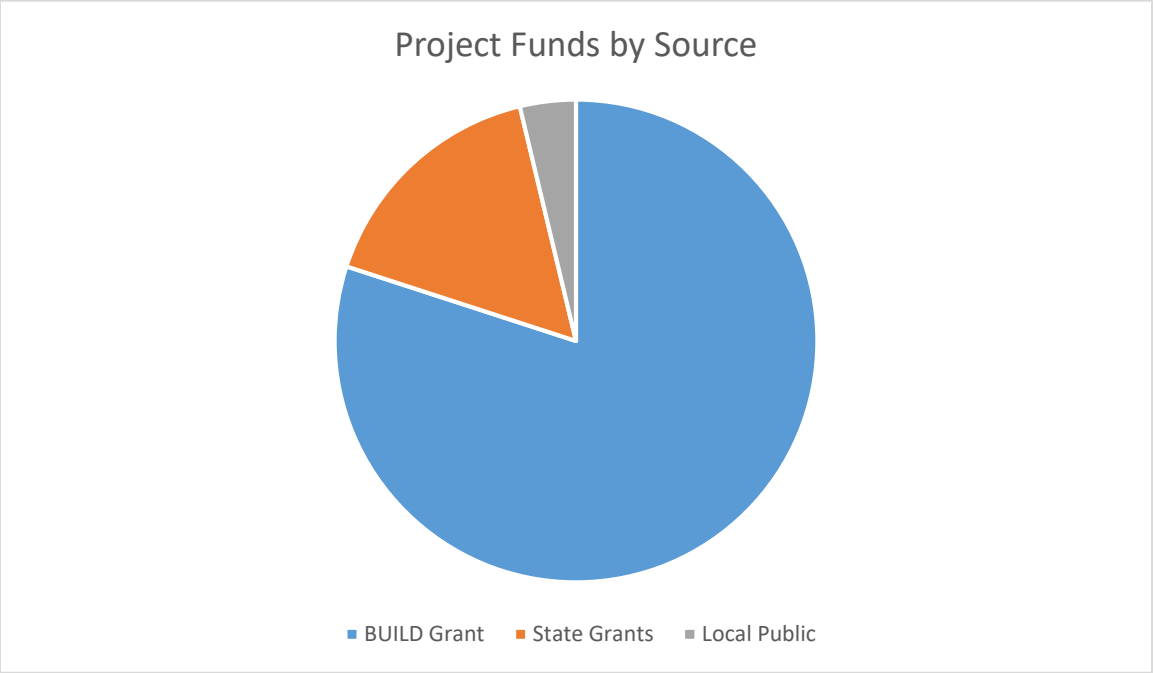
Other Organizations

- Madison Sports Commission
- Community Foundation of Madison
- Stoughton Redevelopment Authority
- Sustainable Stoughton
- Wisconsin River Alliance
- Stoughton Chamber of Commerce
- Rock River Alliance
- Friends of Badfish Creek

4. Grant Funds, Sources, and Use of Project Funding

This section outlines the funding sources to complete the Yahara Riverfront Development Project. The City of Stoughton has been successful in acquiring state grants to fund a portion of the project and submitted other state grant applications that are currently pending. The cost share is under 80% due to expending some acquired state grant funding in 2020 and being ineligible to use as matching funds for the BUILD grant.

For a complete breakdown of the budget see Attachment B BUILD Grant Budget Summary.



BUILD Grant Percentage Allocations

BUILD Grant – 77%

State Grants – 19%

Local Public Support – 4%

5. Merit Criteria

The Yahara Riverfront Development Project aligns with the Primary and Secondary Criteria outlined below.

Primary Criteria

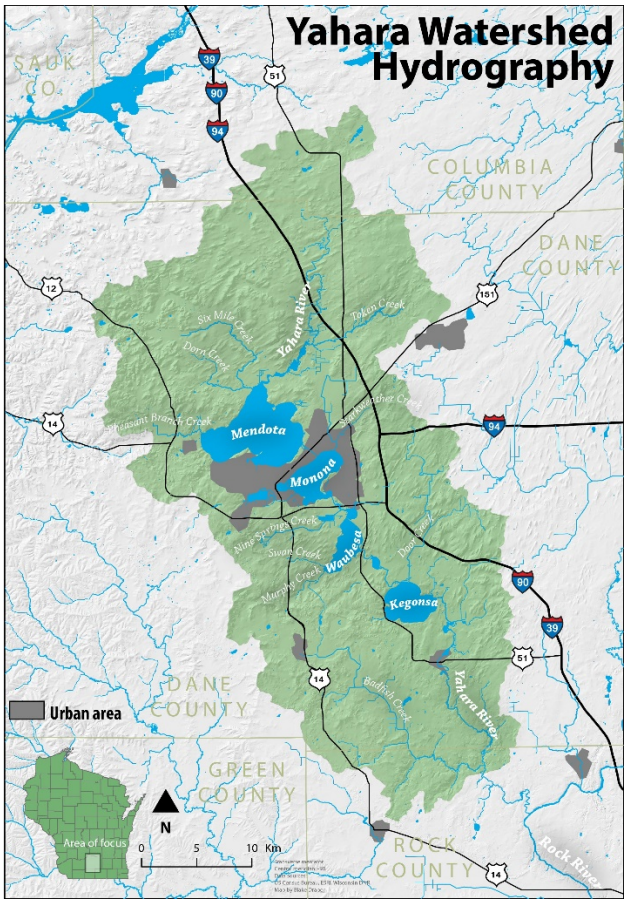
Safety

Multiple lives are lost annually at dams on America's waterways. People are often unaware of the dangers, or they underestimate their risk of becoming a victim to one. There was an incident in 2018 where a kayaker was sucked under the Stoughton dam. She was fortunate to have survived, but it shows a glaring public safety issue with the dam. In 1996, Matthew Judd was not as fortunate as he tried to rescue a friend at the Dunkirk dam, the dam directly downstream of the Stoughton dam, and he drowned. The Association of State Dam Safety Officials reports that there were 75 incidents and 57 deaths attributed to dams in 2019.

The safety issue is addressed by the Yahara Riverfront Development Project, which calls for the removal of the Stoughton Dam. The outcome will replace the dam with a standing wave whitewater feature and novice channel to the south that provides a series of smaller drops, spaced out over a longer stretch of river. These structures eliminate any dangerous currents.

State of Good Repair

The project contributes to the overall resilience of the region by mitigating future flooding. This is done through the removal of the dam, the lowering of the waterway, and improving flow capacity. The waterway is of significant importance to the region as it is a constriction point for the Yahara Watershed. In 2018 Dane County experienced historic rains and subsequent flooding which caused over $154 million in damage. In response to the flooding, Dane County created a task force to mitigate flooding. The project location was identified as a constriction point and is included as phase four of the plan.



The Jefferson Street pedestrian bridge was constructed in the 1930s. The bridge was inspected by the Wisconsin Department of Natural Resources in 2018 and many significant issues were found. Issues included multiple areas of corrosion and areas where the concrete was cracking. The pedestrian bridge inspection report can be found as Attachment C.

Economic Competitiveness

The Yahara Riverfront Development Project supports the economic competitiveness of Southern Wisconsin in three significant ways. It will fuel the growth of the local, regional, and state economy by

adding millions of dollars of visitor spending, it help's address the region's need to attract and retain a workforce to grow its economy, and it improves property values adjacent to the site.

Due to Stoughton's proximity to Madison, Milwaukee, and Chicago, there is a large kayaking market. This is evident with the country's largest paddling expo, Canoecopia, annually taking place in Madison. The University of Wisconsin – Madison/Cooperative Extension Economic Impact Study (2018) examined 10 other whitewater parks across the US, the study estimated an average of $68 per day spent on expenses including food, lodging, automotive, recreational equipment, clothing and supplies. Using the 60-minute radius, and an assumption of 82,000 kayakers visiting the Stoughton whitewater park once per year, the study estimated an additional $5.6 million spent annually. The full details of the economic impact study are attached as Attachment D.

Non-market economic benefits within this region could involve hedonic premiums placed on real estate values due to the presence of the additional 4.8 acres of parkland created by the project. These increased property values will provide capital appreciation for owners of land in Stoughton. The Impact of Parks on Property Values: A Review of the Empirical Evidence (2001) estimated that proximity to parks increased property values an average of 20%. Based on this, it is estimated that the value of TID District #8's value would increase in value by $9,492,000.

Lastly, the project will help attract and retain people to the region which is vital for the workforce. The 2017 study completed by the University of Wisconsin-Madison and titled Gaining and Maintaining Young People in Wisconsin Communities concludes that there are five important qualities for retaining and attracting young people. One of these qualities was to provide outdoor amenities such as parks and trails, with appreciation for outdoor recreation.

Environmental Sustainability.

The Yahara Riverfront Development Project improves the environment in a number of ways.

The dam removal and creation of the whitewater features will improve water quality and will reconnect the two stretches of the Yahara River. Fish passage is designed into the whitewater features which will allow fish species such as the northern pike to reach new spawning grounds. These changes will also improve the habitat for native species such as darters and smallmouth bass. The dam removal will also lower the water levels exposing contaminated sediments. The sediments will be remediated as part of the project. Full details of the contamination in the millpond can be found as Attachment E.

Shorelines will be restored and naturalized, and the section of Mandt Parkway that runs parallel to the river will be removed. These changes will help reduce storm water runoff throughout the entire project area.

The Redevelopment Area's historical use was manufacturing and is considered a brownfield. The remediation is outside of the project scope for this grant application, but it will be remediated as part of the development process.

Quality of Life

The health benefits of outdoor recreation and activities are well documented. Among the benefits are increased physical activity and mental well-being. A recent study shows that older adults engage in over 3.5 times more physical activity in parks with walking loops. The creation of the pedestrian trails and pedestrian bridges and whitewater improvements provide the public an opportunity to exercise for free.

A recent study by the American Heart Association estimates that getting the recommended dose of daily physical activity saves a person $2,5000 on health care costs annually. That translates to more than $$561,000 for the 82,000 projected uses of the whitewater park planned in downtown Stoughton as part of the Yahara Riverfront Development.

Secondary Criteria

The Yahara Riverfront Development Project aligns with the Secondary Criteria of Innovation, especially Innovative Financing and Partnership.

Innovation

The Yahara Riverfront Development Project is notably innovative for the significant public-private partnership with the City of Stoughton and the Stoughton Redevelopment Authority.

Specific to the Yahara Riverfront Development Project, the funding is planned for 80% federal, 16% state, and 4% local.

The Stoughton Redevelopment Authority secured a Wisconsin Economic Development Corporation Idle Sites grant in 2018 in the amount of $500,000. These funds are allocated for the use of the development of trail and shoreline restoration in the Redevelopment Area along with the pedestrian bridge connecting the Redevelopment Area to Mandt Park. The full details of the Idle Sites grant can be found as Attachment F.

The City of Stoughton secured a Wisconsin Department of Natural Resources Stewardship Fund grant in 2019 for the shoreline restoration and trail in the Redevelopment Area. Full details of the 2019 Stewardship grant can be found as Attachment G.

Additionally, once development starts in the Redevelopment Area, more than enough funds to cover the 4% local allocated. These monies will be generated through park development fees that the developer will need to pay.

Partnership

The effort to implement the Yahara Riverfront Development is a textbook example of public-private partnership. An example of this is the creation of the steering committee for the project. Organizations represented include:

- City of Stoughton
- Dane County
- Madison Sports Commission
- Yahara Fishing Club
- Stoughton Redevelopment Authority

The resolution to create the steering committee is attached as Attachment H.

Furthermore, the City of Stoughton and the Stoughton Redevelopment Authority entered into a Memorandum of Understanding where the City is responsible for the development of the trail, shoreline restoration, and the pedestrian bridge connecting the Redevelopment Area to Mandt Park. In return, the Stoughton Redevelopment Authority will transfer a 100 feet wide section of land adjacent to the

river for $1. This will create an approximately 1.5-acre park adjacent to the Yahara River. The memorandum of understanding can be found as Attachment I.

6. Project Readiness

Project Phases

The overall Yahara Riverfront Development Project is broken down into three phases:

- Phase I – Redevelopment Site Area & Pedestrian Bridges
  - Redevelopment Area Trail
  - Redevelopment Shoreline Restoration
  - Jefferson Street Pedestrian Bridge
  - Redevelopment Area to Mandt Park Pedestrian Bridge
  - 1.5 Acres of Parkland Creation

- Phase II – Stoughton Dam & Riverside Park, & Stoughton Millpond Areas
  - Dam Removal
  - Whitewater Features
  - Tailrace and Headrace Plazas
  - Beach and Canoe/Kayak Launch
  - Millpond Restoration and Remediation
  - Millpond Trail
  - Fourth Street Underpass
  - 3.3 Acres of Parkland Creation

- Phase III – Mandt Park
  - Mandt Park Shoreline Naturalization
  - Removal of Mandt Parkway parallel to the Yahara River
  - Two Parking Lots
  - Looped Trail System
  - Fishing Access Nodes

Phase I

Please note that the Jefferson Street pedestrian bridge is outside of the Redevelopment Area, but it was moved to this phase for economies of scale purposes. The project schedule for the Redevelopment Area trails and shoreline restoration, and pedestrian bridges follows.

I. <u>Initial Funding and Scope Development</u>

The City of Stoughton decided to move forward with the development of the pedestrian bridges, redevelopment area trail, and waterfront restoration during the 2019 budget process. Duration: 9 months.

II. <u>30% Preliminary Design</u>

Develop design to a 30 percent level for permitting, budgeting, and funding. Gather detailed base information for the site including topographic survey, permitting delineations (as necessary), design drawings, quantities, engineer's opinion of cost, and basis of design documentation. Estimated duration: 3 months.

III. Preliminary Permitting Reviews

Submit permit applications and conduct consultations. Likely permits include Wisconsin Department of Natural Resources Chapter 30 grading permit for the trail and bridges, Wisconsin Department of Natural Resources Bridge Individual Permit. Coordination with any applicable US Army Corp of Engineering permits is handle through the Wisconsin Department of Natural Resources Chapter 30. Coordination with Wisconsin Department of Natural Resources staff utilizing a HEC-RAS model showing "no rise condition. Engineers will evaluate stormwater quality requirements. This may be needed due to additional impervious surface from the trail. Estimated Duration: 2 months.

IV. Authorization by Project Sponsors to Proceed.

The design of the bridges, trail, and shoreline restoration will be approved by the Stoughton Redevelopment Authority, project steering committee, and the City of Stoughton. Estimated duration: 2 months.

V. Final Design

Final documents needed for bidding and construction. Include contract documents – bid documents, specification, technical specifications, and drawings. Estimated duration: 1 month.

VI. Permitting

Permitting to begin at approximately 60% design completion. Estimated duration: 1 month.

VII. Bid Phase

Acquire contractor bids, select contractor. Estimated duration: 2 months.

VIII. Construction Phase

Build the designed project, inspection, contract administration. Estimated duration: 4 months.

IX. Operations and Maintenance

Long-term management to maintain facilities, safety, and recreational performance. Transfer of the land from the Stoughton Redevelopment Authority to the City of Stoughton. Estimated duration: Ongoing.

A flow chart of the Phase I project schedule can be found as Attachment J.

Phase II

The project schedule for the dam removal, whitewater features, millpond restoration, and millpond trail follows.

I. Initial Funding and Scope Development.

The idea of a whitewater park was brought forth to City of Stoughton Parks Department staff on November 2016. Staff researched the concept and brought forth the funding a conceptual plan for the project. Research included a preliminary meeting with the Wisconsin Department of Natural Resources Waterways Director and the Secretary Deputy. The Stoughton City Council approved hiring Recreation Engineering and Planning to complete a conceptual plan for the whitewater features in January 2018. Duration: 13 months

II. Conceptual Design

The Conceptual Design (Attachment K) was developed from January 2018 to May 2018 and culminated in a public presentation. An estimated crowd of 200 people attended the conceptual design presentation. Duration: 5 months

III. Conceptual Design Permitting Review

A permitting review meeting with Wisconsin Department of Natural Resource Officials took place in May 2018 when Gary Lacy, owner of Recreation Engineering and Planning, was in Wisconsin to present the conceptual design. This meeting laid the groundwork for permitting guidance moving forward. Duration: 1 month

IV. Authorization by Project Sponsors to Proceed

Funds were budgeted by the City of Stoughton in 2019 for the 60% preliminary design work which included sediment sampling, bathymetric survey, hydraulic analysis, and updated whitewater park design plans. Duration: 12 months

V. 60% Preliminary Design

Interfluve was hired by the City of Stoughton in May 2019 to complete sediment sampling of the millpond and a bathymetric survey. They worked with Wisconsin Department of Natural Resource officials over the next seven months to develop a sampling plan, conduct the sampling, and complete the report (Attachment E). The Wisconsin of Department of Natural Resources reviewed the report and provided a directive letter to the City of Stoughton (Attachment L) The letter provides direction on what needs to be done to remediate the contamination if the project moves forward.

Recreation Engineering and Planning was hired by the City of Stoughton in May 2019 to continue to work on the whitewater features. The steering committee made a decision to move

forward with a dam removal design in August 2019. Recreation Engineering and Planning completed the preliminary design in January 2020. The process culminated in a public presentation in February 2020 with attendance of over 100 people. Duration: 9 months

VI. 60% Preliminary Design Permitting Review

City of Stoughton staff met with Wisconsin Department of Natural Resource staff on October 31, 2019 to review the sediment sampling results and a framework to move forward. This was later included in a directive letter.

City of Stoughton staff along with engineers from Recreation Engineering and Planning met with Wisconsin Department of Natural Resource staff on October 21, 2019 to review the design and go over permitting. This was considered a pre-application meeting for a Wisconsin Department of Natural Resources Chapter 30 permit. Full details of the preliminary design can be found as Attachment M and the design's hydraulic analysis can be found as Attachment N.

City of Stoughton staff met with Wisconsin Department of Natural Resource staff on February 13, 2020 to review permitting for dam removal. Duration: 6 months

VII. Authorization by Project Sponsors to Proceed

The budget for the project changed due to the updated design. The City of Stoughton budget was amended on April 14, 2020 to include the changes. There are budgeted funds to start the final design in 2020. During this time the project steering committee will meet and gather data for revisions. Estimated duration: 4 months.

VIII. Final Design

Final documents needed for bidding and construction. Include contract documents – bid documents, specification, technical specifications, and drawings. Estimated duration: 18 months.

IX. Permitting

Permitting discussion have begun with the Wisconsin Department of Natural Resources. Please see the "Environmental Approvals" section for a listing of required permits. Estimated duration: 12 months.

X. Bid Phase

Acquire contractor bids and select contractor. Estimated duration: 3 months.

XI. Construction Phase

Build the designed project. Inspection, contract administration. Estimated duration: 18 months.

XII. Start-up and Tuning

Observation of built project, refinement to optimize recreation and safety performance. Estimated duration: 6 months.

XIII. Operations and Maintenance

The City of Stoughton will be responsible for the long-term management and maintenance of the improvements. Estimate duration: Ongoing.

A flow chart of the Phase II project schedule can be found as Attachment O.

Phase III

The project schedule for the Mandt Park improvements follows.

I. Initial Funding and Scope Development

Funding for a master plan for Mandt Park was approved in 2018. The City hired MSA Professional Services to complete the plan and the development of the plan started in April 2019. The development of the plan included multiple forms of public input, the development of three plan concepts, and a selected final design. The master plan is scheduled to be adopted in June 2020. The Mandt Park Master Plan can be found as Attachment P.

II. 30% Preliminary Design

Develop design to a 30 percent level for permitting, budgeting, and funding. Gather detailed base information for the site including all utility data gathered and/or surveyed, complete a topographical survey including right-of-ways and easements, soil borings and geotechnical report, development of a specification outline, wetland delineation, verify site design against preliminary stormwater/utility design (review of utility crossings), preliminary pavement design, general earthwork and stormwater design, revise project phasing, consider construction sequencing, need for irrigation identified, and development of engineer's opinion of cost. Estimated duration: 6 months

III. Preliminary Permitting Reviews

File a Notice of Intent Site Disturbance and Wetland Delineation with the Wisconsin Department of Natural Resources. Estimated duration: 6 months

IV. Authorization by Project Sponsors to Proceed.

The design of the parking, trail, and shoreline restoration will be approved by the Stoughton Redevelopment Authority, project steering committee, and the City of Stoughton. Estimated duration: 6 months.

V. Final Design

Complete specifications, final plans (detail, section, stormwater facilities, utilities, etc.), materials detailed and specified, planting plan and details complete, irrigation plan complete, final cost estimate prepared, specifications complete. Estimated duration: 6 months

VI. Permitting

Acquire permits from the Wisconsin Department of Natural Resources and applicable local permits. Chapter 30 permit for shoreline restoration. Estimate duration: 1 month

VII. Bid Phase

Acquire contractor bids and select contractor. Estimated duration: 2 months.

VIII. Construction Phase

Build the designed project. Inspection, contract administration. Estimated duration: 13 months.

IX. Operations and Maintenance

The City of Stoughton will be responsible for the long-term management and maintenance of the improvements. Estimate duration: Ongoing.

A flow chart of the Phase III project schedule can be found as Attachment Q.

Demonstrates Feasibility of Expending Funds

The project schedule demonstrates that all necessary activities will be complete to all BUILD Transportation grant funds to be obligated sufficiently in advance of the statutory deadline of September 30, 3022., and that any unexpected delays will not put the funds at risk of expiring before they are obligated; that the project can begin construction quickly upon obligation of grant funds and that those funds will be spent expeditiously once construction starts, with all funds expended by September 30, 3027; and that all real property acquisition will be completed in a timely manner in accordance with 49 CFR part 24, 23 CFR part 710, and other applicable legal requirements or a statement that no acquisition is necessary.

Cost Estimates

Cost estimates in the BUILD Grant application come from a number of sources.

The Phase I cost estimates were provided by Strand & Associates engineering firm based out of Madison, WI. They are a top five engineering firm in the region.

Phase II cost estimates for the dam removal, whitewater features, and plazas were provided by Recreation Engineering and Planning. They are the preeminent engineering firm for whitewater parks. The cost estimates provided in the Preliminary Design Report (Attachment M) were revised due to the need to itemize the costs for state grant application requirements.

Phase III cost estimates for the Mandt Park improvements were provided by MSA Professional Services and come from the Mandt Park Master Plan (Attachment P)

Technical Feasibility

The technical feasibility for the Yahara Riverfront Development Project, and particularly Phase 2 with the dam removal and whitewater features, has been demonstrated with the development of the Preliminary Design Report (Attachment M) of the whitewater features and the hydraulic analysis of project (Attachment N).

The design criteria for the dam removal and whitewater features are rigorous and include:

- Eliminate the hazard of the dam.
- Improve flood mitigation
- Improve fish passage
- No increase to the base flood water surface elevations to obtain a FEMA “no-rise” certification

Environmental Approvals

All permits and approvals necessary for the project are anticipated to be received in a timely manner, enabling the project to proceed to construction outlined in the aforementioned project timelines, as well as meet the statutory obligation deadline for the BUILD grant. All local, state, and federal requirements, including the NEPA process will be satisfied. Below is a narrative of the different approvals and permits required for each phase of the project, and progress towards the them to this point.

Phase I

Required permits for this phase include a Wisconsin Department of Natural Resources Chapter 30 grading permit for the trail, shoreline restoration, and pedestrian bridges. The pedestrian bridges will also require Wisconsin Department of Natural Resources Bridge Individual Permit. Coordination with Wisconsin Department of Natural Resources staff with a HEC-RAS model showing a “no rise” condition for the floodplain. Engineers will evaluate stormwater quality requirements due to the additional impervious surface created by the trail. Any US Army Corp of Engineer (USACE) permitting/coordination is handled through the Wisconsin Department of Natural Resources process.

Local permitting may include an erosion control permit, stormwater permit, shoreland permitting, and floodplain.

A Letter of Map Revision (LOMR) will be required for any change to river elevations or changes to the floodplain.

Phase II

The removal of the dam and the development of river features will require a US Army Corp of Engineering 404 Clean Waters Act permit for any wetlands impacted and channels identified as waters of the United States. Staff at the Wisconsin Department of Natural Resources have communicated to City staff that the permitting process for 404 permits go through their office and is reviewed jointly with the USACE permitting process.

During our meeting on October 24, 2019 with Department of Natural Resources staff which they considered it the required pre-application meeting they indicated to City staff that the permitting of the river features will fall under miscellaneous structures in the permitting process. The plans for the river features will need to include detailed cross sections and delineations. We will need to provide restoration plans for the project area as well.

A State Historical Office investigation of cultural resources in the project area will be required as part of the USACE 404/401 permit process.

The Stoughton Dam is a structure older than 50 years and eligible for listing on the National Register of Historic Places. Pursuant to Section 106 of the National Historic Preservation Act, the Army Corp of engineers must evaluate potential effects to the eligible property that may result from the proposed work. They have requested survey and field data, and archaeological reports.

A wetland investigation and delineation will be required to identify if any wetlands exist within the project area prior to the USACE 404 permit process.

Changes to the floodplain resulting from the proposed project will need to be analyzed. Floodplain impact reports will be provided to the appropriate local, state, and federal agencies for review.

We have been working towards the permitting process with the completion of the preliminary design and hydraulic analysis for some project elements. The City of Stoughton applied for a Wisconsin Department of Natural Resources Municipal Dam Program Grant in 2020. An application for dam removal is part of the application process. The receipt acknowledging the application can be found as Attachment Q.

The capping and restoration may fall under an Interim Action Report/Soil Management Plan, Wisconsin NR 718 Exemption Request, and a Cap Maintenance Plan will need to be completed. Post-construction monitoring and a post-construction report will need to be completed as part of the project.

Other permits will be required prior to construction such as, but not limited to, a Stormwater Pollution Prevention Plan (SW3P) pursuant to NDPES, other State construction permits such as a Dewatering Discharge permit, and/or other State permit requirements.

Phase III

Required permits for this phase include a Wisconsin Department of Natural Resources Chapter 30 grading permit for the trail and shoreline restoration. Engineers will evaluate stormwater quality requirements due to the additional impervious surface created by the trail and the removal of the Mandt Parkway.

Local permitting may include an erosion control permit, stormwater permit, shoreland permitting, and floodplain. The site conditions for this area require additional utility surveys due to the wastewater treatment plant located to the east of the park.

Public Participation

This project has been in the spotlight in the region due to the uniqueness of it and the dam removal aspect. The project has appeared in the media or discussed in a public meeting over 100 times and the list can be found as Attachment Q.

7. Benefit-Cost Analysis

This section outlines the costs and benefits of the Yahara Riverfront Development project to satisfy the requirements for the Better Utilizing Infrastructure to Leverage Development (BUILD) grant. The analysis considers the costs and benefits that would accumulate over a 30-year timeframe through the year 2051. For additional details on the Benefit-Cost Analysis please see Benefit Cost Analysis (Attachment S) and BCA Workbook (Attachment T).

Baseline Scenario

The Baseline Scenario assumes that the Yahara Riverfront Development Project is not implemented. It assumes the Stoughton Dam in its current configuration is left in place.

Under this scenario, the dam continues to present a safety hazard because boaters and people who accidentally fall in the water may get drawn into water flow through the dam and risk drowning or injury. The dam will continue to restrict flow of water through the Yahara watershed chain of lakes, which has experienced major flooding twice in the last 12 years. The dam will continue to require ongoing average maintenance costs of $61,400.

The millpond will continue to collect sediment, diminish fish habitat and spawning grounds, and cover land that could be converted to parkland.

Southern Wisconsin would also forgo the economic impact benefits, losing out on millions of dollars in spending that would otherwise be brought into the region. Southern Wisconsin falls behind in the “war for talent,” losing workforce to other cities that made investments in quality-of-life amenities. And existing residents of Southern Wisconsin would lose out on the quality of life amenities themselves, with fewer outdoor recreation opportunities, less exposure to nature, and poorer water quality.

Alternative Scenario

The Alternative Scenario assumes that the Yahara Riverfront Project is implemented. It assumes that the Stoughton Dam is removed and replaced with a whitewater park that includes a five drop crest features for novice paddlers and a standing wave for surfing, fish passage, canoe and kayak launches, a multi-use pedestrian trail linking the area to the regional Lower Yahara Trail. Dam removal will increase water flow and reduce the risk of flooding.

Under the alternative scenario the millpond will be replaced with a river connected to fish spawning grounds. Soil on the newly exposed riverbank will be remediated of contamination and native plantings will be placed in the area creating 3.3 acres of parkland and an unsafe and aging pedestrian bridge will be replaced.

The alternative scenario includes creation of a 1.5-acre riverfront park in front of the downtown redevelopment site, enhancing property values and increasing appeal of the area to developers. In addition, Mandt Park, across the river from the redevelopment area, will be improved with shoreline restoration and naturalization, new parking areas, and a multi-use pedestrian trail loop that will connect, via a new pedestrian bridge over the river, to the downtown riverfront and regional trail system.

NPV Avoided Safety Costs 7%	$5,832,249
NPV Economic Benefits 7%	$85,349,225
NPV Quality of Life Benefits 7%	$6,969,461
NPV Parkland Added Value Benefits	$789,885
NPV Alternative Scenario O&M Costs	$179,843
NPV Flood Control Benefits	
NPV Environmental Benefits 7%	
Totals	
NPV at 7%	$99,120,664
Initial Project Cost	$7,316,479
NPV of O&M Costs @ 7%	$179,843
Total Project Costs	$7,496,322
Cost-Benefit Ratio @ 7%	**13.22**

Parkland Increase

The Yahara Riverfront Development will increase parkland available to residents of Stoughton and beyond by 4.8 acres. According to a Park Impact Fee study, the Average Park Value per acres is $197,277.

Safety

The alternative scenario includes removing the Stoughton Dam. The Stoughton Dam was responsible for a near drowning in 2018, and the next dam downstream of the Stoughton Dam, the Dunkirk Dam, was responsible for a drowning in 1996. The Wisconsin Department of Natural Resources provided the City of Stoughton a directive letter in 2020 that the Stoughton Dam could be removed to improve public safety.

Economic Competitiveness

The Yahara Riverfront Development Project supports the economic competitiveness of Southern Wisconsin in two significant ways. It will fuel the growth of the regional and state economy by adding millions of dollars of visitor spending, and it helps address the region's need to attract and retain a workforce to grow its economy.

The economic benefits associated with the Yahara Riverfront Development project used data developed through the University of Wisconsin-Madison/Cooperative Extension Economic Impact Study (September 2018). This study focused on direct spending, estimating visitation and visitor spending from kayakers within 30, 60 and 120 minutes of Stoughton. Within three hours of Stoughton, there is a total population of nearly 6 million with estimates of this including nearly 434,000 kayakers and over 1 million canoeing enthusiast.

Based on recent studies that examined 10 other whitewater parks across the US, the study estimated an average of $68 per day spent on expenses including food, lodging, automotive, recreational equipment, clothing and supplies. Using the 60-minute radius, and an assumption of 82,000 kayakers visiting the Stoughton whitewater park once per year, the study estimated an additional $5.6 million spent annually. This NPV of the economic benefits of the project are estimated at $85.3 million.

Quality of Life

The health benefits of outdoor recreation and activities are well documented. Among the benefits are the "sunshine vitamin," aka Vitamin D; more exercise, especially for children; happier people, notably when their exercise takes place near nature; and improved concentration, as noted in "Last Child in the Woods" by Richard Louv.

There are many quality-of-life benefits that are difficult to quantify. This analysis focused on health care costs savings related to increase physical activity generated by the project. A recent study by the America Heart Association estimates that getting the recommended dose of daily physical activity saves a person $2,500 on health care costs annually. This means that each day of physical activity equates to $6.85 in health care costs saving. Based on user projections generated through the University of Wisconsin-Madison/Cooperative Extension Economic Impact Study, it is estimated that 82,000 users engage in the active recreation options available in this project.

Based on these calculations it was determined that the NPV of the quality of life benefits is approximately $7.0 million.

Property Value Increase

Properties adjacent to parks and greenspace typically have higher values because they provide ready access to outdoor amenities. The Impact of Parks on Property Values: A Review of the Empirical Evidence (2001) estimated that proximity to parks increased property values an average of 20%.

Stoughton's Tax Increment District #8 Plan (July 2018) estimates an added value of $47,459,000 from buildout of the concept plan for the TID. The TID Plan did not factor parkland enhancements from the more recently prepared Yahara Waterfront Redevelopment plan (Alternative Scenario) in its estimates of additional assessed value. The Alternative Scenario would increase the TID estimated value by an estimated 20%, or $9,492,000.

Flood Control

The removal of the Stoughton Dam will cause the waterway to lower 2.6 feet in the millpond area. This will cause an additional 61,000 cubic yards of flood storage in the area. Additionally, the Stoughton Dam constricts flow in the Yahara River. The removal of the dam will create a freer flowing system with no constriction. In 2018, Dane County experienced record rainfalls which caused subsequent flooding. Dane County officials estimated the damage at $154 million.

Environmental Benefits

The Yahara Riverfront Development will improve the health of the Yahara River. The shoreline naturalization will mitigate runoff into the river, the removal of the dam and whitewater improvements will improve water quality. The whitewater amenities also provide for fish passage where fish can now reach new spawning grounds.