Black River Whitewater & Trail Feasibility Study
Watertown, New York

Created for:

The City of Watertown
Municipal Building Suite 302
245 Washington Street Watertown, NY, 13601

Created by:

Gary M. Lacy
Recreation Engineering and Planning
485 Arapahoe Ave.
Boulder, CO, 80302

GYMO
Architecture Engineering and Land Survey, Inc., P.C.
220 Sterling St.
Watertown, NY, 13601

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Introduction

The Black River through Watertown, from the perspective of a whitewater enthusiast, is a truly unique stretch of river. The Black River has uncommonly attractive natural qualities; including whitewater play boating, limestone cliffs and riparian vegetation. Boaters who float this section are also offered a unique exhibit of how Watertown, both past and present, has powered its industries. Watertown has a fascinating history, and the Black River has played a pivotal roll in this history yet is almost invisible from most downtown locations.

Historically the City of Watertown has harnessed the Black River for the energy it provides. The Black River has supplied both electrical and mechanical power to Watertown's industries for generations. Now, as the City of Watertown begins to evolve anew, the Black River stands to play a central role once again. In this evolution the Black River will be asked to power not only the manufacturing industry, but also Watertown's growing tourist industry.

As is, the Black River in Watertown, New York is a valued whitewater resource for the northeastern United States. With its consistent flows and varied whitewater features, the Black River is currently utilized extensively for both park-and-play whitewater paddling and commercial whitewater rafting. The City of Watertown has begun a process of viewing the Black River as a regional economic resource, attracting whitewater paddling enthusiasts while providing recreational opportunities for visitors to the historic district, Thompson Park and the Lake Ontario region. However, multiple low head dams along the corridor serve as a significant impediment to downstream navigation through Watertown. Therefore, the Black River remains a largely untapped recreational resource.

The Black River Whitewater and Trail Feasibility Study is being funded by the New York State, Department of State, Division of Coastal Resources, as part of the Local Waterfront Revitalization Plan (LWRP) for the City of Watertown. This document explores the opportunities that exist along and within the Black River for recreational enhancement. Long-term investment in the Black River corridor will allow the City of Watertown to diversify its economy and provide low cost recreation for local residents.

The entire scope of improvements recommended in this document is based on a paddle-through Watertown objective. If all of the improvements are made a paddler would be able to descend the Black River throughout this reach. However, specific improvement sites will have selected impacts on the City. Upper sites, such as Delano Island, Horseshoe, Route 3, and Diamond Island, will provide recreational opportunities and will certainly expand Watertown's whitewater events opportunities but may not have the impact on downtown business that is a stated goal of the project. The Sewall's Island site will drive development at the site and will serve as both a recreational amenity for the City and a stimulus for the type of mixed use, new urbanism, development that many communities are implementing. Improvements at Mill St. will open up the downtown to the river, thereby stimulating business, tourism, and recreation right in the center of Watertown, and, lastly, selected improvements at Veteran's Memorial Riverwalk and Hole Brothers will provide increased river access at a low cost. This document presents the possibilities for these improvements as well as their associated costs.

Project Scope

The scope of this study is to identify possibilities for in-stream improvement on a selected reach of the Black River through the City of Watertown, NY. This reach stretches from, at its upstream end, the Delano Island Dam downstream through the Vanduzee Street Bridge. This study has focused on key areas along this reach for improvement; however, any area not specifically noted in this study may also be a candidate for selective clean up and restoration within the stream corridor. This study has been tasked by the City with the objectives of:

- Creating a physical connection between the downtown area and the river corridor;
- Re-developing historic sites of industry and Brownfield sites for recreation and commerce;
- Enhancing a regional tourism economy centered around the Black River;

- Creating continuity both within the stream and along the riparian corridor through a pedestrian corridor and modification of the low head dams for safe passage;
- Overcoming the perception of the Black River as polluted and unsafe;
- Providing venues for future river events and whitewater competitions; and
- Creating recreational assets along the Black River that are valued by the local residents in addition to serving as tourist attractions.

Current Conditions

Physical Conditions

Flows

The Black River features significant flows as it passes through Watertown. Figure 1, shown below, illustrates the average mean of monthly stream flows for the Black River through the selected reach:

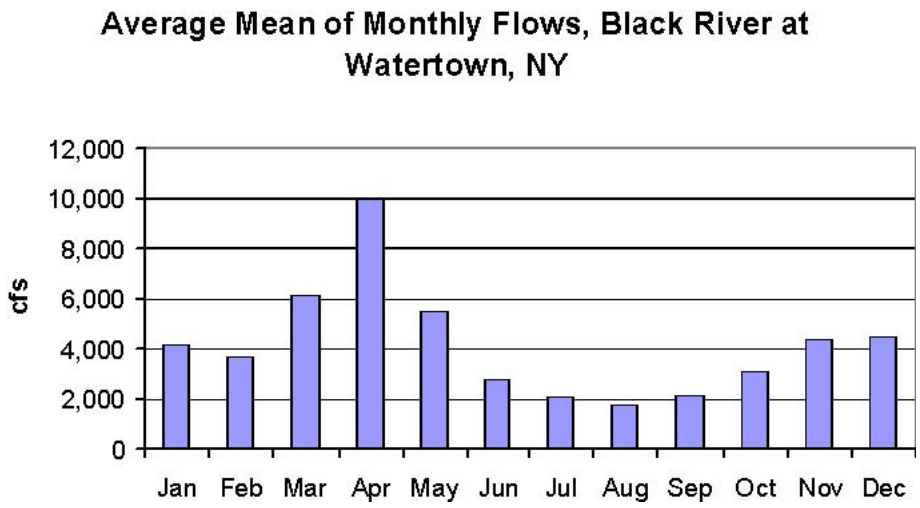


Figure 1. Average mean of monthly stream flows for the Black River at Watertown, *(Source: www.usgs.gov, period of record; 1920-2003)*

This Figure highlights the large quantity of water that passes through this reach. Higher flows are typically present in March, April and May and are presumably caused primarily by

snowmelt. Mid to late summer features the Black's lowest flows and may be the ideal time for in-stream construction, depending on permitting requirements.

Figure 2 shows the peak flows in the Black River. As shown, the Black River regularly experiences very large flows on the order of 15,000-30,000 cfs. Flood rates and associated return intervals are shown below. These flows, in combination with the steep character of the streambed through the selected reach, represent significant dynamic fluid forces. Any improvements made within the selected reach should be designed to withstand these forces.

Station Number	Station name (In downstream number order)	Drainage area, in mi2	1.11-yr flood, in cfs	1.25-yr flood, in cfs	1.5-yr flood, in cfs	2-yr flood, in cfs	5-yr flood, in cfs	10-yr flood, in cfs	25-yr flood, in cfs	50-yr flood, in cfs	100-yr flood, in cfs	200-yr flood, in cfs	500-yr flood, in cfs
34260600	BLACK RIVER AT WATERTOWN NY	166400	15900	17600	19600	21700	27500	31500	36600	40600	44600	48700	54500

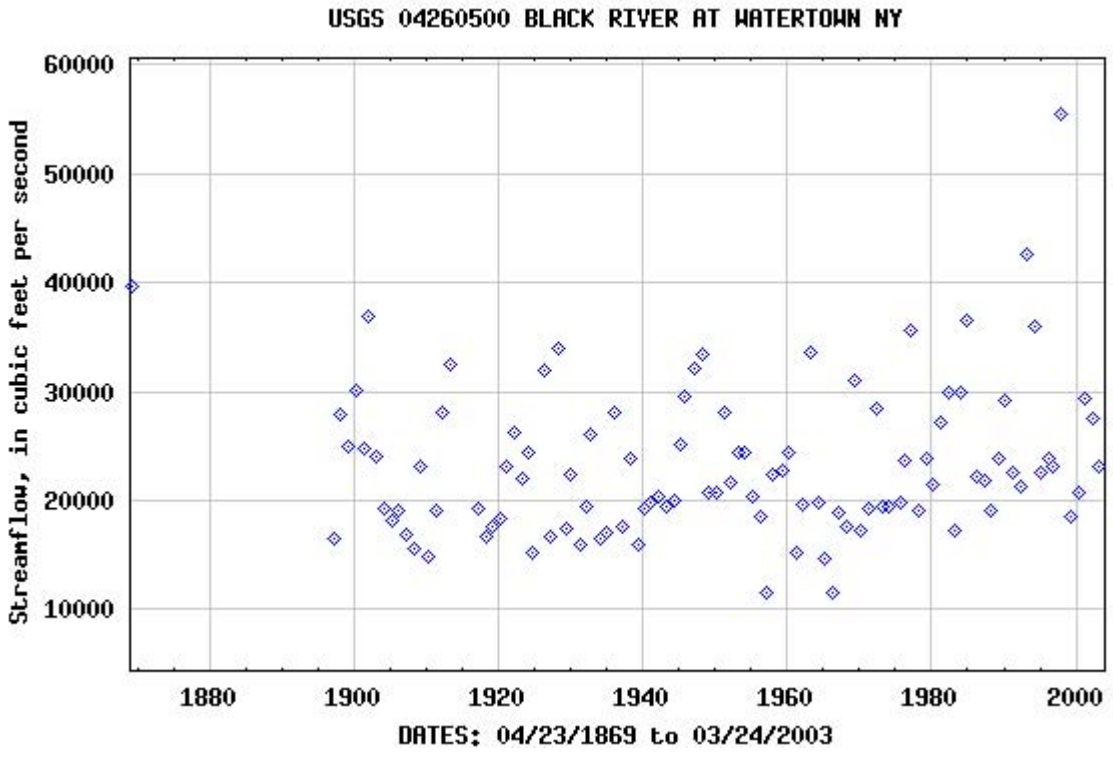


Figure 2. Peak flows in the Black River at Watertown, *(source: www.usgs.gov, period of record; ~1900-2003)*

Black River User Groups

This reach of river is already utilized by a number of different user groups. It is the objective of this study to identify these users and preserve or enhance their experiences. From a design standpoint the "User Groups" include all of the entities that are involved in using the Black River corridor. Many of these users are beyond the scope of this study. For purposes of this study, primary users include:

The City of Watertown

The City of Watertown has a tremendous stake in the manner in which the Black River is utilized. The original industrial development of the City was largely based upon the river to supply water and power to mills. Watertown developed into one of the principal manufacturers of paper in the United States. Knowlton Brothers Specialty Papers is reportedly one of the oldest continually running paper mills in America.

With the economic and industrial changes that have occurred over the years across the paper industry, the city and region has migrated away from an industrial base towards an intellectual, service and military-based economy. With these changes in mind, the City is examining ways to make the Black River a much larger tourist attraction. Additionally, historical paradigms for city planning are evolving, and areas that were once industrial are now being rezoned and re-planned to increase property value, quality of life, and to make way for a historic downtown business district that has both substantial historic charm and re-development opportunities. Creating a physical and visual link between the river and the downtown business district has been shown in a variety of similar communities to be critical to the long-term success of these types of revitalization efforts.

One of the facets of this project that is so significant that it deserves separate consideration is the marketing benefit of these improvements. An inner city Whitewater Park puts Watertown in the company of other, typically Olympic, venues such as Athens, Greece; Munich, Germany; Sydney, Australia; and Barcelona (Seu D'Urgell), Spain. These parks offer

tremendous returns in the form of commercial rafting, recreational amenities, riverside trails and parks, etc. but also serve to attract major international events, with resulting press coverage, as well as other marketing opportunities. Perhaps the most significant effect of these improvements will be to change the image of Watertown to the outside world.

Associated Design Criteria

- Integration of the Black River with the City of Watertown, including existing trail systems and public park space, local downtown businesses, and living areas.
- Low cost, low oversight, and low maintenance.
- The current industrial uses of this reach must be preserved.
- The improvements must serve as an attraction and improve the quality of life of in-town users.
- The improvements must serve to market Watertown as a stunning destination with attractive recreational opportunities.
- A Whitewater Park must be designed to attract regional, national and international events and competitions.
- Improvements should leverage current mass transportation, City Parks facilities, and should be integrated with current City master plans.

Commercial Rafting

Commercial rafting already exists on the Black River. However, the many dams within this reach preclude uninhibited commercial rafting through downtown Watertown. Commercial rafting operations stand to gain considerably from improvements which will not only open up a considerable reach of substantial whitewater but will offer exposure, ease of accessibility, increased infrastructure, and the opportunity to link on-the-water experiences with off-the-water experiences offered in the City, such as restaurants, parks, and other attractions. Commercial rafting operations typically operate autonomously from the local government but require put-ins and take-outs that can accommodate large numbers of customers and restroom facilities. On the water the rafters will need an extended reach of river that is continuously navigable, that provides a thrilling and attractive ride. The

difficultly level of the water should not exceed that which can be navigated by a well-trained guide with a boat full of inexperienced customers.

Associated Design Criteria:

- The river must provide attractive and navigable whitewater for guided raft trips.
- Put-ins and take-outs must accommodate commercial rafting operations.
- The river must serve as an attraction to passing customers.
- The river experience should allow on-the-water users access to City business and vice-versa.

Recreational Boater

There exists today significant recreational paddling use of the Black River. With its consistent flows and the park-and-play paddling available at the Hole Brothers and Route 3 Wave sites, it stands as a critical resource for whitewater paddlers from all over the northeast as well as eastern Canada. The improvements detailed in this study serve to preserve and enhance existing use of the Black River, while proposing new and varied opportunities at underutilized sites along the study area.

These improvements should create a significant flow of knowledgeable boaters to the Black River. These people are generally experienced enough to manage for themselves once they reach the river but will still require guidance and direction with regard to the safe navigation of this stretch. These users will typically transport a large amount of equipment to and from the river on a daily basis in the form of kayaks and gear and will need similar access to that required by rafters. Some of these users will crave top-end elite level paddling while, at the other end of the spectrum, some paddlers will seek out less intimidating boating options.

Of note is the nature in which experienced boaters, both recreational and competitive, will use the Black River. A typical outing will take one of two forms; either park-and-play or paddle through. The park-and-play boaters will pick one destination, such as the Route 3

wave, and remain at this location for their entire outing. This boater is looking for an attractive play wave as well as easy recirculation back to the wave. Access to and from this feature, shore side viewing and rest places are also key.

Paddle through boaters will also stop and play at a selected feature but this is only a part of their outing. These boaters will typically descend through an extended reach of the river stopping at some places to play, some places to rest, and in other instances will be challenging themselves just to make it down a particular rapid. Both types of boaters will be attracted to Watertown and understanding the needs of both types is important to the final design of this project.

A sub-set of this user group that should be singled out is instructional boating classes. Instructional boaters may choose to remain at a single location that features elementary whitewater. Instructors desire basic water features with little risk of floating downstream into more difficult rapids. Additionally, these instructional groups tend to paddle through much easier whitewater than other boaters. Design and layout of access, bank improvements, and some in-stream improvements should take these users into account.

Associated Design Criteria:

- Must have a variety of whitewater activities.
- Must have less intimidating, moving water options.
- Must have a navigable reach of river that has attractive park-and-play options.

Business/Residents

Riverside business and residents also have a stake in this project. The people of the City will seek out riverside trails for cool walks and runs and they will seek out popular boating spots as spectators. Riverside businesses will want a link to the activities on the water—if for no other reason than aesthetic appeal. These local businesses and residents will desire trail and road access to and from the river as well as selected bank improvements to provide attractive riverside seating and viewing.

Locals will also seek to hold events and competitions at the in-stream venues that are created. These events will draw a considerable amount of visitors, exposure, and dollars to the City. Design of the in-stream structures should also include design of support structures that accommodate large events and provide ease of use to event organizers and spectators alike.

Associated Design Criteria:

- Attractive riverside seating and viewing areas.
- A link between the City and the river.
- Aesthetic improvements on the water that create visual attractions for local business.
- Design and planning for large events.

Spectators

This user group will arrive on-site with no plans to take part in specific activities. Spectators also constitute a large cross-section of the general community and will have general needs. Included in these needs are food, restrooms, transportation and comfortable seating. This user group desires shade from the hot sun and warm seating, with a view, on cold days. Spectators will typically mix eating with the day's outing and are expected to stroll and inspect the entire facilities in a day's excursion. These users will arrive and depart en-masse on event days.

Associated Design Criteria:

- The site must have attractive seating.
- The site must provide access to alternative activities.
- Wherever possible there should be prominent viewing from restaurants/indoor facilities.

Fishing

Fishing has a significant economic impact on the region (37million dollars in 1998), however, the bulk of fishing appears to take place in Lake Ontario or downstream of

Watertown. Although there are several fishing access points within Watertown, fishing does not appear to be a large draw for visitors to Watertown. However, a number of local residents enjoy sport fishing, and there exists the potential to draw more fishermen to the community.

Fishermen, both resident and nonresident alike, require access to the stream corridor within the City. Increased access allows for fishermen to disperse and find solitude. All of the proposed access improvements for whitewater paddling and pedestrians should be designed to improve access for fishermen as well. The State DEC provides funding for individuals to provide fishing access improvements along the river's edge; however, it does not provide monies to municipalities and typically does not provide such funding to corporations.

Historically, Atlantic Salmon spawned in the Lower Black River, running upstream from Lake Ontario to as high upstream as Mill Street Falls (formerly referred to as High Falls). By the early 1900's the salmon had been extirpated due to pollution in the Black and hydroelectric dams. With water quality improving and the addition of fish ladders at Glen Park and Dexter, salmon now run as high up the river as the historical high point, Mill Street Falls.

Associated Design Criteria:

- Parking and trail access to the stream.
- Ability to disperse along the corridor.
- Improved fish passage.

Power Generation

The Black River in Watertown is used extensively for power generation. There are four active generating plants and one abandoned generating structure within the City. The City owns one of the generating plants and the other four are privately owned facilities.

With the exception of the generation facility at Diamond Island (and the unused facility on the north branch at Sewall's Island), these facilities all operate under Federal Energy

Regulation Commission (FERC) licensing at run-of-river conditions. This means the facilities are not "permitted" to impound water. The Diamond Island facility is exempt from FERC licensing, due to its small size.

The dams within the City are listed below, along with the owner of the dam as listed on the FERC website. The issued date and expiration date refer to the FERC license for the facility.

Site	FERC Project	FERC Project Name	Issued	Expires	OWNER NAME
Delano Island Dam & Horseshoe Dam	02442	WATERTOWN	6/16/1995	5/31/2035	City of Watertown (NY)
Diamond Island Dam	5801	DIAMOND ISLAND	6/9/1982		Niagara Mohawk Pwr Corp (Leased to CHI Energy)
Sewall's Island Dam	02569	BLACK RIVER	12/24/1996	11/30/2026	Erie Boulevard Hydropower, L.P
Beebee's Island Dam	02538	BEEBEE ISLAND	12/24/1996	11/30/2026	Erie Boulevard Hydropower, L.P.

River Rights & Ownership

Lands Under Water

New York State does not own any land under the Black River in the City of Watertown. According to the NYS Office of General Services (NYS OGS), the land under the Black River has not been owned by the State since Macomb's Purchase in the late 1700's. Present land ownership and rights must be determined by careful inspection of the deed for a specific property. Typically, properties along the river are assumed to extend to the centerline of the river unless the deed specifically describes the parcel as being bounded by a line along the shore or bank, etc. Determination of boundary lines would have to be conducted on a parcel-by-parcel basis. This work must be performed by a Licensed Professional Land Surveyor.

There are several properties within the City whose borders extend into the river, and include a portion of the river bottom. The tax parcels that appear to own portions of the river are listed below. This is based on initial research that did not include an exhaustive study of

deeds for all parcels in the riparian corridor. The locations, addresses and names of the owners are detailed within the Site Profiles section of this study.

1-14-121	4-13-102	4-27-101	7-08-301
2-01-131.1	4-13-102.1	6-01-201	7-08-302
4-01-101	4-23-101	6-05-301.1	7-08-303
4-12-101.1	4-23-102	7-01-204	7-08-307

Public Use

The Black River is a navigable river from its mouth at Lake Ontario to the Lowville area, meaning that the public has rights to use of the river, much like a highway. On March 16, 1821, in Chapter CVII of the Laws of 1821, the Black River was declared a public highway.

Hudson River-Black River Regulating District

The Hudson River-Black River Regulating District (HRBRRD) regulates the flows of the Black River in order to reduce flooding and to augment flows during times of drought. The Regulating District operates three reservoirs in the Black River watershed area: Stillwater, Old Forge, and Sixth Lake reservoirs, the largest being the Stillwater Reservoir.

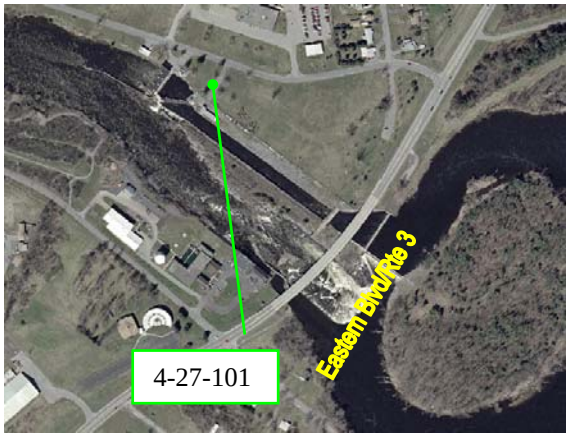
The reservoirs collect runoff and snowmelt in the spring that would otherwise flood valleys and other low-lying areas. During the rest of the year, these stored waters are systematically released to benefit navigation and the maintenance of water quality standards, as well as the industrial and hydroelectric sites dependent on the rivers for power.

Beneficiaries of the Regulating District

There are several beneficiaries on the Board of the HRBRRD within the City of Watertown.

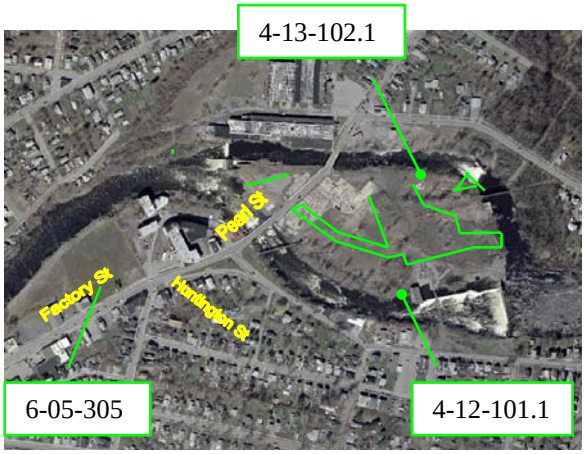
Beneficiaries own rights to the head of the river and commonly own a portion of the river bottom. The beneficiaries in the City include Black Clawson-Kennedy Inc., the City of Watertown, Erie Boulevard

Hydropower, L.P., and Niagara Mohawk Power Corporation.

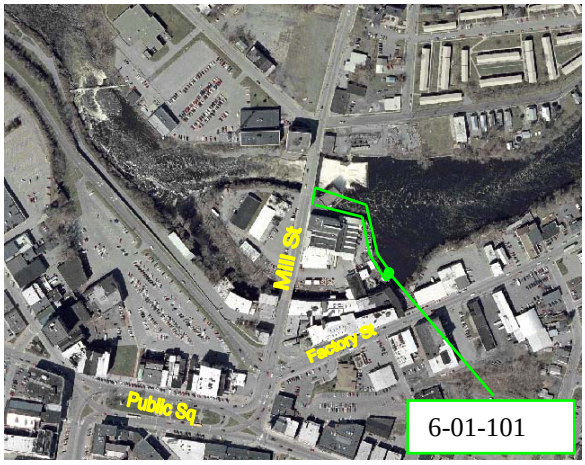


Black Clawson-Kennedy Inc. owns the head of the river in association with tax parcel 1-14-121, which is on the north bank of the river near the site known as Hole Brothers.

The City of Watertown owns the head of the river in association with tax parcels 7-08-301, 7-08-303, and 4-27-101. Parcels 7-08-301 and 7-08-303 are the parcels on the south side of the river at the site referred to as Hole Brothers. Parcel 4-27-101 is the site of the City's hydropower project.

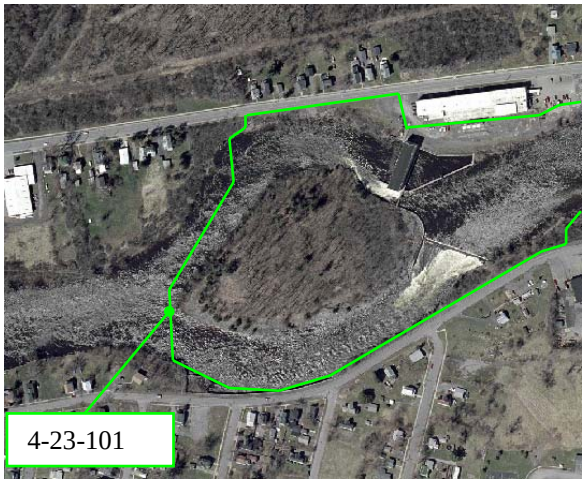


Erie Boulevard Hydropower, L.P. owns the head of the river in association with tax parcels 6-01-101, 6-05-305, 4-12-101.001, and 4-13-102.1. Parcel 6-01-101 is the site of the Mill Street Power Project. Parcel 6-05-305 is located on the south side of the Black River a short distance downstream of Sewall's Island. It is near the area referred to as Factory Square and the site known as the Abe Cooper Site. Parcel 4-12-101.1 is the site of the Sewall's Island Dam and power project. Parcel 4-13-102.1 is the site of the unused dam on the north branch of the Black River on the north side of Sewall's Island.



Niagara Mohawk Power Corporation owns the head of the river in association with tax

parcel 4-23-101. This parcel is the site of the Diamond Island power project on the north branch of the Black River.



There are also several properties within the City whose borders extend into the river, and include a portion of the river bottom. The tax parcels that appear to own portions of the river are as follows:

1-14-121	4-13-102	4-27-101	7-08-301
2-01-131.1	4-13-102.1	6-01-201	7-08-302
4-01-101	4-23-101	6-05-301.1	7-08-303
4-12-101.1	4-23-102	7-01-204	7-08-307

These parcels are described more fully in the Site Profiles portion of the report. It is likely that there are a number of other properties that own a portion of the river bottom.

Existing Structures and Features

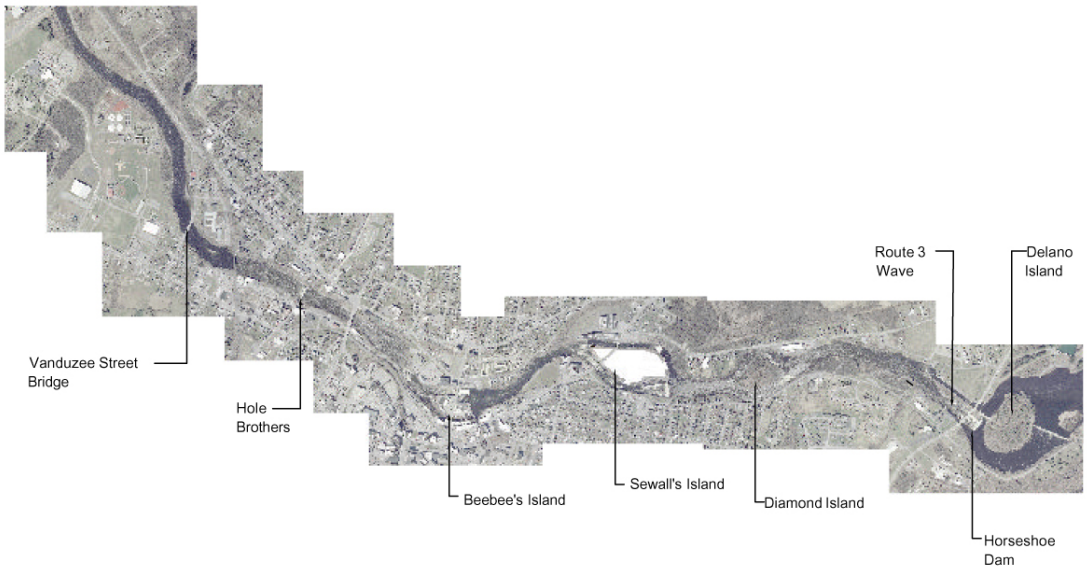


Figure 3. The Black River through Watertown, NY with prominent locations labeled.

This stretch has experienced significant modifications since the first dam was constructed at Beebee Island in 1802. The City of Watertown, which has an extensive industrial history, has relied on hydraulic power from the Black as a power source for much of that time. Current in-stream structures include (from upstream to downstream):

Delano Island Dam: This dam is a split structure, as are all the in-stream structures in this reach. Built as a diversion structure, this dam features one linear drop on each side of the island that fall approximately 10 feet, at average flows. Both of these flows then pour immediately over the Horseshoe Dam as a single flow.

Horseshoe Dam: The Horseshoe Dam features an even crest but falls onto an uneven streambed. Parts of this Structure pour as much as 10 feet while others as little as six. The structure was designed to provide water to the City's Water Treatment Plant located on the river's left bank

Diamond Island Dam: This structure is also a split dam and is located approximately 4200 feet downstream of the Horseshoe Dam. The river right channel of this structure is used entirely to generate electricity while the river left channel serves as a bypass. The river left channel is not navigable and would require extensive improvements to be passable for commercial uses or for the average boater.

Sewall's Island Dam: There are three diversion structures located adjacent to Sewall's Island. The river right channel features two separate structures. The upstream diversion provides head and overflow protection to the left hand channel. The downstream structure has been abandoned. The river left channel has a larger drop followed by an extensive reach of whitewater rapids. This structure would be passable if improvements were made.

Beebee's Island Dam: This structure is the highest diversion in the reach and is located directly adjacent to downtown Watertown. The right channel drops roughly 30 feet in a series of prohibitively steep drops. The left channel is an old abandoned millrace that used to serve an adjacent paper mill.

Other Features: There are many existing rapids within the selected reach that are already popular for recreational boating. Prominent among these are the Route 3 wave, located between the Horseshoe and Diamond Island Dams and the Hole-Brothers, which is located downstream of the Beebee's Island Dam and about 1000 feet downstream of the Court Street Bridge. The Route 3 Wave hosted the U.S. Freestyle Kayaking Team Trials in 2004 and the North American Freestyle Championships in 2005 and is a popular play spot of regional significance.

Site Selection

The Black River Whitewater and Trail Feasibility Study required the design team to look at the Black River Corridor, with an eye towards whitewater recreation, navigability and trail/pedestrian continuity, within the larger context of the Department of State Division of Coastal Resources Local Waterfront Revitalization Plan (LWRP). The City of Watertown

has a stated goal of creating whitewater features that will attract tourism to the Watertown area, host large competitive events, and provide in-stream recreation for local boaters.

Toward this goal, the design team implemented a process of analyzing the entire study area for possible improvements that best meet the City's demands. The design process gradually distilled out a number of specific sites that required analysis as to their value and role within the larger project. Specific sites were evaluated according to the following criteria:

- **Recreational Roles:** This defines the specific role or category that each site and related projects can fit into. These roles allow the design team to clearly explain the purpose of proposed project elements and subsequently rank projects based on public input and a cost/benefit analysis. For the purpose of this study projects are defined as fitting into one of the following three categories: 1) navigability/safety enhancement; 2) park-and-play whitewater improvements; and 3) access improvements. Any one individual site can have characteristics of all three, and each individual site is part of an overall vision for the Black River that is described within the body of this report.

- **Environmental Issues/Implications:** While a detailed Environmental Assessment is not within the scope of this study, a cursory evaluation of environmental issues is essential to discerning the feasibility of any proposed improvements. There are a number of environmental issues directly related to permitting requirements of both the NYDEC and USACE.

- **Cost/Economic Feasibility:** The design team completed a conceptual cost estimate for each site. Additionally, public input and discussions with the City have established that cost will be one of the primary factors with regard to implementation.

- **Flow Availability and Hydro Power Implications:** There are established flow regimes and water rights throughout this reach of the Black River. Flow availability is a key issue to the selection of appropriate sites.

- **Public Input:** The general level of public interest and public comment for each site is considered within this category. From this public process several constraints can be identified that will affect the final site selection and the character of any design implemented at a particular site.

- **Constructability:** The ability to create improvements efficiently, effectively, and economically is an important factor in the site selection process

- **Character of Improvements:** Specific sites lend themselves to specific kinds of improvements. The public process has clearly established priorities for the City and boating community. The ability to implement the desired type of improvements is an important part of the selection process.

Public Process

Local input for this project was obtained through a series of meetings with the City, stakeholders, and the general public. These meetings included a scoping meeting at the onset of the project, several meetings, correspondence, and phone discussions with stakeholders and another public meeting on March 17, 2005 to evaluate the status of the project at that time. The final concepts and vision for the Black River were presented to the public on September 14, 2005.

Scoping Meeting

The initial scoping meeting was held in the Watertown City Council chambers, September 13, 2004 and was attended by all three consultant teams, members of the Advantage Watertown Committee, and City of Watertown representatives. The meeting started with a presentation on the Black River Vision Plan. This plan was prepared for the City by The SUNY College of Environmental Science and Forestry

Center for Community Design Research. This information is important in assimilating public input and understanding which areas of opportunity are viewed as critical by the local community. The Vision Plan is seen as a point of departure for the LWRP and will, for all practical purposes, serve as the foundation from which all of the future conceptual design elements will be explored.

This plan presents the Black River as both an opportunity and a challenge for this community in transition. Several concepts became apparent initially:

1. Creating a physical connection between the downtown area and the river corridor,
2. Re-development of Brownfield sites for recreation and commerce along the river,
3. Creating a regional tourism economy centered around the Black River,
4. Continuity both within the stream and along the riparian corridor,
5. Overcoming the perception of the Black River as polluted and unsafe, and
6. Creating recreational assets along the stream which are valued by the local residents in addition to servings as tourist attractions

Public Meeting

A public meeting was held on the evening of March 17, 2005 at the State Office Building in Watertown, New York. The meeting was well attended by the Black River paddling community, including representatives from the commercial rafting companies as well as private boaters. Prior to the March 17 meeting a set of conceptual designs and a draft summary report were created for the purposes of gaining input into the direction of the project and to evaluate the completed work product. These conceptual designs were circulated at the meeting and were also placed on www.wwparks.com. People were invited to post their thoughts on the guest book or to give direct input at the meeting. The following sites were identified and proposed for the March 17 public meeting.

1. Horseshoe Dam and Upstream Delano Island Dam

- Modify both dams for safe passage, maintain head and step dams down to grade.
- Trail Connection from area to the existing RR grade trail.

2. Route 3 Wave
    - Preserve whitewater play spot, no obvious in-stream improvements.
    - Enhance access on both sides, natural stone staircase on river right side, through cliff band. Trail connection to limestone ledge on river left, utilizing existing diversion remnants.

3. Diamond Island
    - Dam modification, river left channel bypass, maintain head and step dam down to grade.
    - Portage trail.
    - Continuous river trail (possible land acquisition, home purchase by City of Watertown along Huntington Street).

4. Sewall's Island
    - Dam modification, river left bypass channel, maintain head and step dam down to grade.
    - Trail crossing onto island, trail utilizing existing City owned RR grade.
    - Potential to utilize existing gas line crossing as Pedestrian Bridge. (GYMO).
    - Sewall's Island, work with Behan Planning to create integrated concept on the island, merging in-stream, trail and access improvements with possible recreation and commercial development on island.
    - Ideal location for a Slalom Course along Sewall's Island. Narrow, high gradient, excellent existing whitewater characteristics. Minimal

in-stream improvements needed, possible selective enhancements including island creation and mid-stream deflectors.

- Big surf wave under Pearl Street Bridge.

5. Mill Street, Falls & Beebee's Island
    - Critical area, challenging, could ultimately be the key link to creating a continuous trail and stream corridor through Watertown.
    - Boat and fish passage through existing diversion channel (GYMO investigation).
    - Subterranean pedestrian trail and controlled low flow channel "Mill Street Canyon".
    - Ownership and operational information needed in order to consider this option.

6. Hole Brothers
    - In-stream modifications (preserve existing whitewater play).
    - Organize and define channels. Create additional surf waves and play spots that come in at different flows.
    - River left and right bank access improvements.

7. Vanduzee Bridge
    - Take-out and access improvements at Vanduzee Street.

Following the meeting, stakeholder discussions and online input, it was decided to retain all work to date in this report but also to include two further sites:

8. Sewall's Island
    - Inclusion of the downstream end of Sewall's island on the South Channel as a potential site.

9. The "First Three" and Riverwalk area
    - Inclusion of this site for trail connections and possible river clean up.
    - Potential site for in-stream improvements, good flow, public access.

There were several clear conclusions that were reached at this public meeting:

- There was general consensus that there should be no in-stream modification at either the Hole Brothers or the Route 3 wave sites. There was general agreement that both sites needed bank-side improvements and enhanced public access. Public restrooms and improved facilities at Hole Brothers would be a relatively simple improvement at a well used site.

- Clean up and debris removal was a top priority among those present. The boating community expressed concern that the entire study reach contained a large amount of hazardous debris and would like to see explicit plans for the removal of this material.

- Sewall's Island below the tailrace of the dam was identified as an area which has the full flow of the river and may be a great location for in-stream enhancements. This area was subsequently added as a possible site for enhancement.

- The area immediately below the ARO put-in (commonly referred to as "the first three") was identified as an area of interest for possible in-stream improvements, given its proximity to Downtown and the Riverwalk.

- There was also consensus that the needs of rafters should be weighed heavily on proposed improvements and on the final implementation plan.

Appendix 4 summarizes all of the comments submitted electronically as well as meeting minutes.

Site Summaries

A summary of each proposed site along with its advantages and disadvantages is listed in this section. Sites are organized from the upstream end of the proposed reach at Delano Island to the downstream end of the proposed reach at Vanduzee Bridge. These sites are evaluated according to criteria identified in the scoping process as well as according to public input.

Delano Island:

Delano Island is located immediately upstream of the Route 3 bridge and defines the downstream boundary of a popular flatwater paddling destination. Adjacent to the island is a large low-head dam that stretches between the Island and the shore creating a large flatwater area. This flatwater, which extends to the Village of Black Water, is a popular recreational amenity.

Recreational Role: For the purposes of this study the Delano Island Dam is viewed strictly as a barrier to navigation of the reach. There are no proposed improvements or concepts within this study that would impact the existing flatwater paddling that takes place above the Delano Island Dam. A future recreation master plan for this area may look at issues like formal camping on the Island. The proposed boat chute through the dam would facilitate passage from the upstream flatwater down to the Horseshoe dam and mitigate an in-stream hazard that lies very close to the popular whitewater stretch.

Environmental Issues: There is a regulated freshwater wetland adjacent to Delano Island. Any activity within 100 feet of this wetland would require additional permitting. Based on a review of the material provided by the NYDEC this wetland is located immediately upstream of the Delano Island Dam. Any work to the crest of the dam may fall within this permit requirement; however, as a practical matter none of the proposed improvements should negatively impact the existing wetlands.

Economic Feasibility: The cost of the proposed project may be relatively high based on the width of the dam and amount of material required to provide a boat

chute. The costs are detailed in the cost estimate section of the study. They would likely reach nearly one million dollars.

Flow Availability & Hydro-Electric Implications: The Delano Island Dam lies above the City of Watertown's hydroelectric facility. However, the proposed project should have no impact on this operation. Additionally there are no special flow requirements at the crest of the dam in order to make the boat chute passable. The normal amount of flow available at the dam would be sufficient for navigation.

Public Input: There was no public discussion of this specific site and one can assume that it is currently of little significance to the whitewater paddling community. It should be noted that the area is well used by flatwater enthusiasts, and no activity at the site should exclude the existing recreational use.

Overall Value Assessment: A dam modification project at Delano Island offers safety and navigability enhancements that are in line with an overall vision of a navigable Black River corridor through the City of Watertown. However, this project is relatively costly and provides limited benefits in terms of attracting paddlers and recreational use to Watertown.

Preferred Option: There is value in continuing to have this project on the table for future planning. As proposed projects are phased in and the Black River becomes a higher profile regional and national recreational attraction there may be a time at which it makes sense to provide for passage through the Delano Island Dam. However, in the short term, due to this project's higher costs and relatively minor benefits, is should be placed at the end of the list of priorities outlined in this study.

Route 3 Wave/Horseshoe Dam

The Route 3 Wave is a nationally recognized whitewater feature. In the last few years the wave has been the site of the United States Freestyle Kayaking Team Trials and the North American Freestyle Championships. While the feature has been well used for a number of years by whitewater kayakers, it remains relatively difficult to access. The Horseshoe Dam is

immediately upstream of the Route 3 Wave and Route 3. This area is sandwiched between the City's water treatment facility and the City's hydroelectric plant. Power Plant Park is a large public park on the north bank of the Black River and Waterworks Park sits on the south bank immediately below the water treatment facility.

Recreational Role: The Route 3 Wave is currently a well used park-and-play whitewater feature. Access to the wave should be improved for both events and daily use. The Horseshoe Dam is not passable at the normal range of flows. A boat chute at this site will provide for enhanced navigability and may provide additional park-and-play opportunities. This site has potential to fill all three recreational roles: navigability, park-and-play whitewater and enhanced access to the stream corridor.

Environmental Issues: The number one environmental issue at this site pertains to its proximity to the water treatment facility and hydroelectric plant. Any proposed improvements at this site will require that a plan not impact or interrupt service at either facility.

Economic Feasibility: The costs associated with this project are relatively attainable. The entire project should be able to be completed for less than $1 million. Please refer to the conceptual cost estimate for a breakdown of the costs at this site. This area can be improved with trail connections and access improvements relatively easily and modifications to the Horseshoe Dam can be phased in the future.

Flow Availability/Hydro-Electric Operation: The City of Watertown operates the hydroelectric facility adjacent to the Route 3 Wave. The facility is a run-of-river operation, meaning that the City may operate the facility only when there are sufficient flows. During flood events the facility is operated at full capacity and the remainder of the flow passes over the dam. There is a minimum flow of 395 cfs that must be maintained within the bypass reach. Additionally there is a release schedule that was agreed to by the City in order to accommodate whitewater paddling at the Route 3 Wave rapid. In general there is sufficient flow at this site to provide for

both bypass at the Horseshoe Dam (in anticipation of a future bypass structure) and park-and-play recreation at the Route 3 Wave. The City of Watertown has made attempts to regulate the flow at the Route 3 Wave in the past in order to provide the optimum flow at the Route 3 Wave for competition; however, its ability to do so is limited by the natural flow of the Black River.

Public Input: There has been extensive public input on this particular site. The Route 3 Wave is a whitewater resource of regional and national prominence. A private event management company is located immediately downstream of the wave and has hosted national level whitewater events at the wave over the last few years. Discussion of modification of the wave itself was met with stiff opposition and is not a concept that has been put forward in this plan. Improved access to the wave appears to have universal support. There have been fewer comments on the concept of modifying the dam for passage, but it has been generally accepted as a good idea. The City has expressed concern about possible security risks involved in any proposed trail connection between Water Works Park and the Route 3 Wave due to the proximity of the City's water treatment facility.

Overall Value Assessment: The Route 3 Wave is one of the most highly valued recreational resources in the region for whitewater paddlers. Any navigability enhancement to the Horseshoe Dam is the necessary first step to creating a navigable "Town Run" through Watertown. Access improvements to the Route 3 Wave are fairly inexpensive by almost any measure and would have an immediate impact on daily use of the wave as well as national events that are planned for the future. Modifying the Horseshoe Dam is a more costly project but is feasible. Overall this site should be targeted in the early stage of improvements and holds a key role in the maximization of the Black River as a recreational resource for Watertown.

Diamond Island

Diamond Island and the related power plant are owned by Niagara-Mohawk (NIMO) power company and leased to CHI. This site is located immediately downstream of Waterworks Park and the Route 3 Wave. There is currently no recreational use at this site.

Recreational Role: Diamond Island has a large dam structure that is not navigable by paddlers at the normal range of flows. The location of this site is its primary advantage. The proximity to a private event holder and to the Route 3 wave makes this site ideal for providing variety and for hosting large events. Unfortunately, given the amount of flow that is regularly available at this site, there is probably not great potential for high level play boating on a regular basis. However, all of the proposed structures for this site will provide high quality whitewater at higher flows. The proposed trail on Diamond Island is a critical link to a continuous Black River trail system through Watertown. This proposal depends on future negotiations with the landowner.

Environmental Issues: There are no known environmental issues that are unique to this site. The design team has not encountered any studies that report endangered or threatened species at this site, nor is there any evidence of wetlands.

Economic Feasibility: The cost estimate for this site is can be found in Appendix 1. The costs for this project range between $500,000 and $1 million, depending on certain variables. The width of the river and amount of vertical drop that needs to be stepped down would require a large amount of structural material. Pedestrian bridges and trail costs also add to the overall expense of the project but could be phased in as part of a trail specific project.

Flow Availability/Hydro Impacts: There is a CHI hydroelectric station on Diamond Island. There is no known license agreement for this facility; it is exempt because of its small size. However, at the normal range of flows there are sufficient flows for navigation passing over the dam. Any boat passage structure(s) at this site would require a design width to accommodate the existing flow regime. No

recommendation to increase flow at this site is realistic given the power generating needs.

Public Input: There has been little public input specific to this site. Past studies have not addressed improvements at this site. General public input has been favorable to the concept of a navigable corridor through Watertown, and this site is critical to that long term goal. There has been a concern raised that a by-pass channel at this site will impact the existing hydroelectric operation. Design will have to mitigate this concern.

Overall Value Assessment: This site is a critical link to a navigable "Town Run" in Watertown. Additionally, a trail on Diamond Island would provide a link to the Route 3 Wave area without having to force a trail along Huntington Street, which has little shoulder between the street and a steep retaining wall along the river. As with all of the proposed dam modifications, this project is relatively costly. However, as part of the larger view of a navigable stream corridor its benefits outweigh the associated costs. The Diamond Island by-pass should most likely be completed in coordination with a future Sewall's Island project in order to provide a link between the Route 3 Wave area and Sewall's Island.

Sewall's Island

Sewall's Island is a privately owned island near the heart of downtown Watertown. Sewall's Island is owned by a subsidiary of Black-Clawson and was formally a heavily utilized industrial site. Today Sewall's Island lies vacant and has been identified through past studies funded by the City of Watertown as an area of interest for the community. The City owns the rail corridor, which bisects the island, and there is a BRASCAN hydroelectric plant at the head of the island. The river corridor on both sides of the island is almost completely inaccessible due to private land and the dams located at the head of island. Both the north and south channels have high quality natural whitewater and the potential for in-stream enhancements.

Recreational Role: Sewall's Island is unique within the study area. While modification of one or both of the dams is critical to the future navigability of the corridor, the potential for a destination whitewater park at this site is notable. In-stream whitewater enhancements at this site could be the public recreational anchor for any future re-development of the island. Sewall's has the potential to incorporate all three types of recreational enhancements; however, much of that potential lies in the future re-development plans for the island.

Environmental Issues: Sewall's Island is a potential Brownfield site that contains the remnants of past industry in the soils. Environmental pollution concerns associated with developing the island during any sort of construction are likely. Future investigation of the site and development of best management practices for dealing with any pollutants that could be released into the environment will be necessary. The Black River from Sewall's Island Dam heading downstream is considered significant coastal fish and wildlife habitat by the Department of State Division of Coastal Resources. This designation would impact future permitting for any project below the Sewall's Island Dam. This designation requires a habitat impairment test in order to prove that none of the related activities will negatively impact habitat found within this reach of the Black River.

Economic Feasibility: As noted above, any in-stream improvements should be linked with proposed developments on the island. Alterations of both channels provides the ideal venue for a unique outdoor "campus" that could be augmented with on-shore enhancements in this reach.

Flow Availability/Hydro-Electric Implications: There is a BRASCAN hydro plant at this site. At the crest of the dam there is sufficient flow, under the normal range of flows, to provide for navigability. Flow is returned to the river a short distance below the dam, and there is a set of Class III rapids between the tailrace and the confluence with the northern channel. The northern channel has a dam at the head of the channel, and the river pours through a deteriorated dam at the base of the channel. The flow in this channel appears to be sufficient for navigability;

however, it is significantly less that the southern channel. Future hydropower operations at this site appear possible as well. Any potential in-stream improvements at this site would need to be completed without impacting hydropower operations at this site.

Public Input: Sewall's Island was identified in The Black River Vision Plan (2003) as a critical element to the revitalization of the downtown waterfront. Whitewater paddling enthusiasts have identified Sewall's as a site where they would like to see improved access due to the high quality rapids that exist along the south channel. Additionally, the downstream half of the southern channel has been recognized by the whitewater paddling community as one of the only sections of river within the study area that has nearly the full flow of the Black River.

Overall Value Assessment: Sewall's Island has the potential to be a world class whitewater destination for the City of Watertown. The physical characteristics of the stream at this site are ideal for whitewater paddling and a number of quality rapids already exist at this site.

Figure 3. The south channel of Sewall's Island.

Figure 4. The north channel of Sewall's Island.

Beebee's Island

Beebee's Island is home to the Mill Street Falls, a spectacular natural waterfall capped with a dam. This site is in the heart of downtown and presents the largest challenge from a design standpoint. While the falls are run by elite level kayakers on occasion, they are, for all intents and purposes, not navigable. The entire river pours over the dam and the falls and creates a large vertical drop. The island houses a BRASCAN hydropower generating station, Knowlton Brothers Paper Company and some smaller businesses. The Mill Street Falls creates the major impediment to the future possibility of downstream navigation through Watertown. A significant adaptive reuse of the existing mill tailrace is, most likely, the only potential navigable route around the island. The existing tailrace is located on the south side of the channel adjacent to downtown. The tailrace referred to as the "Mill Street Canyon" in this study currently provides water to the Knowlton Brothers Mill and returns the outflow to the Black River. While the "Mill Street Canyon" concept is enticing, it will require long term

planning and engineering along with a shift in use of Beebee's Island. It will also require significant flows down this alternate channel.

Recreational Role: Assuming that it is feasible to provide pedestrian and boating access to the tailrace, the Mill Street Canyon design would create one of the most unique by-pass and competition channels anywhere in the world. The design would provide a special venue that showcases Watertown's history as well as providing a slalom and recreational venue capable of hosting major international competitions.

Environmental Issues: There are likely be a number of environmental issues that would arise from this concept given that the tailrace is surrounded by historic and active industry. One issue that would certainly be of concern is the upstream movement of Atlantic Salmon. The Mill Street Falls is the limit of the historic range of Atlantic Salmon in the Black River. The New York Division of Fish, Wildlife and Marine Resources has been attempting to repopulate the Black River with Atlantic Salmon, and there appears to be mixed evidence as to the overall success of this effort. Any bypass channel through the tailrace will likely be required to prevent Atlantic Salmon from reaching points upstream of the Mill Street Falls in order to prevent introducing salmon above their historic range. The migration of Sea Lampreys is also a major concern.

Figure 5. A view of the tailrace… "Mill Street Canyon."

Economic Feasibility: The proposed Mill Street Canyon by-pass channel would likely be the most costly project proposed as part of this study. However, given the physical restraints of this site, this might be the only option for passage through this site. The tailrace would require an extensive retrofit in order to be functional for use by boaters and pedestrians. However, the benefits of developing this site are dramatic for both a downtown restoration and to attract competitions and boaters.

Flow Availability and Hydroelectric Implications: The availability of flow for this concept needs further investigation. There is usually not enough flow in the tailrace to be passable for boats. Additionally, the demands of the hydroelectric operation would need to be fully met before any additional flow could be allocated for this by-pass channel.

Public Input: There has been little direct public input on this specific concept. Past studies did not address the possibility for navigation around the falls. There has been support voiced for the concept of a navigable river channel through Watertown and a greater connection between the downtown business district and the river.

Overall Value Assessment: There is no doubt that the concept of a pedestrian corridor and boating by-pass channel through the mill tailrace is a significant undertaking. The costs for this concept would be high and the engineering challenges significant. Nonetheless, the concept is exciting. A passage past the falls and a unique "canyon" adjacent to downtown Watertown would be an unparalleled attraction for the community. This project is similar to Sewall's Island in that if the opportunity ever arose to gain access to the tailrace, using it for a safe passage/competition channel should be explored more thoroughly.

"First Three" Rapids/Veteran's Memorial Riverwalk

Below the Mill Street Falls lies an attractive section of the Black River. Immediately below Mill Street the river splits into three channels and drops through a series of Class II-III rapids known as the First Three. This area can be described as the section of river from the Mill Street Falls to Court Street. The reach has outstanding natural characteristics and is the put-in for many of the commercial whitewater rafting trips. The Riverwalk parallels the river through this section, although it offers no direct access to the Black River.

Recreational Role: This site is already well used by pedestrians strolling along the Riverwalk and commercial rafting operators using the Adirondack River Outfitters (ARO) put-in. However, this site lacks public access to the Black River and may be underutilized for whitewater paddling. Given the existing public corridor along the Riverwalk and this area's proximity to downtown, this site presents an intriguing opportunity for increased public access and park-and-play whitewater.

Environmental Issues: This site lies within the Significant Habitat Management Area of the Black River. This is one of the few sites without large-scale industrial operations immediately adjacent to the river corridor.

Economic Feasibility: Improvements at this site could be completed at lower costs to the City. There are no dams to consider and the stream width is manageable in this area.

Flow Availability/Hydroelectric Implications: There are no hydroelectric operations in the immediate vicinity. This reach of the Black River is not dewatered by any hydroelectric intake or other use of water, so the full flows of the Black River are available for any improvements.

Public Input: Initially this area was considered as a "pass through" area by the design team; however, feedback from the public led designers to consider carefully this site for improvements. This area was identified by a number of local whitewater enthusiasts as one where they would like to see better access and in-stream improvements.

Overall Value Assessment: This area makes an attractive site for an early stage of development. There is existing recreational use, the site is close to downtown, and it creates a continuous pedestrian and whitewater corridor down to Hole Brothers. The financial investment at this site is relatively small for an improvement that would have a significant impact.

Hole Brothers

Hole Brothers is a natural limestone ledge that creates some of the best and most used park-and-play whitewater in the northeastern United States. Kayakers can surf the wave/hole that is formed here at a variety of flows. Hole Brothers is accessed from land owned by Hudson River Rafting and the City of Watertown. The former Red Lion Brewery and restaurant is located at this site. There was a historic dam structure at this site and the remnants of this dam are still visible on the banks.

Recreational Role: Whitewater kayakers from all over the region use this site for park-and-play paddling. There is inadequate public access at the site and the view is somewhat obscured from the banks. Public access to the site could be immediately improved by re-grading and terracing the banks below Hole Brothers along the City owned parking lot used for the Red Lion Property. The interface between this site and future private development at the Red Lion should be considered. A pedestrian

corridor, which connects upstream to the Riverwalk, would draw people from downtown to this unique feature.

Environmental Issues: Hole Brothers falls within the Significant Habitat Management Area of the Black River, and therefore no in-stream improvements are recommended at this site. Preservation of the existing whitewater features can be considered an environmental issue, and no improvements at this site should negatively impact the ledge that currently forms the wave.

Economic Feasibility: Bank and access improvements at Hole Brothers would have an immediate positive impact on use at the site and can be completed for a relatively low cost.

Flow Availability/Hydroelectric Implications: This site has the full flow of the Black River available, and there is no current hydroelectric operation at this site.

Public Input: Hole Brothers is a highly valued recreational resource for the region's whitewater enthusiasts. The public has expressed a strong desire to make no changes to the character of this rapid and to have access improved at this site.

Overall Value Assessment: Bank and access improvements at Hole Brothers provide an immediate enhancement to a well used resource. This project should be at the top of the list for recreational improvements along the Black River in Watertown. The recommended enhancements would allow expanded use of Hole Brothers as a daily recreational site and as a possible future competition site as well.

Preferred Options: Within the next year it is recommended that the City budget funds and begin the permitting process to create bank and access improvements at Hole Brothers. This site has all the necessary ingredients for recreational enhancement and would provide an initial project to serve as a foundation for future projects.

Vanduzee Street

Vanduzee Street is the logical stopping point for the study area. There is little remarkable about this site from the river recreation standpoint. This area is an existing NYDEC fishing access point that is also home to unused Department of Transportation warehouses. No improvements are required in order to make it a suitable take-out point. However, if the rest of the project is phased in over time, this area may require bank terracing, slack water enhancement and parking/restroom facilities. Improvements to this area may be phased in over time with other portions of the project or as part of a re-development of the Department of Transportation barns.

Site Selection Matrix

The following site selection Matrix was created in order to attempt to quantify the value of each proposed site for development. A narrative explanation/justification follows the chart.

Site Selection Matrix

	Delano Island		Route 3 Wave/Horseshoe Dam		Diamond Island		Sewall's Island		Beebee's Island		"First Three" Rapids/Veteran's Memorial		Hole Brothers		Vanduzee Street
Recreational Role	1		4		1		5		4		4		3		1
Environmental Issues	2		3		3		1		1		4		4		4
Economic Feasibility	1		3		2		2		2		4		4		5
Flow Availability/Hydroelectric	4		5		3		3		2		5		5		5
Public Input	1		5		1		4		2		4		4		1
Overall Value Assesment	1		4		2		5		5		3		3		1

Site Selection Matrix Narrative Summary

Each site within the study area is ranked 1-5 in order to begin the process of quantifying the value of each proposed site and related improvements. A numerical value of 1 indicates that a site has relatively low recreational value, environmental challenges and issues, is a large investment relative to its return, has a less regular flow regime or may interrupt hydroelectric operation, has received little public feedback (either positive or negative) and ultimately is of low overall value to the stated goals of this study. Conversely, a numerical value of 5 indicates a project which has a high recreational value that serves many different user groups, has very little potential related environmental issues, has a positive cost/benefit ratio, has full flow of the Black River and will not impact hydroelectric operations, has generated a great

deal of public feedback and interest and will provide a valuable resource for the community of Watertown.

The above matrix is not meant to serve as a definitive, scientific analysis of each site and its relative value in relation to the other sites. This project is, both figuratively and literally, fluid in nature. For example, if a private-public re-development on Sewall's Island gains momentum, then the relative high costs and potential environmental issues may be worth undertaking in the face of the enormously positive benefits of gaining access to this site. Another way of viewing this matrix is to understand that a completely navigable river corridor is the ultimate goal and long term vision of this study. Therefore, while Diamond Island is of little value as a stand-alone recreational amenity, it becomes of considerable importance if improvements have been made to both the Route 3 Wave and Sewall's Island.

Ultimately the greater Watertown community will dictate how and when projects are completed. Any planning study is limited by certain practical constraints. The vision and commitment of the community is not so limited and can overcome the challenge of restoration of the Black River corridor in the future.

Design Process

There are many opportunities available for in-stream improvements in this reach of the Black River. However, initial analysis, which has been detailed thus far in this report, has led the design team to focus on the creation of a navigable stream corridor from the Delano Island area downstream to the Vanduzee Street Bridge. Modifications to each of the dam structures as well as trail connections and extensions could provide a continuous river corridor recreation experience throughout this reach. This will allow whitewater paddling and commercial rafting through the heart of Watertown. Once completed, modifications to this reach of whitewater will provide: a) continuous navigability for private and commercial boaters throughout the reach; b) selected park-and-play facilities that will attract significant recreational boating traffic as well as large national and international competitions; and c) trail links for riverside access as well as a cool, shaded, riverside pathway for walking, running, biking and sightseeing. The streamside trail and park system will create the link between the City, with its businesses and residents, and the river, with its visitors and tourists. This selected reach also is prominent, stunningly beautiful, and filled with potential for dynamic whitewater. Improvements in this reach will more than meet the City's need for an attraction that will re-shape the face of Watertown.

Selection of sites for improvement and the types of improvements recommended are key parts of the design process. At each of the dam sites there are two general options for enhancement. The first is to create park-and-play whitewater features that are suitable for intensive whitewater freestyle and slalom paddling and competition. This type of use currently exists at both Hole Brothers and the Route 3 Wave (though these sites were not intentionally created by designers). The second option is to create navigability improvements that enhance the safety and navigability of a diversion structure. Often referred to as boat chutes, these types of improvements can be accomplished inexpensively and with minimal related improvements. Boat chutes appeal to commercial rafters and paddle through boaters but they typically do not attract either competition or re-circulating river traffic.

When selecting a type of improvements for a particular structure or a selected reach, it is important to keep in mind the function of these two types of improvements. The park-and-play structures create a large "surfable" play feature and provide large eddies in which to recover, as well as access directly to the site, and extensive bank improvements for spectators and resting boaters. Slalom channels provide extended reaches of dynamic whitewater that can also be re-circulated by paddlers, although typically on foot. On the other hand, the goal of a boat chute is to provide a boater, making way downstream on the Black River, a safe route past the dam. This is typically accomplished by creating a stepped passage, pool/drop sequence, which allows paddlers to safely pass the diversion structure. A navigability improvement is based on the concept that the boat chute will not be a destination and thus does not have the associated infrastructure. Associated land uses, potential for attracting park-and-play users and current and planned growth need to be considered when designing these improvements.

Proposed Improvements

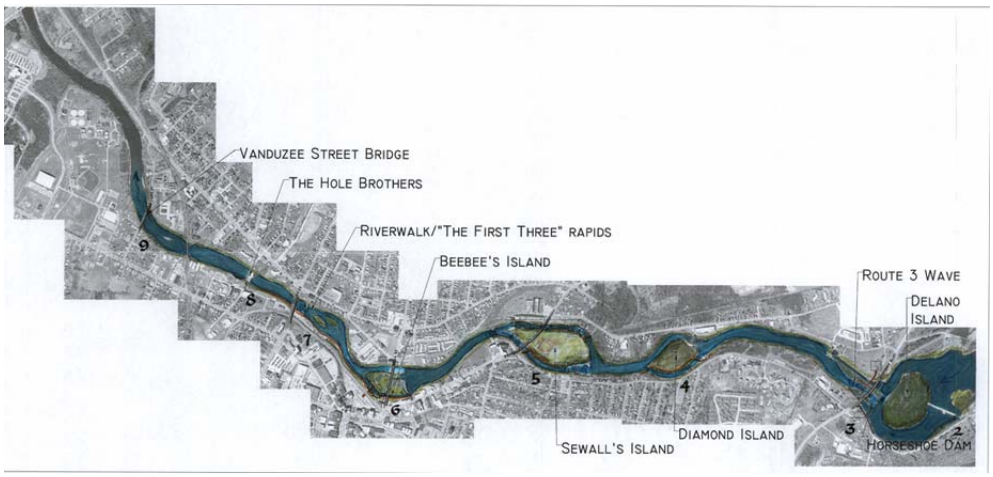


Figure 7. Map of proposed improvements within the selected reach

This section details proposed improvements throughout the reach. Figure 7 maps the entire reach selected for improvements. Detailed mapping and descriptions have been created for each site and are shown below.

Delano Island Dam

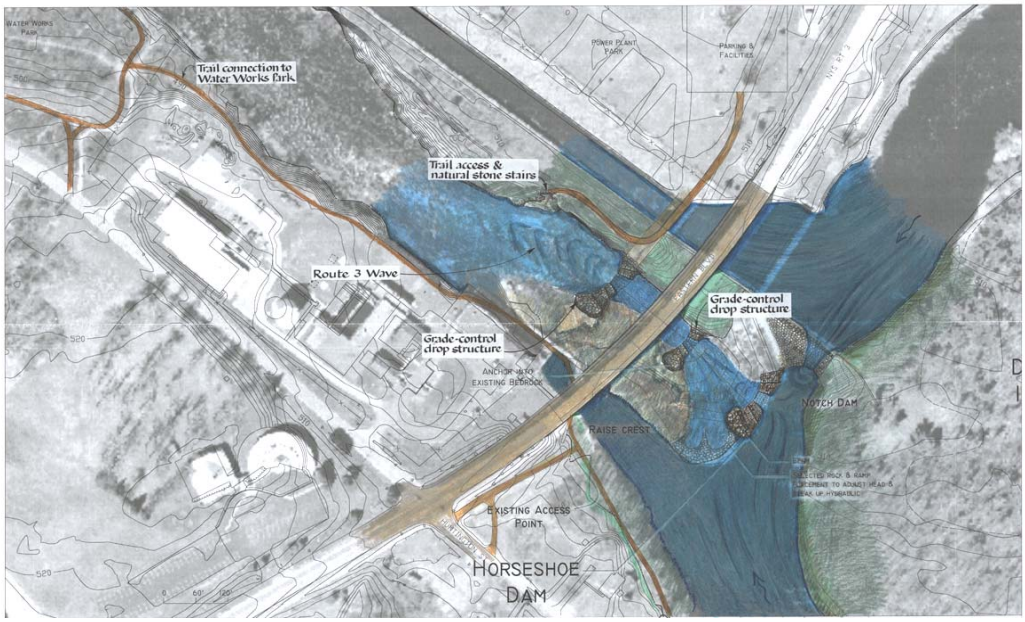


Figure 8a. Suggested improvements to the right channel at the Delano Island Dam

The Delano Island Dam is located upstream of the selected reach and is sandwiched between impoundments on its upstream and downstream side. Therefore, one could classify this dam as lying outside of the project area and thus perhaps not worth the expense of modification. In fact, modifications to this structure would be costly due to the scale of the structure and might increase infrastructure and access demands. However, if improvements are planned downstream of Delano Island and if Watertown and the Black River are promoted as a whitewater destination, then it may not be prudent leave this substantial safety hazard just upstream of the navigable reach of the Black. A compromise solution would involve providing safe passage through this structure by means of a boat chute. This solution is economical and does not require the infrastructure of a destination attraction.

Option 1:

One alternative at this site is to notch the crest of the dam and create a boat chute or a series of drops, which step the dam back to grade over a longer stretch with less gradient. The proposed boat chute is shown in Figure 8a above. This technique has been utilized on many different rivers all over the country. The proposed chute could be located in either channel. It would be less costly to build in the right channel. The boat chute will require some signage and signal rocks in order to alert paddlers to its location since the remainder of the dam will be left intact. A clearly marked portage trail should also be constructed on river left. There are no infrastructure needs at this site.

This alternative has significant long-term advantages. As whitewater paddlers are attracted to the Black River and Watertown and as recreational use of the river increases in the community, it becomes critical to identify any hazards that exist and explore solutions. While this alternative will increase the overall project cost, the benefits of providing safe passage at this dam far outweigh the short-term construction costs.

Option 2:

A boat chute could also be constructed on the river left. However, due to the large width of this side the improvements would require the construction of a mid-stream berm that would separate the boat chute from the main flow over the dam. The proposed boat chute is shown in Figure 8b below. This boat chute will also require some signage and signal rocks in order to alert paddlers to its location since the remainder of the dam will be left intact.

There are potential environmental impacts associated with this option as there is a regulated freshwater wetland adjacent to the proposed boat chute. Any activity within 100 feet of this wetland would require permitting and any impacts to the wetland would require mitigation.

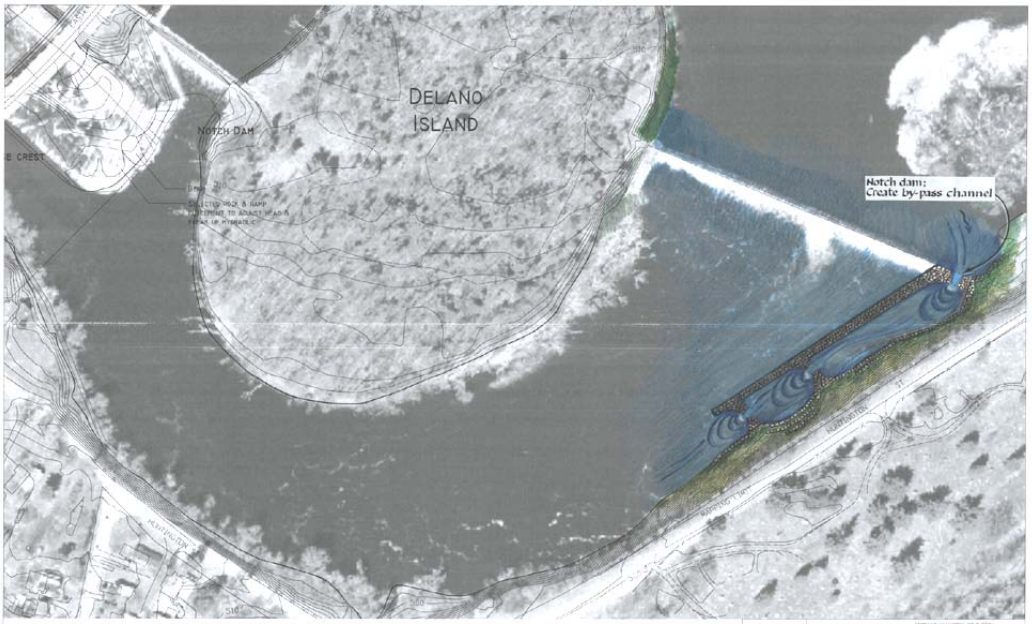


Figure 8b. Possible improvements to the left side of the Delano Island Dam.

Recommendations:

The right channel offers an affordable solution that would allow boaters to slide down the dam but would immediately feed them into the rapid below the dam at higher levels. Another alternative would be to create a put-in below the Delano Island Dam and above the Horseshoe Dam and place prominent signs and buoys that keep boaters away from the upper dam.

Horseshoe Dam

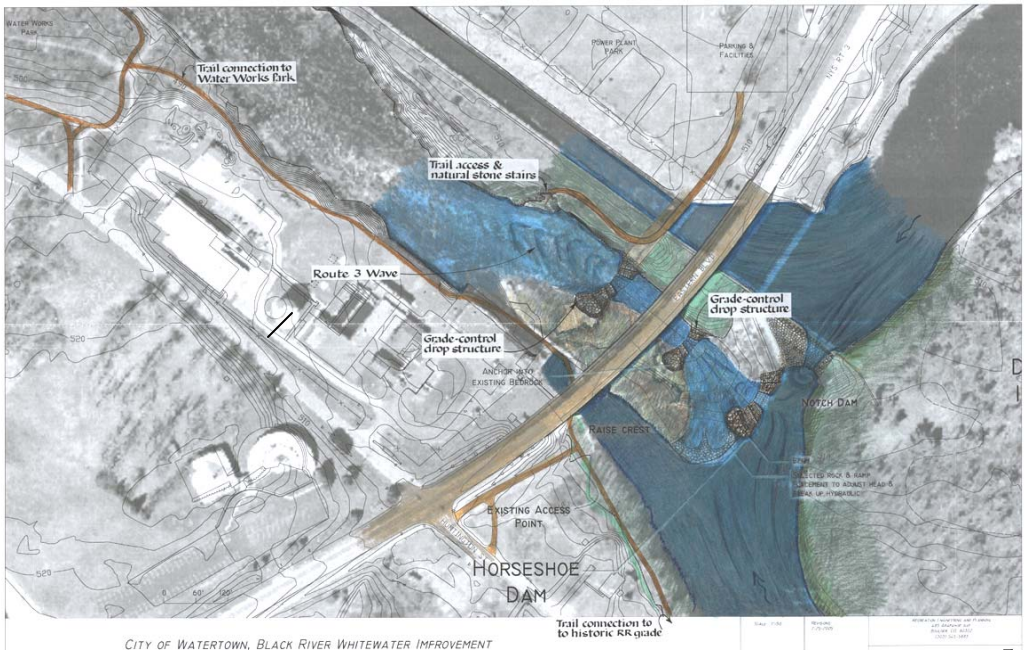


Figure 9. Suggested improvements at the Horseshoe Dam

The Horseshoe Dam is located just downstream of the Delano Island Dam and just upstream of the Route 3 wave. The site features a curving arched dam that is set into bedrock. The flows over this dam alternately form chutes and dangerous hydraulics. Just downstream of the dam there are turbulent class III-IV rapids, depending on water level.

Option 1:

The Horseshoe Dam could mark the launch point for paddle-through boaters doing the "Town Run" through Watertown. There is a significant amount of gradient immediately below the dam leading under the Route 3 Bridge, which is already a popular park-and-play spot in Watertown. Most of the flow currently runs over the right side of this dam and down the right side of the following channel. The dam presents a clear impediment to downstream passage. A boat chute could be placed, as shown in Figure 9, on the river right bank. This chute would keep boating traffic in the main flow of the river just upstream of the Route 3 Bridge. This boat chute could be constructed by notching the dam and stepping the dam down in a pool/drop sequence of approximately 2'-4' steps per drop which would also create

dynamic park-and-play opportunities for advanced boaters. The remainder of the crest of the dam would be raised, to preserve the current head upstream of the structure and ensure that flows at all average levels would run into the boat chute. The raised edge would be treated to break up the dangerous hydraulic currently formed at the base. These improvements are shown on the drawing.

Option 1 would allow paddlers to warm-up in the impoundment upstream of the dam and then proceed to the Route 3 Wave and points downstream. This option would also create park-and-play opportunities and an expanded competition venue immediately upstream of the Route 3 Wave. Advantages to this alternative include its proximity to the Power Plant Park for parking and its proximity to the Route 3 Wave, which is already utilized as a park-and-play facility. Less advanced paddlers could access the river downstream of Horseshoe Dam via the Route 3 Wave parking lot in Marble Street Park (proposed, shown in Figure 9) or the Water Works Park (existing).

Design Issues:

Development in this area needs to take into account the operating needs and dangers associated with both the City Power Plant and the City's water treatment facility. Both of these facilities are subject to rigorous security requirements that need to be considered in the design

There are also some hydraulic risks in developing this site. The Route 3 Wave may be altered unintentionally by any drop structures or re-grading of the streambed that encroaches into the limestone ledge system creating the wave. Development of this site has been the topic of extensive debate and will be addressed later in this study.

This option would have no known environmental impacts except possible impacts to the natural Route 3 Wave. The existing crest water surface elevation of the Horseshoe Dam will be preserved. Therefore, there will be no negative effect to the stream level upstream. Moreover, any activity in this area must not have any

negative impact on the City's water treatment facility or operation of the hydroelectric plant.

Recommendations:

Overall it would appear that the boat chute meets the objectives identified for this project with the least cost and least amount of risk. Accesses to park-and-play opportunities at this site are not ideal and the impacts to the existing Route 3 Wave are unknown. Creating safe boat passage at this site would improve access to the Route 3 Wave.

Route 3 Wave Area:

Figure 10. A paddler plays at the Route 3 wave

Option 1:

The most glaring need at the Route 3 Wave Site is improved access to the stream corridor. Recommended infrastructure improvements are shown in Figure 9. These include increased parking and facilities at the Marble Street Park, restoration of the existing bridge and bridge abutments over the power plant's feeder canal, trail enhancements from the parking area to the right bank of the river, stair access to the

river from the right bank and a trail connection from Waterworks Park to the Route 3 Wave and points upstream.

Recommendations:

The Route 3 Wave and Hole Brothers are the sites on the Black River that are used most frequently by kayakers for park-and-play whitewater paddling. The Route 3 Wave is an intermediate wave appropriate for a wide cross section of whitewater paddlers. The wave was also the site of the U.S. Freestyle Kayaking Team Trails during August of 2004 and the North American Freestyle Championships in August of 2005. There has been some discussion that the wave should be modified in order to continue to attract the elite boaters of freestyle kayaking and to be a more appropriate site for national and international kayaking events. The American Whitewater Association joined the dialogue in 2002. At the request of several members of the organization and volunteers within the Watertown paddling community, Kevin Colburn, AW Eastern Conservation Director, traveled to Watertown to meet with several local paddlers and gauge the temperature of the community on this issue. He came to believe, and American Whitewater later endorsed this position, that modification of the Route 3 Wave was not in the best interests of the local paddling community. Any potential modification of the wave may damage a feature that is natural and has seen significant use historically in its current state. This design team feels that there are ample alternative sites that can be developed without risking an existing feature or alienating or eliminating existing river users.

Diamond Island

Figure 11. Proposed improvements at Diamond Island

The Diamond Island diversion is located downstream of the Route 3 wave. This location, in combination with the ample drop and flow at this site, make any improvements at Diamond Island significant to the ongoing paddling events that are held at the Route 3 Wave. Improvements at this site would allow for combined events that could be held, at least in part, at both sites.

Option 1:

Diamond Island presents limited options for development. The right channel is entirely utilized by CHI Energy. Additionally, the island is privately owned by NIMO and largely inaccessible in its current state. The left channel, however, presents an opportunity to create a navigable channel for boat passage by stepping the dam down along the island. While the normal flow rate at this dam is not sufficient for park-and-play whitewater, there is sufficient flow for navigation during the normal range of flows and normal operation of the hydro-plant. During periods of high flow each drop structure may create wave forms suitable for freestyle paddling; however, the proposed improvements are largely navigability enhancements. The proposed improvements, shown in Figure 11, consist of three

channel-wide structures. These structures will be designed to preserve the head on the upstream side of the Diamond Island Dam while creating three distinct drops downstream of the dam. Each structure is divided by a significant length of flatwater in order to allow for recirculation and large groups of boaters. Access is proposed through two pedestrian bridges and a trail along Diamond Island. This improvement would require both trail easements and property acquisition from NIMO. No additional flow at the crest of the dam is required in order to complete the proposed improvements.

Recommendations:

This site is ideally located to facilitate downstream passage from the Route 3 Wave to Sewall's Island. When and if the opportunity to create a destination whitewater park along Sewall's Island arises, then Diamond Island becomes critical to create a link between the Route 3 Wave and points downstream. Additionally, access to the island itself for pedestrian movement creates a solution for routing pedestrians past the pinch created by Huntington Street and the Black River.

Sewall's Island

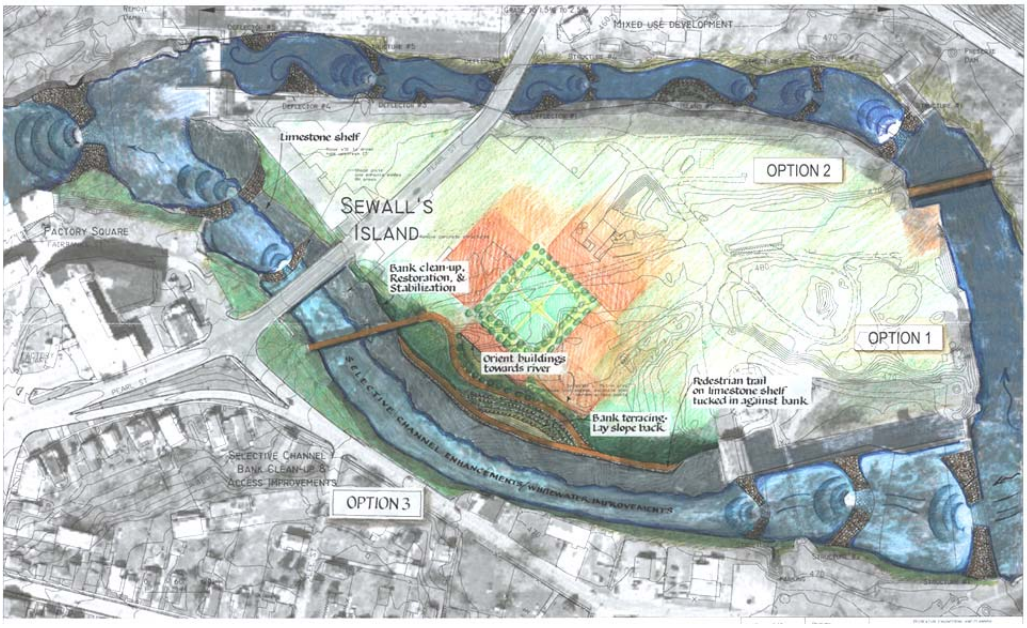


Figure 12. Proposed improvements at Sewall's Island

There are several viable design options available at Sewall's Island. Both the right and left channels are of adequate length and drop to create significant flows. Additionally, the center island is large, accessible, and currently slated for extensive development as part of a proposed Brownfield restoration. Any or all of these options could be built concurrently or separately without affecting the head available at the BRASCAN generating station. All three options are shown in Figure 12 on the previous page.

Option 1:

The design option labeled Option 1 in Figure 12, on the previous page, consists of an in-stream pool and drop structure similar to the design proposed for Diamond Island. Three to four structures would be needed in succession in order to step the river down from its water surface elevation at the top of the dam to the current water surface elevation at the generating station below.

The key advantage to this option is that it would allow both primary flows and boating traffic to remain in the main channel. Additionally, paddle-through traffic would have direct access to the extended reach of natural whitewater that is located just downstream of the BRASCAN generating plant on the left channel. The by-pass structures proposed for this site are similar to those at Diamond Island in that there is sufficient flow at the crest of the dam, under the normal range of flows and normal operation of the hydro-plant, for navigation, but sufficient flow for play-boating only at high flow periods.

Difficulties with this option are largely related to cost. The left chute at Sewall's is well suited to this sort of improvement due to the high gradient region located downstream of the diversion structure; however, this channel is wide and the structure is relatively high. The cost of material and construction, though manageable, is significant.

Option 2:

Option 2 for Sewall's Island is shown in the river right channel in Figure 12. This channel, in its current shape and form, possesses the ideal dimensions for an in-

stream modification and is largely bordered by undeveloped land on both banks. Additionally, the existing structures on this reach are decrepit and largely abandoned. Improvements here would simultaneously remove failing structures from the river and create an outstanding whitewater corridor.

This option involves removing the downstream diversion structure and excavating the channel upstream of this structure to create a more regular grade over an extended reach. Much of the removed fill would be placed upstream to back-fill the upper-most diversion such that there would be a more regular grade at this structure. The resulting riverbed would be capped with large rock and cobble and shaped into an extended reach of large and dynamic whitewater. Channels of this character are ideal for creating both international level slalom courses and international level freestyle facilities.

There is some question as to flow adequacy on this channel. During the normal range of flows there is significantly less flow in the river right channel at Sewall's Island. Additional investigation into the flow pattern in this channel and potential impacts on the hydroelectric operations located at the head of island would need to occur during future design phases.

Option 3:

Option 3 illustrates pedestrian access and whitewater improvements along the river left channel on the downstream end of Sewall's Island. This channel already contains excellent whitewater characteristics; however, this series of rapids remains largely inaccessible. The proposed improvements include providing access to and selected enhancement of these rapids as well as creating three whitewater drop structures along the island for park-and-play whitewater. The flow from the hydro-plant returns to the Black River at the head of these rapids so that sufficient flow is almost always found in this reach.

Figure 13: The river-left channel along Sewall's Island contains high quality whitewater and a unique limestone ledge paralleling the flow of the Black River.

A pedestrian trail is envisioned along the limestone ledge which parallels the Black River through this reach and forms an almost perfect foundation for walking and access. With some selective bank clean up and terracing the Black River would become the centerpiece of future re-development of the island..

Figure 14: An artist's rendition of the river left channel at Sewall's Island with some of the proposed improvements.

Recommendations:

Recreation Engineering and Planning's opinion is that all of these options are viable, and Sewall's Island, in general, is ideal for whitewater development. If a re-development opportunity arose on Sewall's Island, whether private or public, the proposed improvements would serve as a world class recreational anchor for future commercial and public uses of the Island.

Mill Street Falls & Beebee's Island

Figure 15. Proposed improvements at Mill Street Falls and Beebee's Island

The Mill St. diversion is Watertown's highest and most significant. This diversion drops roughly 30 feet right in the heart of downtown Watertown. A whitewater park at this location possesses the most potential to effectively meet Watertown's goal of creating an effective link between the Black River and the City of Watertown. Improvements at this site would bring tourists and local residents to historic downtown Watertown and the businesses located there.

Option 1:

Mill St. Falls is a daunting proposition. Any improvements on the right channel at Beebee's Island would necessarily remove a visual attraction from downtown

Watertown and would require major reconfigurations of the BRASCAN Power Plant. However, one viable, although challenging, option at Beebee's Island is the restoration of the left channel. This alternative, referred to as the "Mill Street Canyon," constitutes a unique, albeit currently inaccessible, natural feature in the heart of downtown Watertown. Historically this channel served as a flume for adjacent businesses that needed hydraulic power. Currently the channel is largely abandoned and in need of restoration. The layout shown presumes that the entire flume can be restored; however, the Knowlton Specialty Paper Mill on the left bank may preclude restoration in the upper reaches of this flume and shift the focus of the restoration to the bottom half of this channel.

Figure 16. The Mill Street or "Great" Falls of the Black River.

Figure 15 shows that the proposed layout for this restoration closely follows the original footprint of the flume back in the early 1900's. Large diversion structures in the flume would need to be removed and any remaining pipes or utilities would need to be rerouted. Additionally, access trails and spectator points would need to be added to the river left bank with the objective of bringing people from downtown into the river corridor. The channel itself would have to be largely reshaped.

Figure 17. Two views of the Mill Street Canyon tailrace.

The available dimensions and adjacent hydroelectric operations would allow for only a limited amount of flow down the left channel but would certainly permit ideal channel-type slalom facilities (roughly 400-600 cfs). Flow availability for the operation of the hydroelectric facility at the site requires additional investigation. Of note is that South Bend, Indiana effected a similar restoration to its flume, the East Race, in the mid-eighties. Although the East Race possesses less flow and less drop than the Beebee's Island flume, it has hosted the Olympic Trials, the World Cup, several National Championships, and several International Invitational Races. Beebee's Island possesses the potential to attract these events and more.

A trail corridor that paralleled this tailrace would provide access to a unique urban canyon in the heart of downtown. For visitors and local residents who wish to overcome the geographical barriers to direct interaction with the Black River in downtown Watertown, this design concept offers intriguing possibilities.

Recommendations:

It is recommended that the City consider this option. No other proposed improvements considered by this study would do more to enhance Watertown's downtown and to showcase Watertown's pride in its unique history. This channel has the potential to be a spectacular and singular attraction for the heart of Watertown's historic downtown. While there are significant challenges to the execution of this concept, the adaptive reuse of this channel is too intriguing to dismiss.

The First Three Rapids & Veteran's Memorial Riverwalk

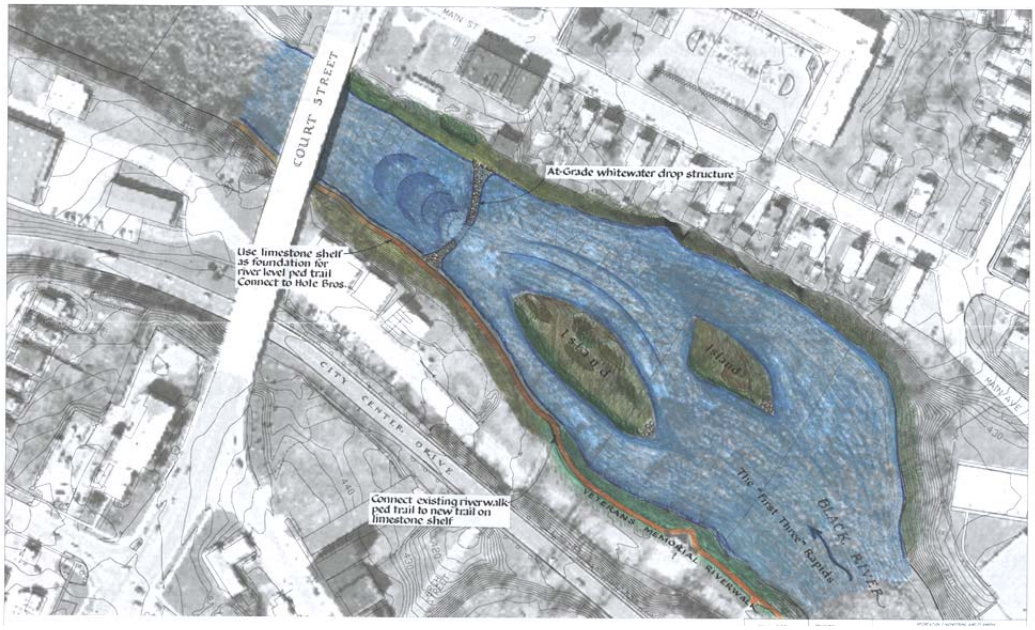


Figure 18. The proposed improvements at the First Three Rapids.

The First Three Rapids and the Riverwalk area are located between Mill Street and Court Street. This area is highlighted by natural Class II-III rapids and high cliff banks. The south bank of the Riverwalk is sandwiched between City Center Drive and the Black River. While not providing direct access to the Black River, the Riverwalk is a popular pedestrian corridor and close to downtown.

The First Three are interesting rapids that occur as the channel splits and passes by a series of islands. Small surf waves and powerful eddy-lines provide play-boating opportunities for kayakers. Commercial rafters put in at the ARO access point, below the tailrace, making these rapids the start of the commercially rafted section of the Black River.

<u>Option 1</u>:

Access is the primary design challenge at this site. There is already high quality whitewater and outstanding scenic value at this site, but this section of river has no

public access areas. The proposed trail connection would take pedestrians off the Riverwalk to the large limestone ledge system that parallels the river at this site. This new trail corridor could link with Hole Brothers, passing under Court Street, utilizing this unique geology as the foundation for an improved pedestrian trail. While this corridor would be under water at higher flows, it would provide access to, and passage thorough, this reach. Additionally, there is the possibility that a public-private partnership with ARO may allow the City to improve and maintain access while the rafting operator maintains ownership and control of the access. Similar agreements have been worked out all over the country in order to allow boaters access to a section of river.

A whitewater drop structure is proposed at the confluence of the three channels where the full flow of the Black River can be captured to create a world class play feature immediately upstream of Hole Brothers without negatively impacting the existing rapids.

Recommendations:

This site was explored because of considerable public comment that suggested that the design team explore the possibilities here. While the design team feels strongly that high quality, natural whitewater does not need to be modified, this site provides an opportunity to create new park-and-play whitewater while providing access to existing high quality rapids. Linking this site to Hole Brothers creates a stand-alone whitewater park from Mill Street to Hole Brothers. It is recommended that these improvements be pursued by the City as a possible early stage project in order to create momentum and excitement for future, upstream projects.

Figure 19. This photo shows the view upstream from Hole Brothers to Court Street. The limestone ledge system is visible on the right hand side of the photo.

Hole Brothers

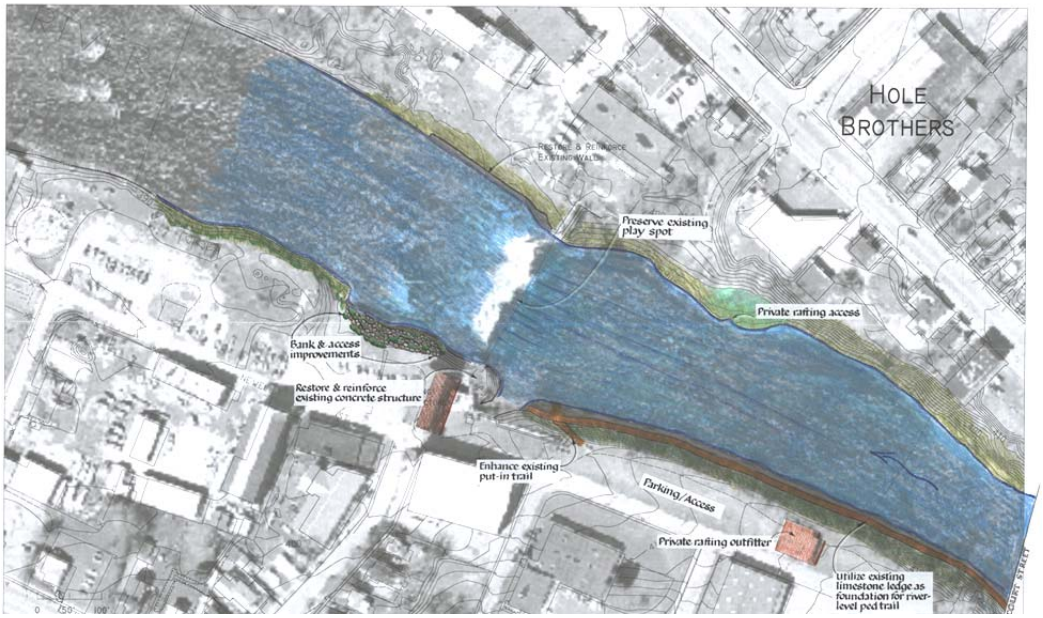


Figure 20. Proposed improvements at Hole Brothers

Hole Brothers is an existing attraction in Watertown and currently forms one of the feature play spots for both local and visiting boaters. This section is also part of the existing commercial rafting operations on the Black River. The site features hydraulic features that are of regional importance to whitewater kayakers of a variety of abilities. At present

however, the Hole Brothers location is denuded and decaying. Collapsing walls and unfinished concrete are present on both banks and the area is neither highly visible nor easily accessible for the general public from downtown Watertown.

Option 1:

Limited improvements are recommended to improve existing conditions at this site with the objectives of enhancing access to the site and stabilizing decaying concrete structures at the site. Figure 20 shows the proposed improvements that include the stabilization of the concrete structure on river left and the addition of natural rock seating on the City-owned land on the bank below the feature. The current configuration of the Hole Brothers features an attractive mid-stream hydraulic which would be preserved. Bank terracing for spectators and access would be added to the right bank and would double as reinforcement for the decaying wall at this site. The City owned parking on the left bank appears adequate; however, there is an opportunity to improve access between the parking lot and the river. Bank terracing to create a usable, natural appearing seating area is recommended, as well as trail connections to the City's Riverwalk for pedestrian access and viewing.

Figure 21. An artist's rendering of the bank adjacent to the former Red Lion Brewery with bank terracing and landscaping in place.

Recommendations:

The City of Watertown has initiated a grant process in order to put in place some of the proposed access improvements at this site. Hole Brothers is a well used resource, and access improvements at the site would create a tangible project to illustrate Watertown's commitment to creating a world class recreational corridor along the Black River. Additionally, improvements at this site may create a strong anchor for potential future re-development of the Red Lion Brewery by highlighting the riverside setting.

Vanduzee Bridge

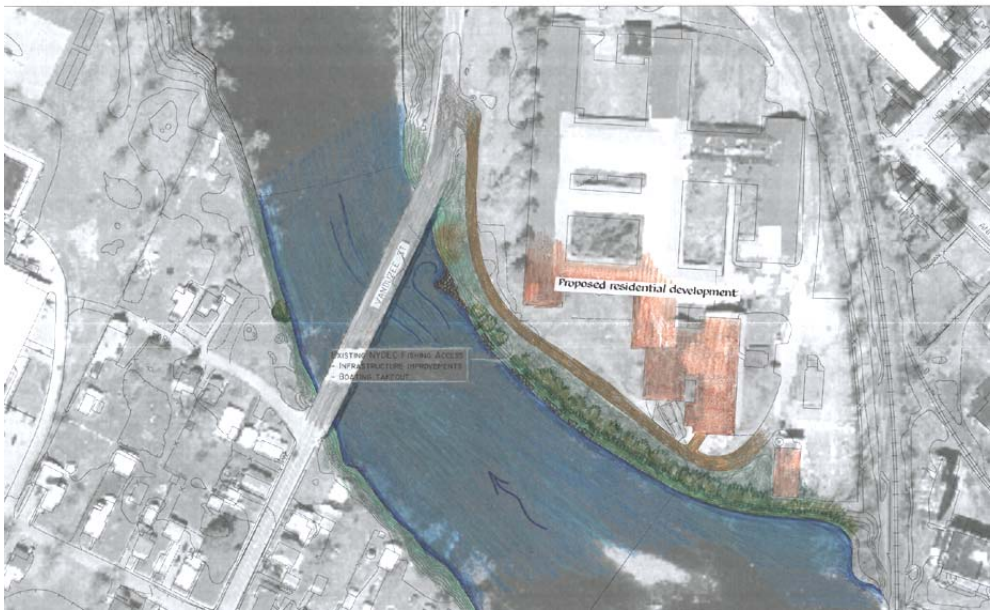


Figure 22. Proposed improvements at Vanduzee Bridge

Vanduzee Bridge currently functions as the NYDEC fishing access and is envisioned solely as a river access point that will provide access and egress for in-stream traffic. Parking enhancements, trail access to the river, general facility improvements and a small current deflector to enhance eddy access are recommended.

Site Profiles

Delano Island Dam

Site Summary:

The Delano Island Dam spans the river on the upstream end of the City of Watertown. This impoundment, which provides head for the City of Watertown Generating station on river right, stands approximately 10 feet in height. The impoundment consists of two structures; the river left structure is the longer of the two and spans approximately 640 feet in width. The river right structure sits adjacent to the diversion intake and spans approximately 190 feet. The two structures, as shown in Figure 6, are separated by Delano Island, which is undeveloped.

Access:

The site is located just downstream of the City-owned boat launch. The launch is popular with flatwater boaters who put in at this site and paddle upstream. Navigation of the Delano Dam at this point is not recommended even for top-level boaters. There is also river access on the left hand side of the river downstream of the Delano Dam. This site serves as a put-in for boaters wishing to paddle down the Horseshoe Dam.

Figure 23. Delano Island Dam with the water shown flowing from the upper right side of the picture to the lower left. The Horseshoe Dam is shown just downstream of the Delano Island Dam.

Horseshoe Dam

Site Summary:

The Horseshoe Dam is located just downstream of the Delano Island Dam. The Horseshoe Dam is also shown in Figure 9. The dam consists of a concrete structure of between 5 and 10 feet high that is placed at the crest of a natural drop in the river. This crest is largely even through the midsection before increasing in elevation as it approaches the shore. Boaters currently must drop directly off the crest of the concrete structure before navigating a steep section of whitewater rapids directly below the structure.

The total drop of the structure and the subsequent rapid is approximately 15 feet. At present, the Horseshoe Dam is an in-stream hazard but is navigable by advanced boaters.

However, even these top boaters are running an extreme risk due to the difficulty of the rapids and the inherent danger of running even-crested vertical weir structures.

Access:

As mentioned above, there is access to the river on the left hand side just upstream of the crest of the Horseshoe Dam. There is no consistent access to the right bank above the Horseshoe Dam.

Delano Island

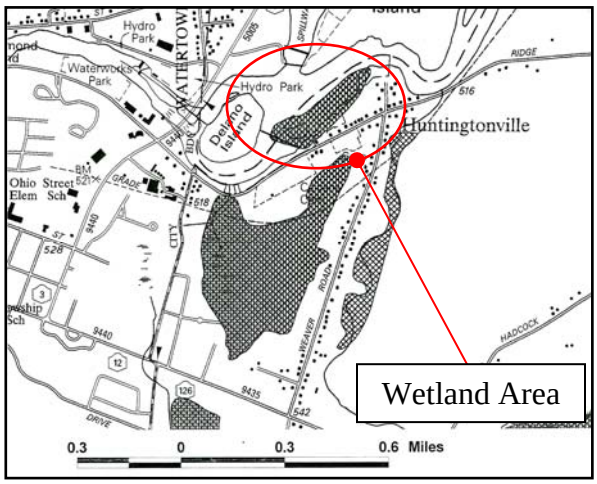
State and Federal Requirements

Any construction below the high water line of the Black River will require the issuance of a Section 10 Permit (Rivers and Harbors Act) from the United States Army Corps of Engineers (ACOE) and an Article 15 Permit (Excavation and Fill in Navigable Waters) from the New York State Department of Environmental Conservation (DEC). The permit application for these agencies is a joint application. The application must be accompanied by a detailed set of engineering drawings and will require an archaeological assessment of structures near the work area. The archaeological assessment will be initially reviewed by the DEC. If the DEC determines further review necessary, then it will be reviewed by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP). The application also must explain why lower impact options are not viable.

The plans submitted with the application must show the area that is to be de-watered in order to complete the construction. The de-watered area should be kept to a minimum and will have to be approved by the DEC and ACOE. The de-watering process must not negatively affect the turbidity of the river. Commonly turbidity curtains are used to both dewater the area and protect the quality of the water. Other imported materials may also be usable to construct cofferdams.

As with any construction project, if the project will affect more than 1-acre, a State Pollutant Discharge Elimination System (SPDES) Permit must also be obtained. In order to obtain this permit a Storm Water Pollution Prevention Plan (SWPPP) will have to be developed. In

order to prevent the contamination or increased turbidity of waters in and around construction sites.



In addition to the Section 10 and Article 15 permits from the ACOE and SDEC, the improvements suggested to the Delano Island Dam will require permits for work being performed within 100 feet of a wetland area. There is a Class 2 NYS regulated Freshwater Wetland on the upstream side of the Delano Island Dam. A portion of the wetland map of this area is included to the left. An Article 24 Permit (Freshwater Wetlands) will be required from the DEC, and a Section 404 Permit (wetlands) will be required from the ACOE. These permits are applied for in the same Joint Application as the Section 10 and Article 15 permits.

In addition to the above requirements, the City will also have to complete a State Environmental Quality Review (SEQR). This will require review of the plans by several state agencies including the DEC Division of Fish, Wildlife and Marine Resources and the OPRHP. The SEQR also requires public meetings be held. Many of the requirements of the SEQR have been fulfilled by the City already.

The Federal Energy Regulatory Commission (FERC) regulates hydropower projects and issues licenses proscribing their operation. Changes to the dam should not cause the hydropower project to violate its FERC licensing requirements, which include minimum flow requirements.

Local Requirements

The proposed improvements must not conflict with area zoning and land use. Any improvements that require a zoning change or variance must be approved by the planning

board. This area of the City does not appear to have any specific zoning applied to it and most of the surrounding area is vacant land. The proposed improvements in this area do not appear to conflict with local land use.

The property ownership in the area will have to be researched. According to the NYS Office of General Services (OGS), the State does not own land under the Black River and has not since the late 1700's. Commonly, ownership of properties on a river is assumed to extend to the centerline of the river unless the deed describes the property line as the riverbank. The deeds of the properties on both sides of the river within the work area will have to be inspected carefully by a professional land surveyor to determine property ownership.

The City of Watertown appears to own Delano Island and the land on the south bank of the river. The land on the south side of the river includes about 28 acres that could be used to stage materials necessary for construction. Most of this land lies on the south side of Huntington Street, so it would be necessary to control traffic in the area if this area were used for staging materials. It may be necessary to provide an alternate route for through traffic if the construction traffic across Ridge Road is heavy enough to warrant such measures.

Construction Impacts

The construction period would not likely have a major impact on user groups. This area of the river is not used much by boaters or fishers due to the danger posed by the dam. The river is used upstream of this point extensively and is accessed via the City of Watertown-owned boat launch and fishing access.

Construction Materials

Much of the construction requires the use of large native stone. There are ample supplies of limestone available for the proposed work. Cofferdam construction may require imported materials or synthetic materials.

Environmental

There are no threatened or endangered species identified by the DEC in this area. The proposed improvements do not appear to be in areas of known environmental contamination.

Route 3 Wave Area:

Site Summary:

The Route 3 Wave is situated just downstream of the Route 3 Bridge and approximately 600 feet downstream of the crest of the Horseshoe Dam. This wave is located between steep cliffs on the river right and the water treatment plant on the left. The wave is a natural feature that is created by a relatively small amount of drop due to a natural ledge in the riverbed.

This feature is currently the most significant park-and-play boating feature located in this reach of the Black River. This site is a favorite among locals—many of whom learned to surf here—and among expert boaters from throughout the country. In fact, this location hosted the U.S. Freestyle Team Trials in 2004 and the North American Freestyle Championships in 2005. Since the initiation of this project there has been an ongoing debate as to whether to improve this site or to leave it in its current state. At present it appears that elite-level playboaters and local event organizers would prefer to enhance this feature while many local boaters, instructional groups and conservation groups do not favor any changes.

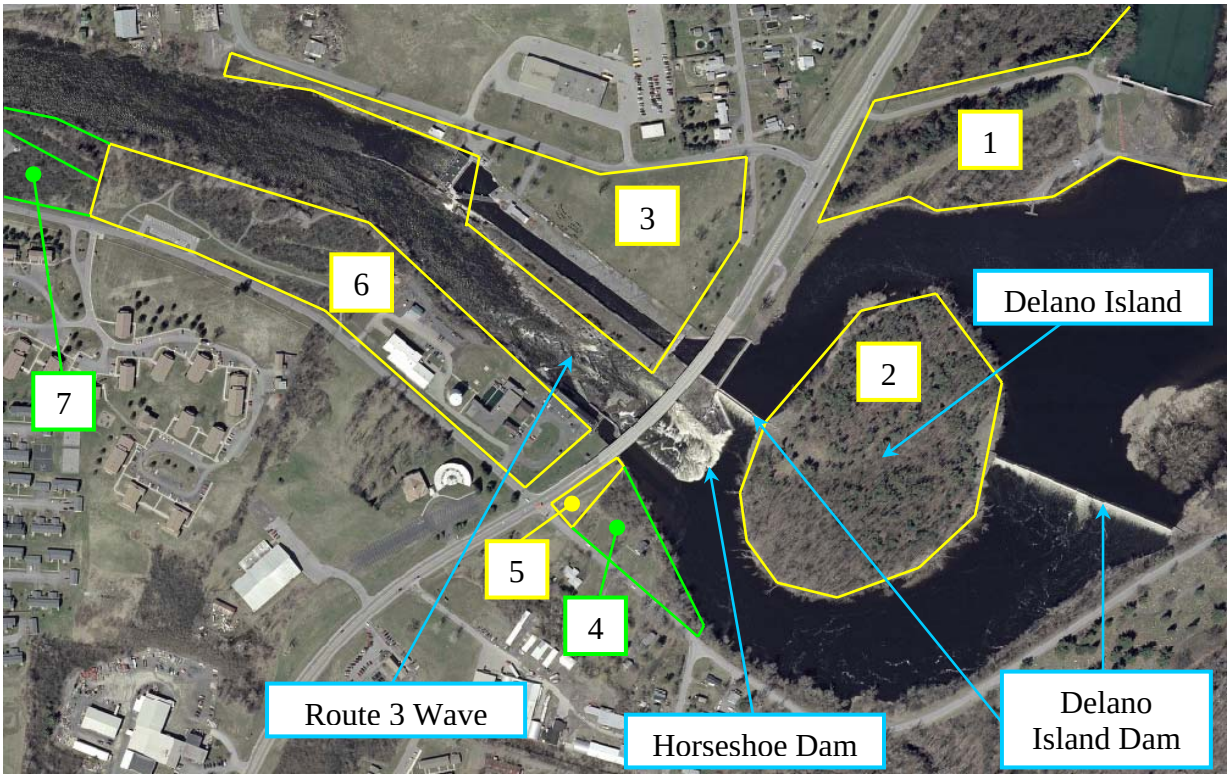
Access:

Access to this site is very limited. Most paddlers access the site by putting in at the Waterworks Park and paddling upstream. Event organizers access the site through limited access provided along the water works property. At present, the Water Treatment facility—citing security concerns—opposes any trail access or improvements that bring the general public closer to, or within, the boundary of their operations.

Access could be provided from the river right side. Current parking at the Power Plant Park could be enhanced and access to the riverbank could be provided across an existing bridge over the City's

power plant feeder canal. From that point stairway access would need to be provided down the steep cliffs to access the river. The plant operators noted that safety improvements such as fencing may need to be added to the feeder canal and that the ecosystem surrounding the canal is delicate and should be preserved.

Land Ownership and Associated Issues: A picture of the area is included below with the approximate property boundaries indicated. City owned properties are indicated in yellow.



The table on the following page describes the properties in this area.

Property Profiles for Delano Island – Route 3 Wave

Map ID	Parcel	Address	Owner	Zoning	Use	Buildings	Assessed Value	Acreage
1		**State Route 3**	**City of Watertown**		**Boat Launch/ Fishing Access**	**None**		
2			**City of Watertown**		**Vacant**	**None**		
3	**4-27-101**	**1050 Marble St**	**City of Watertown**	**Light Industry**	**Marble St. Park**	**Power Plant**	**$3,731,000.00**	**8.5**
4	5-26-201	1725 Huntington St	Robert J/Robin Derespino	Residence B	1 Family House	Private Residence - 1526 sq ft.	$43,000.00	1.2
5	**5-26-202**	**1711 Huntington St**	**City of Watertown**	**Residence B**	**Vacant**	**None**	**$12,000.00**	**0.55**
6	**5-26-203**	**1701 Huntington St**	**City of Watertown**	**Light Industry**	**Water Treatment Plant & Waterworks Park**		**$6,011,000.00**	**13.71**
7	**5-07-701**	**1605 Huntington St**	**Blackwater Development**	**Neighborhood Business**				
						TOTAL	**$9,803,700.00**	**24.86**
						Total Non City Props	**$43,000.00**	

Significant Properties:

There are several properties in this area that would be affected by whitewater improvement. Property 4 is a private residence and is less than 10' above the riverbed. Any in-stream construction in this area would have to ensure that the risk for flooding is not exacerbated.

Property 1 is the city-owned boat launch and could serve as an access point for flatwater paddlers heading upstream and possibly for whitewater paddlers heading downstream (should the dams be made passable). If traffic through this property increased, this property would require more infrastructure, including parking, bathrooms, etc.

Property 3 is the City's hydroelectric facility and Marble Street Park. This property could serve as an access point for both spectators and paddlers to the Route 3 Wave. Improving the access to the Black River at this point would serve to protect paddlers (who already access the river in this area) and would likely help protect the City from potential liability issues. This property may provide good spectator viewing and has development potential for additional facilities, such as parking, bathrooms, food stands, etc. The bridge over the power canal is in need of repair and improved fencing to control paddlers and visitors.

Property 6 includes the city's Waterworks Park. This property could provide the same benefits as Property 3. Security issues with the city's water treatment plant would have to be addressed. Again, a planned access route and facilities would likely mitigate security issues that may already exist due to paddlers accessing the Black River through this property. The City of Watertown owns property that adjoins property 7 that will be encompassed into Waterworks Park in 2006.

Property 7 is a privately owned property that is under development to include a theater, stand, cabins and restrooms etc. aimed at improving access to the Black River and its whitewater opportunities. Property 7 is discussed more in association with the Diamond Island area.

There is a regulated wetland area near this section of the river. This is discussed in more detail in the Permitting section.

The remaining properties would likely be affected in minor ways. Property ownership typically extends to the centerline of the river, meaning any in-stream improvements would likely require some level of cooperation by the private landowner.

State and Federal Requirements

Any construction below the high water line of the Black River will require the issuance of a Section 10 Permit (Rivers and Harbors Act) from the United States Army Corps of Engineers (ACOE) and an Article 15 Permit (Excavation and Fill in Navigable Waters) from the New York State Department of Environmental Conservation (DEC). The permit application for these agencies is a joint application. The application will have to be accompanied by a detailed set of engineering drawings and will require an archaeological assessment of structures near the work area. The archaeological assessment will be initially reviewed by the DEC. If the DEC determines further review necessary, then it will be reviewed by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP). The application will also have to explain why lower impact options are not viable.

The plans submitted with the application must show the area that is to be de-watered in order to complete the construction. The de-watered area should be kept to a minimum and will have to be approved by the DEC and ACOE. The de-watering process must not negatively affect the turbidity of the river. Commonly turbidity curtains are used to both dewater the area and protect the quality of the water. Other imported materials may also be able to be used to construct cofferdams.

There are several other state agencies that are sometimes involved with the permitting requirements for specific construction projects within rivers. For the improvements being considered none of these agencies are involved.

As with any construction projects, if the project will affect more than 1-acre, a State Pollutant Discharge Elimination System (SPDES) Permit must also be obtained. In order to obtain this permit a Storm Water Pollution Prevention Plan (SWPPP) will have to be developed. The SWPPP must be developed in order to prevent the contamination or increased turbidity of waters in and around construction sites.

In addition to the above requirements the City will also have to complete a State Environmental Quality Review. This will require review of the plans by several state agencies including the DEC Division of Fish, Wildlife and Marine Resources and the OPRHP. The SEQR also requires public meetings be held. Many of the requirements of the SEQRA have been fulfilled by the City already.

The Federal Energy Regulatory Commission (FERC) regulates hydropower projects and issues licenses proscribing their operation. Changes to the dam should not cause the hydropower project to violate its FERC licensing requirements, which include minimum flow requirements.

Local Requirements

The proposed improvements must not conflict with area zoning and land use. Any improvements that require a zoning change or variance must be approved by the planning board. Much of the land riverfront property in this area is zoned as Light Industrial. There are also a few residential properties on the south side of the river to the east of Eastern Boulevard. Most of the proposed improvements in this area do not appear to conflict with local land use.

The property ownership in the area will have to be researched. According to the NYS Office of General Services (OGS) the State does not own land under the Black River, and has not since the late 1700's. Commonly, property ownership for properties on a river is assumed to be to the centerline of the river unless the deed describes the property line as extending along the riverbank. Careful inspection of the deeds of the properties on both sides of the river within the work area will have to be performed by a professional land surveyor to determine property ownership.

The City of Watertown appears to own the land on each bank of the river in this area.

Construction Impacts

Construction in this area could have an impact on the Route 3 Wave during the construction period. The Route 3 Wave is used extensively by kayakers. The proposed work would likely improve the kayaking opportunities in the area and the negative impacts would be short term. If any construction were to take place at Hole Brothers (the other popular play spot), construction at Hole

Brothers and the Route 3 Wave sites should be performed at different times in order to ensure there is at least one play option for kayakers.

The City of Watertown owns properties on each bank that could be used for staging materials.

Construction Materials

Much of the construction requires the use of large native stone. There are ample supplies of limestone available for the proposed work. Cofferdam construction may require imported materials or synthetic materials.

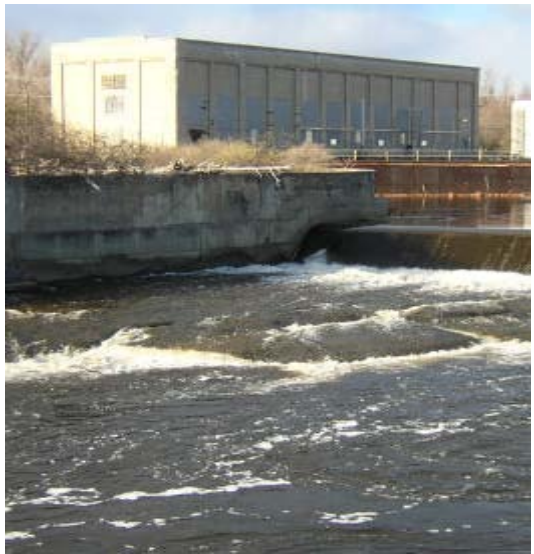
Environmental

There are no threatened or endangered species identified by the DEC in this area. The proposed improvements do not appear to be in areas of known environmental contamination.

Diamond Island

Site Summary:

The Diamond Island Dam, like all of the diversion structures in this reach, is a split structure. The right and left sides of this structure are divided by Diamond Island, which is privately owned. The CHI Energy power plant is located, and currently generates, on the right channel. The generating structure also features a bypass chute in this channel. The left channel structure maintains head and helps to pass the unused water. Niagara Mohawk owns the plant but long-term leased it to



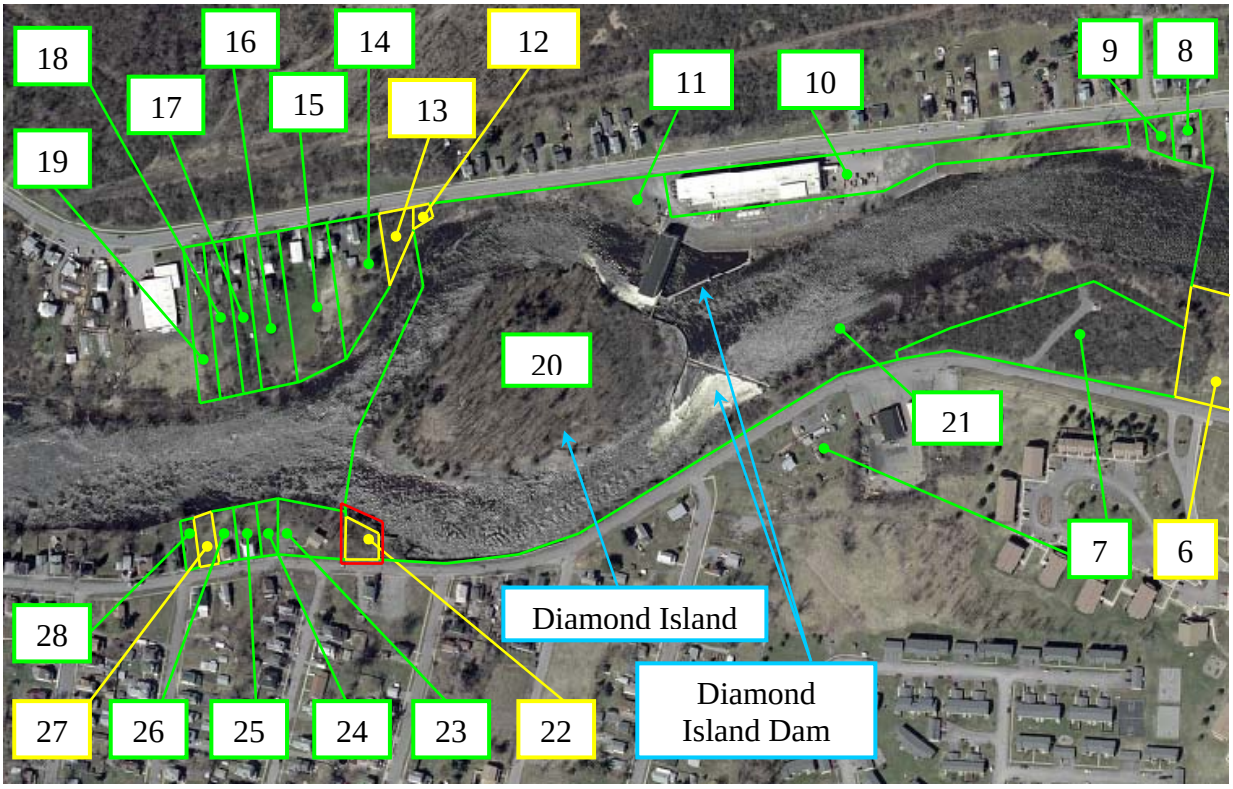
CHI Energy. Niagara Mohawk owns Diamond Island and land on the north and south side of the river.

The most significant feature of this dam in terms of this project is location. Diamond Island is located approximately 3200 ft. downstream of the Route 3 wave and a short distance above the Sewall's Island Dam. If navigability were achieved through Sewall's Island and improvements completed at the Horseshoe Dam, this site would become a critical link.

Access:

There is public access to the left bank of the river upstream of the Diamond Island Dam. The left bank provides access from Huntington Street and an easement through private land immediately upstream of the dam. A continuous river trail is currently being planned which would also be located on the left bank at this location. On the right bank direct access is limited to the diversion because of security issues at the CHI Energy generating plant. Diamond Island itself is privately owned and is not accessible except by boat.

Land Ownership and Associated Issues: A picture of the area is included below with the approximate property boundaries indicated. City owned properties are indicated in yellow.



The table on the following pages describes the properties in this area. Sites that are potentially of environmental concern are highlighted. These sites are discussed further below.

1133 Huntington Street (Site ID 22)

This property is the site of historic dumping of waste materials. The City is currently working on cleanup of this site.

7 Special Note: This property is owned and operated by Black Water Development Corporation. The property is being developed for events and will provide camping cabins and tenting, public restrooms, river access and a bandstand and stage for evening entertainment. The property supports river events such as the U.S. Freestyle Kayak Team Trials, North American Freestyle Championships and will sponsor the World Cup kayak competition in 2006. It also offers continuous opportunities for weekend boaters. Across the street, Riverside Garden Center provides outdoor respite for travelers and visitors to the river sites with the Ice Cream Café, food and refreshments. Niagara-Mohawk owns the shoreline along this property and the City of Watertown will expand Waterworks Park westerly, around this property.

Property Profiles for Diamond Island

Map ID	Parcel	Address	Owner	Zoning	Use	Buildings	Assessed Value	Acreage
8	4-26-113	906 Water St	Robin Arrruda	Heavy Industry	1 Family House	Private Residence – 1020 sq ft.	$40,000.00	0.15
9	4-26-114	97 Water St	Riverside Garden LLC	Heavy Industry	Vac Res	None	$3,500.00	0.12
10	4-23-101.1	740 Water St	Chapin Watermatics Inc	Heavy Industry	Manufacturing	Manufacturing - 53,222 sq ft	$638,000.00	2.69
11	4-23-101	95 Water St	Niagara Mohawk Power Corp	Heavy Industry		None	$665,000.00	8.80
12	**4-23-102**	**Water St**	**City of Watertown**	**Heavy Industry**	**Vac Res**	**None**	**$1,600.00**	**0.03**
13	**4-23-103**	**Water St**	**City of Watertown**	**Heavy Industry**	**Vac Res**	**None**	**$5,400.00**	**0.21**
14	4-22-101	672 Water St	John Graffi	Heavy Industry	1 Family House	Private Residence – 1548 sq ft.	$31,000.00	0.44
15	4-22-102	666 Water St	Martin Schneider	Heavy Industry	2 Family House	Private Residence – 2169 sq ft.	$36,000.00	0.65
16	4-22-103	654 Water St	Lewis & Beverly Mosher	Heavy Industry	1 Family House	Private Residence – 1891 sq ft.	$50,000.00	1.13
17	4-22-104	648 Water St	Grandjean Contract + Raymond J. Lear III	Heavy Industry	1 Family House	Private Residence – 1072 sq ft.	$19,500.00	0.06
18	4-22-105	644 Water St	Edward T. Orr/ S.K. Daniel	Heavy Industry	1 Family House	Private Residence – 1248 sq ft.	$30,000.00	0.56
19	4-22-106	640 Water St	Korman Contract + Flarity & Brown Dust	Heavy Industry	2 Family House	Private Residence – 1420 sq ft.	$37,000.00	0.56
20	4-25-101	Diamond Island	Niagara Mohawk	Light Industry	Vac	None		7.30
21	5-07-701.1	Huntington St	Niagara Mohawk Power Corp	Residence B		None	$20,000.00	2.50
22	**6-12-501**	**1133 Huntington St**	**City of Watertown**		**Vac Res**	**Foundations and Wall Remains**	**$8,000.00**	**0.24**
23	6-12-502	1125 Huntington St	David Shearer	Residence C	2 Family House	Private Residence – 1701 sq ft.	$63,500.00	0.45

24	6-12-503	1117 Huntington St	David Shearer	Residence C	Vac Res	None	$5,000.00	0.18
25	6-12-504	1113 Huntington St	Northland Operations Ltd c/o Neil Katzman and W	Residence C	1 Family House	Private Residence – 1144 sq ft.	$34,000.00	0.16
26	6-12-505	1109 Huntington St	T.J. and J. Huttemann	Residence B	1 Family House	Private Residence - 1144 sq ft.	$45,000.00	0.16
27	**6-12-506**	**63 Huntington St**	**City of Watertown**	**Residence B**	**Vac Res**	**None**	**$2,000.00**	**0.15**
28	6-12-507	61 Huntington St	Clifton E. Charlebois	Residence B	Vac Res	None	$4,200.00	0.15
						TOTAL	**$90,200.00**	**26.69**
						Total Non City Props	**$73,200.00**	

Significant Properties:

There are several properties in this area that would be affected by whitewater improvements. Property 20 is the most significant of these properties. It is the site of a hydroelectric plant operated by CHI Energy. Any improvements in this section would likely have to ensure that the operation of this facility would not be affected and would certainly require the cooperation of Niagara Mohawk and CHI Energy.

A pedestrian trail along the riverbank would affect Properties 23-28. These properties are mostly private residences.

The majority of the remaining properties would only be affected during the construction phase by noise and a temporary detraction from the aesthetic value of the river. The improvements could not increase the risk of flooding the properties. Some properties would likely see an increase in commercial usage in the area due to increased traffic, accessibility and attractiveness.

State and Federal Requirements

Any construction below the high water line of the Black River will require the issuance of a Section 10 Permit (Rivers and Harbors Act) from the United States Army Corps of Engineers (ACOE) and an Article 15 Permit (Excavation and Fill in Navigable Waters) from the New York State Department of Environmental Conservation (DEC). The permit application for these agencies is a joint application. The application will have to be accompanied by a detailed set of engineering drawings and will require an archaeological assessment of structures near the work area. The archaeological assessment will be initially reviewed by the DEC. If the DEC determines further review necessary, then it will be reviewed by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP). The application will also have to explain why lower impact options are not viable.

The plans submitted with the application must show the area that is to be de-watered in order to complete the construction. The de-watered area should be kept to a minimum and will have to be approved by the DEC and ACOE. The de-watering process must not negatively affect the turbidity

of the river. Commonly turbidity curtains are used to both dewater the area and protect the quality of the water. Other imported materials may also be able to be used to construct cofferdams.

There are several other state agencies that are sometimes involved with the permitting requirements for specific construction projects within rivers. For the improvements being considered none of these agencies are involved.

As with any construction projects, if the project will affect more than 1-acre, a State Pollutant Discharge Elimination System (SPDES) Permit must also be obtained. In order to obtain this permit a Storm Water Pollution Prevention Plan (SWPPP) will have to be developed. The SWPPP must be developed in order to prevent the contamination or increased turbidity of waters in and around construction sites.

In addition to the above requirements the City will also have to complete a State Environmental Quality Review. This will require review of the plans by several state agencies including the DEC Division of Fish, Wildlife and Marine Resources and the OPRHP. The SEQR also requires public meetings be held. The City of Watertown has fulfilled many of the SEQR requirements already.

The Federal Energy Regulatory Commission (FERC) regulates hydropower projects and issues licenses proscribing their operation. Changes to the dam must not cause the hydropower project to violate its FERC licensing requirements. Diamond Island and much of the land surrounding the dam is owned by National Grid. National Grid leases a hydropower production facility on the property to CHI. The facility operates at run-of-river conditions, as do all hydro projects within the City of Watertown.

Local Requirements

The proposed improvements must not conflict with area zoning and land use. Any improvements that require a zoning change or variance must be approved by the planning board. The properties along the north side of the river are zoned as Heavy Industrial. Diamond Island is zoned as Light Industry and most of the properties on the south side of the river in this area are zoned as Residential. The proposed footpath on Diamond Island would require an easement granted by

National Grid. Some FERC licenses include requirements for recreation. There is currently no access to Diamond Island and currently no recreation opportunities provided by National Grid.

Niagara Mohawk appears to own the land on the each bank of the river and Diamond Island. The City of Watertown owns a few residential properties on each bank of the river. Most of the properties on the south side of the river are residential. The deeds to these properties will have to be inspected to determine if the property owners have rights to the land under the river.

Construction Impacts

Construction in this area would possibly have a negative impact on the hydropower facility's operation. Construction could be coordinated to occur during times of lower flows so as to minimize lost production. A determination would have to be made to determine what affect the potential loss or reduction of power production would have on the power grid and cost of electricity. Would there be sufficient power production to make up for losses at this facility, etc? This area of the river is not used significantly by boaters or fishers due to the danger posed by the dam.

Waterworks Park could be used to stage materials. It is located a short distance to the east of Diamond Island. It is possible that Blackwater Development (the owners of a property across Huntington Street from Diamond Island) would allow use of their property temporarily for construction purposes. If enough of the river bottom were de-watered to allow access to Diamond Island, it may be possible to use it for staging construction material. There are some small City of Watertown owned properties in the area that could be used for some minor storage and/or access.

Construction Materials

Much of the construction requires the use of large native stone. There are ample supplies of limestone available for the proposed work. Cofferdam construction may require imported materials or synthetic materials.

Environmental

There were no threatened or endangered species identified by the DEC in this area. The proposed improvements do not appear to be in areas of known environmental contamination. There was an old dumpsite on the south side of the river, approximately opposite the downstream end of Diamond Island. This property is owned by the City of Watertown and was cleaned up.

Sewall's Island

Site Summary:

The Sewall's Island site is unique in several ways. The island itself is accessible, along the City owned rail corridor, and relatively large. The island was formerly used for heavy industry and is currently classified as a Brownfield. Sewall's Island is owned by Black Clawson. There are three diversion structures located adjacent to this island. The river left features a structure at the head of the island adjacent to the BRASCAN generating plant. Downstream of this structure there is a significant reach of the Black River that contains many natural rapids that would be attractive to paddle-through boaters and commercial rafting. However, there is a need for clean up and removal of debris and concrete left in the channel as a result of years of industrial activity. There is potential to place selected improvements in this reach that would increase the quality of the rapids and would allow for local level slalom races as well as park-and-play, destination whitewater paddling.

The right channel also features a diversion structure at the head of the channel. This structure maintains head for the BRASCAN generating plant and also appears to have been formerly used as an energy source. There is another diversion structure at the downstream end of the right channel that has been abandoned. It appears that Erie Boulevard Hydropower, L.P. (a subsidiary of

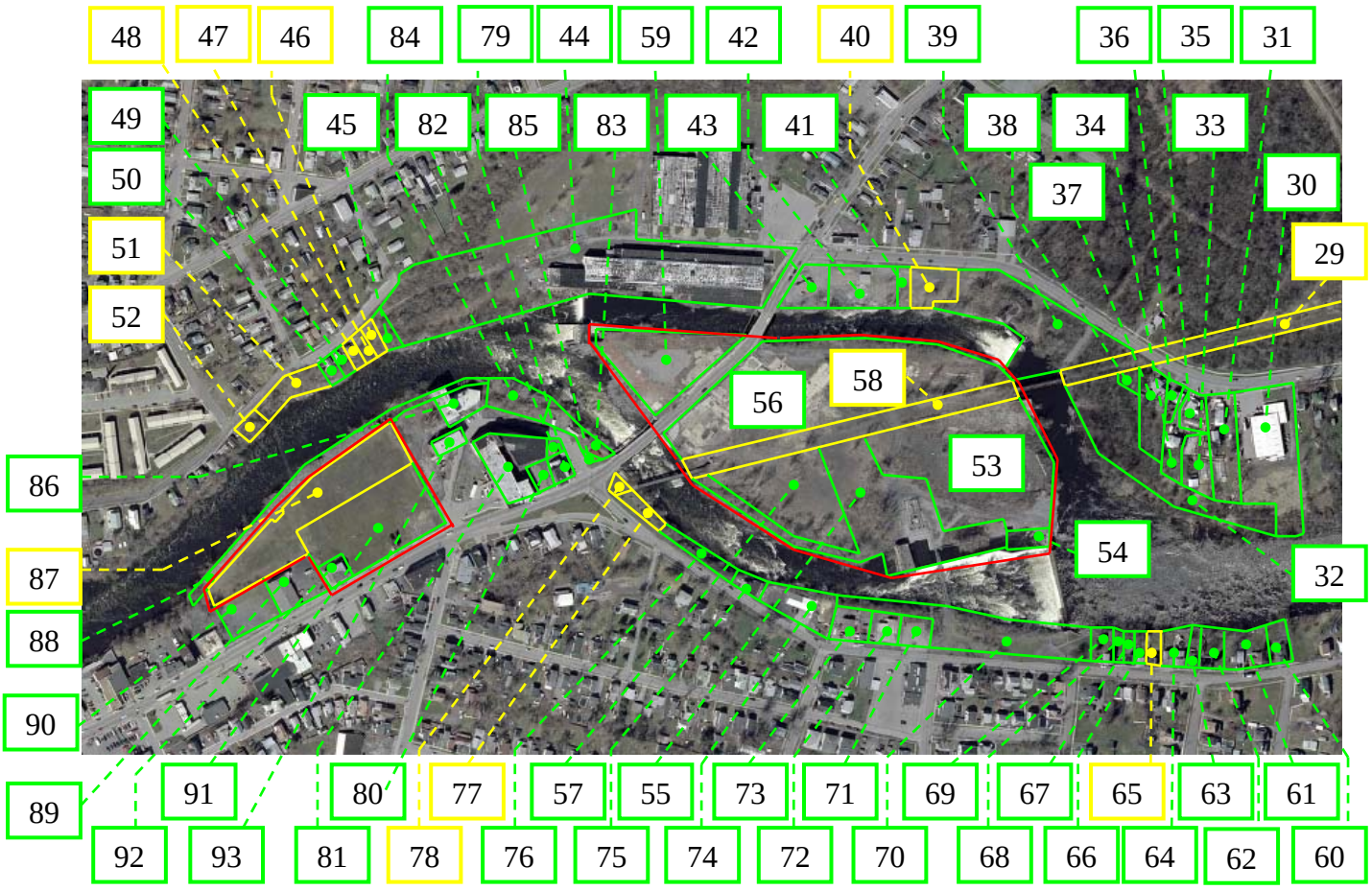
BRASCAN) has rights to this abandoned structure. It also owns or has rights to the other diversion structures around Sewall's Island.

Access:

The river is accessible at selected locations on the left bank and for an extended reach on the right bank. However, it seems likely that any development in-stream at this location would be coordinated with development of the island so primary access would be through Pearl Street. Trail access could be provided down the railway right-of-way that divides the island.

Land Ownership and Associated Issues:

A picture of the area is included below with the approximate property boundaries indicated. City owned properties are indicated in yellow.



The table on the following pages describes the properties in this area. Sites that are potentially of environmental concern are highlighted in red. The sites are discussed further below.

Black Clawson/Sewall's Island (Site ID's 53-59)
Abe Cooper Site (Site ID's 87, 88 & 91)

Property Profiles for Sewall's Island

Map ID	Parcel	Address	Owner	Zoning	Use	Buildings	Assessed Value	Acreage
29	**4-13-101 & 4-24-201**	**Water St**	**City of Watertown**	**Heavy Industry**	**Railway Right-of-Way**	**None**	**$118,500.00**	**9.85**
30	4-22-107	632 Water St	Marnandi Realty Corp	Heavy Industry	Strg Wrhse/Sm Retail Store	Retail Store - 12,426 sq. ft.	$303,400.00	1.75
31	4-22-108	616 Water St	Katherine M Plante & Joseph F Plante II	Heavy Industry	Multiple Homes	Private Residence - 876 sq ft.	$40,000.00	0.51
32	4-22-115	550 Water St	Black Clawson Co	Heavy Industry	Vac Industrial		Part of #39	
33	4-22-109	614 Water St	Katherine M Plante & Joseph F Plante II	Heavy Industry	Vac Res Small Imprvt	None	$3,000.00	0.32
34	4-22-110	610 Water St	Joseph Plante & Katherine M Plante	Heavy Industry	1 Family House	Private Residence - 1320 sq ft.	$19,500.00	0.05
35	4-22-111	608 Water St	Katherine M Plante & Joseph F Plante	Heavy Industry	1 Family House	Private Residence - 1499 sq ft.	$21,500.00	0.10
36	4-22-112	606 Water St	Joseph F Plante & Theresa Wright	Heavy Industry	1 Family House	Private Residence - 1264 sq ft.	$28,000.00	0.13
37	4-22-113	600 Water St	James E Taylor	Heavy Industry	2 Family House	Private Residence - 2359 sq ft.	$25,000.00	0.33
38	4-22-114	582 Water St	Mary A Perry	Heavy Industry	Vac Res	None	$1,200.00	0.13
39	4-13-102	550 Water St	Black Clawson Co	Heavy Industry	Vac Industrial	None	$28,000.00	3.06
40	**4-13-103.1**	**522 Water St**	**City of Watertown**	**Heavy Industry**	**Vac Res**	**None**	**$22,000.00**	**0.47**
41	4-13-103	518 Water St	Glen Baldick	Heavy Industry	Storage Warehouse	Stg Whse - 2398 sq. ft.	$9,000.00	0.10
42	4-13-104	502 Water	Glen Baldick c/o Brett Sizeland	Heavy Industry	Storage Warehouse	Stg Whse - 784 sq. ft.	$21,100.00	0.39
43	4-13-105	490 Pearl St	G E Baldick c/o Brett Sizeland	Heavy Industry	Mult Use 1 Story Sm	Multi Use -1428 sq. ft.	$40,000.00	0.11
44	4-01-101	301 Pearl St	Railstar Corp	Heavy Industry	Lt. Manufacturing	Manuf - 160,454 sq. ft.	$228,000.00	14.82
45	3-02-401	340 Moulton St	Oliver J Wisner	Residence C	Vac Res	None	$700.00	0.06
46	**3-02-402**	**338 Moulton St**	**City of Watertown**	**Residence C**	**Vac Res Small Imprvt**	**None**	**$1,200.00**	**0.07**

47	**3-02-403**	**334 Moulton St**	**City of Watertown**	**Residence C**	**Vac Res**	**None**	**$600.00**	**0.05**
48	**3-02-404**	**332 Moulton St**	**City of Watertown**	**Residence C**	**1 Family House**	**Private Residence - 693 sq ft.**	**$23,000.00**	**0.06**
49	3-02-405	330 Moulton St	Donald Benway	Residence C	1 Family House	Private Residence - 748 sq ft.	$20,000.00	0.03
50	3-02-406	326 Moulton St	J R McCarthy c/o Jean Miller	Residence C	1 Family House	Private Residence - 754 sq ft.	$18,000.00	0.10
51	**3-02-406.1**	**Moulton St**	**City of Watertown**	**Residence C**	**Vac Res**	**None**	**$2,000.00**	**0.18**
52	**3-02-407**	**276 Moulton St**	**City of Watertown**	**Residence C**	**Vac Res**	**None**	**$1,100.00**	**0.09**
53	4-12-101	656 Sewall's Island	Black Clawson Co	Heavy Industry	Manufacturing	Foundation Remains	$30,000.00	1.70
54	4-12-101.1	300 Pearl St	Erie Blvd Hydropower LP	Heavy Industry		None	$2,263,200.00	3.11
55	4-12-102	Part of # 54						
56	4-12-103	Sewall's Island	Black Clawson Co	Heavy Industry	Vac Industrial	Foundation Remains	$20,300.00	4.48
57	4-12-103.1	Sewall's Island	Black Clawson Co	Heavy Industry	Vac Industrial	Foundation Remains	$18,700.00	2.30
58	**4-12-105**	**Pearl St**	**City of Watertown**	**Heavy Industry**	**Vac Commercial**	**None**	**$13,000.00**	**1.09**
59	4-12-201	Sewall's Island	Black Clawson Co	Commercial	Manufacturing	Foundation Remains	$13,000.00	1.40
60	6-12-508	1049 Huntington St	CE Charlebois	Residence B	1 Family House	Private Residence - 836 sq ft.	$25,000.00	0.19
61	6-12-509	1045 Huntington St	Bank of New York	Residence B	1 Family House	Private Residence - 1776 sq ft.	$45,500.00	0.21
62	6-12-510	1031 Huntington St	Daniel P Olney & Beverly A Olney	Residence B	1 Family House	Private Residence - 915 sq ft.	$15,000.00	0.28
63	6-12-511	1027 Huntington St	Clifford Olney Sr G/BA	Residence B	1 Family House	Private Residence - 1255 sq ft.	$35,000.00	0.09
64	6-12-512	1023 Huntington St	Donald J Ada & C I Ada	Residence B	1 Family House	Private Residence - 1392 sq ft.	$38,500.00	0.13
65	**6-12-513**	**1017 Huntington St**	**City of Watertown**	**Residence B**	**1 Family House**	**Private Residence - 1200 sq ft.**	**$36,500.00**	**0.10**
66	6-12-514	1015 Huntington St	Bankers Trust Co of CA	Residence B	1 Family House	Private Residence - 1200 sq ft.	$36,000.00	0.08
67	6-12-515	1011 Huntington St	Valerie J Burdick	Residence B	1 Family House	Private Residence - 1200 sq ft.	$36,500.00	0.08
68	6-12-516	1009 Huntington St	Valerie J Burdick	Residence B	Vac Res	None	$2,900.00	0.08

69	6-12-517	1007 Huntington St	Neil A Fox	Residence B	1 Family House	Private Residence - 1200 sq ft.	$36,500.00	0.11
70	6-11-501	771 Huntington St	Erie Blvd Hydropower LP	Light Industry		None	$29,000.00	1.90
71	6-11-501.1	819 Huntington St	Erie Blvd Hydropower LP	Light Industry		None	$6,000.00	0.12
72	6-11-502	801 Huntington St	Ervin L Miller	Light Industry	Mult Use 1 Story Sm	Multi Use -1053 sq. ft.	$27,500.00	0.21
73	6-11-502.1	805 Huntington St	Steven Sboro	Light Industry	Storage Warehouse	Stg Whse - 1736 sq. ft.	$45,000.00	0.21
74	6-06-401	743 Huntington St	Robert Peters	Light Industry	Bar	Bar - 2400 sq. ft.	$73,000.00	0.40
75	6-06-401.1	Huntington St	Ervin Miller Jr	Light Industry	Vac Res	None	$1,000.00	0.03
76	6-06-402	731 Huntington St	Ervin L Miller Jr	Light Industry	1 Family House	Private Residence - 1443 sq ft.	$20,000.00	0.34
77	**6-06-403**	**677 Huntington St**	**City of Watertown**	**Light Industry**	**Vac Res Small Imprvt**	**None**	**$6,600.00**	**0.27**
78	**6-06-404**	**Huntington St**	**City of Watertown**	**Light Industry**	**Vac Commercial**	**None**	**$1,500.00**	**0.12**
79	6-05-102	661 Factory St	Brian Barre	Heavy Industry	Apts 4 or More	Apt Building - 4092 sq. ft.	$115,000.00	0.17
80	6-05-103	649 Factory St	David J Yager	Heavy Industry	Storage Warehouse	None	$15,000.00	0.16
81	6-05-104	629 Factory St - 38 Fairbanks St	Black River Acquisitions I	Heavy Industry	Storage Warehouse	Stg Whse - 75,583 sq. ft.	$256,800.00	0.72
82	6-05-106	40 Fairbanks St	Brian Barre	Heavy Industry	Vac Commercial	None	$115,000.00	0.05
83	6-05-301	667 Fairbanks St	Brian G Barre	Heavy Industry	Snack Bar	Restaurant - 560 sq. ft.	$18,700.00	0.42
84	6-05-301.1	Fairbanks St	Black River Acquisitions I	Heavy Industry	Vac Industrial	None	$4,500.00	0.47
85	6-05-301.2	Pearl St	State of New York	Heavy Industry	Vac Commercial	None	$800.00	0.03
86	6-0-5303	135 Fairbanks St	James C & Anne E Cox	Heavy Industry	Storage Warehouse	Stg Whse - 17,100 sq. ft.	$108,000.00	0.23
87	**6-05-304**	**7 Fairbanks St**	**City of Watertown**	**Heavy Industry**	**Vac Commercial**	**None**	**$35,000.00**	**1.15**
88	6-05-305	Fairbanks St	Erie Blvd Hydropower LP	Light Industry	Water Rights	None	$46,800.00	0.52

89	6-05-401	491 Factory St	Watertown Appliance/TV CT	Light Industry	Small Retail Store	Retail Store - 6480 sq. ft.	$150,700.00	0.42
90	6-05-402	451 Factory St	T I Girl Scout Counicl In	Light Industry	Vac Commercial	None	$30,000.00	0.58
91	6-05-201	559 Factory St - 6 Fairbanks St	Onondaga Development LLC	Planned Development		Billboard	$57,000.00	1.00
92	6-05-202	507 Factory St	Glenn G Armstrong	Light Industry		Retail Store - 2120 sq. ft.	$27,000.00	0.09
93	6-05-204	129 Factory Square	Seaway Sales Co Inc c/o James C/Anne E C	Heavy Industry	Storage Warehouse	Distribution Warehouse - 11,205 sq. ft.	$45,000.00	0.09
						TOTAL	**$4,903,300.00**	**60.95**
						Total Non City Props	**$4,642,300.00**	

Significant Properties:

There are several properties in this area that would be affected by whitewater improvements. The most significant is Property 54. This is the site of the hydroelectric facility operated by BRASCAN. BRASCAN's cooperation and involvement would be necessary for any of the proposed in-stream improvements in this area.

Erie Boulevard Hydropower, LLP (a subsidiary of BRASCAN) owns the rights to the head of the river at the upstream end of both channels of the Black River. It also owns rights to the head of the river a short distance downstream of Sewall's Island along Property 88.

The remainder of the properties on Sewall's Island could be affected by the proposed improvements. These properties are owned by Black Clawson, which formerly ran a large manufacturing plant on Sewall's Island. The location and accessibility of Sewall's Island make it a prime location for development.

There appear to be environmental issues on Sewall's Island. The site is littered with concrete, slag, and other debris. There are several foundations of the Black Clawson buildings remaining on site. Most foundations have collapsed, and there are some basement cavities which remain. These would have to be cleaned up and/or properly buried prior to development in order to protect the public. Development of the island may require the cleanup of demolition debris and the removal of concrete structures. There is also a possibility of chemical contamination.

Many of the other properties in the area could potentially see new site development as mentioned above; most notably, the Factory Square area (Properties 79-86, 93), much of which is underutilized.

There is potential for a river access point near the Abe Cooper Site (Properties 87-92). This site was previously listed as a Superfund Site due to chemical contamination. The site experienced a Superfund driven cleanup project but has deed restrictions. BRASCAN has a requirement in its FERC license that it must provide a boating access point at this site if the City of Watertown were to install a trail at this site. Other properties in the area could be affected in minor ways.

State and Federal Requirements

Any construction below the high water line of the Black River will require the issuance of a Section 10 Permit (Rivers and Harbors Act) from the United States Army Corps of Engineers (ACOE) and an Article 15 Permit (Excavation and Fill in Navigable Waters) from the New York State Department of Environmental Conservation (DEC). The permit application for these agencies is a joint application. The application will have to be accompanied by a detailed set of engineering drawings and will require an archaeological assessment of structures near the work area. The archaeological assessment will be initially reviewed by the DEC. If the DEC determines further review necessary, then it will be reviewed by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP). The application will also have to explain why lower impact options are not viable.

The plans submitted with the application must show the area that is to be de-watered in order to complete the construction. The de-watered area should be kept to a minimum and will have to be approved by the DEC and ACOE. The de-watering process must not negatively affect the turbidity of the river. Commonly turbidity curtains are used to both dewater the area and protect the quality of the water. Other imported materials may also be able to be used to construct cofferdams.

There are several other state agencies that are sometimes involved with the permitting requirements for specific construction projects within rivers. For the improvements being considered none of these agencies are involved.

As with any construction projects, if the project will affect more than 1-acre, a State Pollutant Discharge Elimination System (SPDES) Permit must also be obtained. In order to obtain this permit a Storm Water Pollution Prevention Plan (SWPPP) will have to be developed. The SWPPP must be developed in order to prevent the contamination or increased turbidity of waters in and around construction sites.

In addition to the above requirements the City will also have to complete a State Environmental Quality Review. This will require review of the plans by several state agencies including the DEC Division of Fish, Wildlife and Marine Resources and the OPRHP. The SEQR also requires public meetings be held. The City of Watertown has fulfilled many of the SEQR requirements already.

The Federal Energy Regulatory Commission (FERC) regulates hydropower projects and issues licenses proscribing their operation. Changes to the dam must not cause the hydropower project to violate its FERC licensing requirements. There is a hydropower facility run by BRASCAN on the upstream end of the southern branch of the river around Sewall's Island. This facility operates at run-of-river conditions. Changes to the dam would require permission from BRASCAN.

Local Requirements

The proposed improvements must not conflict with area zoning and land use. Any improvements that require a zoning change or variance must be approved by the planning board. Most of Sewall's Island is zoned as Heavy Industrial. The north shore of the river is also zoned as Heavy Industrial. This area is used for industrial purposes. Redevelopment of this area would likely be towards more commercial and/or residential properties. Prior to redevelopment, there are issues related to potential environmental contamination that must be addressed. Sewall's Island is considered an Inactive Hazardous Waste Site by the DEC. It will likely require substantial investigation and remediation.

The property ownership in the area will have to be researched. According to the NYS Office of General Services (OGS) the State does not own land under the Black River, and has not since the late 1700's. Commonly, property ownership for properties on a river is assumed to be to the centerline of the river unless the deed describes the property line as extending along the riverbank. Careful inspection of the deeds of the properties on both sides of the river within the work area will have to be performed by a professional land surveyor to determine property ownership.

Most of the properties in this area are privately owned properties. Any improvements to the island and riverbed around the island would require that the property be obtained/purchased by the City of Watertown or permission be granted by the property owner. Development in this area would also require some cleanup of any debris and contaminated soils at the site. Black Clawson owns much of Sewall's Island, however, they do not operate a factory from the site any longer and would likely be willing to sell the land.

Construction Impacts

Construction in this area would possibly have a negative impact on the hydropower facility's operation. Construction could be coordinated to occur during times of lower flows so as to minimize lost production. A determination would have to be made to determine what affect the potential loss or reduction of power production would have on the power grid and cost of electricity. Would there be sufficient power production to make up for losses at this facility, etc? This area of the river is not used significantly by boaters or fishers due to the danger posed by the dam.

Sewall's Island is a vacant piece of land and could likely be used to stage building materials, once the property was acquired or permission to construct granted.

Construction Materials

Much of the construction requires the use of large native stone. There are ample supplies of limestone available for the proposed work. Cofferdam construction may require imported materials or synthetic materials.

Environmental

There were no threatened or endangered species identified by the DEC in this area. Sewall's Island is considered contaminated and will require further investigation and/or remediation prior to development. There is some debris and waste in the streambed in this area that is leftover from the past industrial usage of the site. This would have to be cleaned up as well. There are many other industrial and former industrial properties surrounding Sewall's Island that may require further investigation as well.

Mill Street Falls & Beebee's Island

Site Summary:

The Beebee's Island diversion structures are located directly adjacent to the central business district of Watertown and have the largest head of any diversion within the selected reach. The island has been extensively developed and currently contains numerous businesses including the BRASCAN Hydro plant on the upstream end of the island. The right channel features a large fall/drop structure that supplies head to the BRASCAN plant. Just downstream of this fall is the Mill St. Bridge.

The left channel is an old industrial flume adjacent to the Knowlton Specialty paper mill, which forms the left bank of this channel. The flume, which does not supply hydraulic power to the plant at this time, has largely been abandoned. This channel is very deep, very tight, over-encroached by the mill works, denuded and littered with industrial pipes and other structures. This channel does not currently carry significant flows. Interestingly, this channel features almost an ideal average slope for an Olympic style slalom and freestyle channel. The downstream end of this channel currently functions as a launch point for commercial rafting.

The Beebee's Island site is significant not for its visibility due to its downtown location, but rather for its invisibility in spite of its downtown location. Passers-by must seek out the left channel in order to appreciate its beauty. This reach of the river has the potential to provide a vital link between the river and the City but would need considerable restoration in order to capitalize on this potential.

Access:

The south branch is private land owned by the Jefferson County Industrial Development Agency and is a portion of the site of Knowlton Brothers Specialty Papers. Knowlton formerly used this section as a millrace. The downstream end of the island has limited usable access points at this time. The proposed river trail would link with the existing river walk on the downstream river left bank and would provide an ideal pathway by which people could access this corridor. Selected ingress and egress points could be provided for in-stream traffic.

S-bends and Riverwalk Area

Site Summary

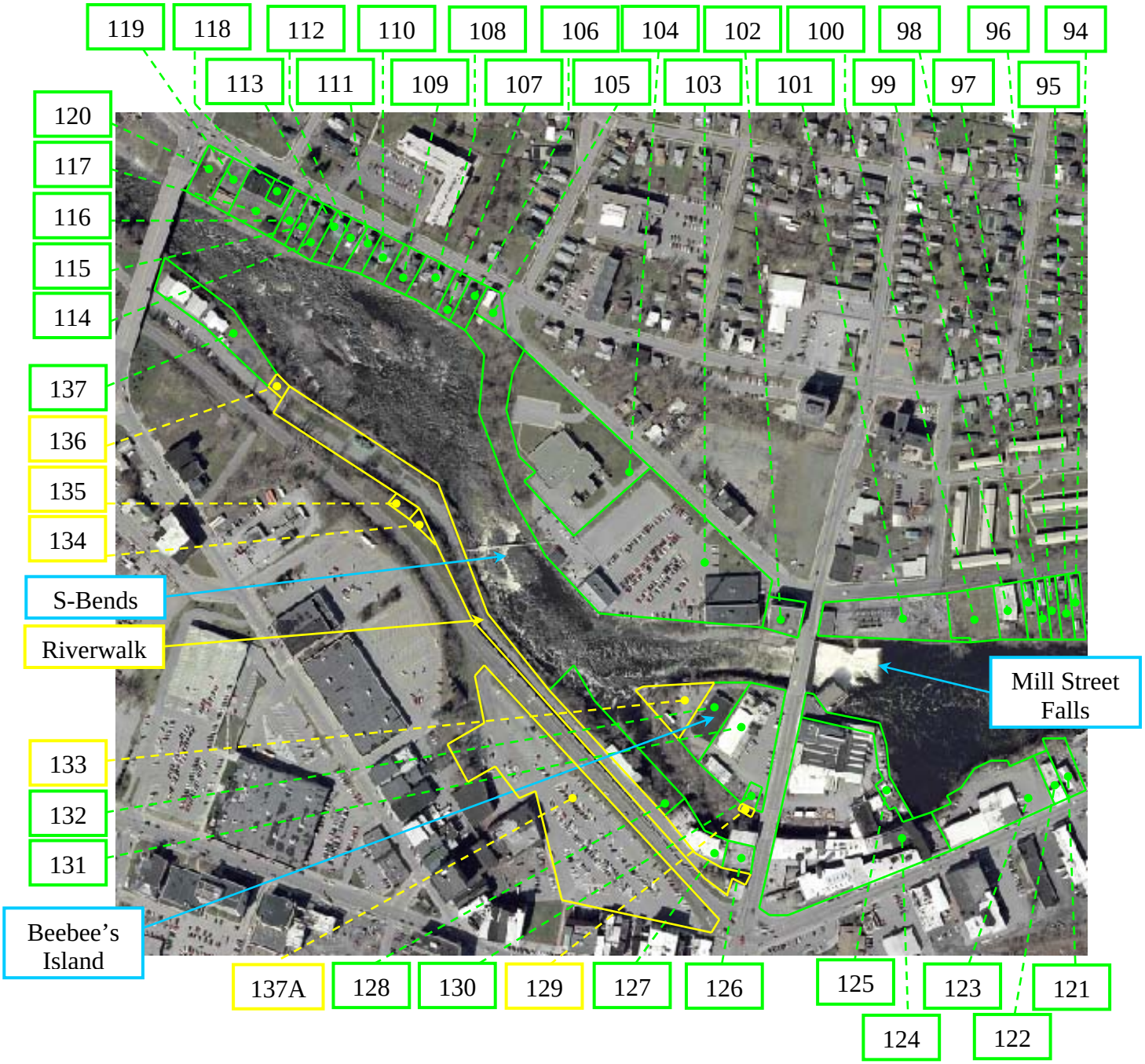
The reach found between Mill Street and Court Street, generically referred to as the S-bends, features natural Class II-III rapids and is accessible from the commercial launch point. There is the potential for in-stream improvements on the lower end of the rapids above the Court Street Bridge. Additionally, trail and pedestrian access from the Riverwalk to Hole Brothers is a possibility.

Access:

This reach is accessible from the private commercial launch point; however, there is no existing public access to the river level.

Land Ownership and Associated Issues:

A picture of the area from Beebee's Island to the Court Street Bridge is included below with the approximate property boundaries indicated. City owned properties are indicated in yellow.



The table on the following pages describes the properties in this area.

Property Profiles for Mill Street Falls & Beebee's Island And S-Bends & Riverwalk

Map ID	Parcel	Address	Owner	Zoning	Use	Buildings	Assessed Value	Acreage
94	3-01-115	230 Moulton St	David Howard & Cynthia Howard	Residence C	1 Family House	Private Residence – 1251 sq ft.	$25,000.00	0.12
95	3-01-116	226 Moulton St	David Howard	Residence C	1 Family House	Private Residence – 1557 sq ft.	$18,000.00	0.12
96	3-01-117	224 Moulton St	Cynthia John	Residence C	1 Family House	Private Residence – 1348 sq ft.	$20,000.00	0.13
97	3-01-118	222 Moulton St	Jennie S Murphy	Residence C	1 Family House	Private Residence – 1386 sq ft.	$21,000.00	0.09
98	3-01-119	220 Moulton St	Jennie S Murphy c/o Murphy	Residence C	1 Family House	Private Residence - 1710 sq ft.	$27,500.00	0.13
99	3-01-120.1	214 Moulton St	Blanding Mechanical Inc	Light Industry	Storage Warehouse	Stg Whse – 5024 sq. ft.	$30,000.00	0.25
100	3-01-120	208 Moulton St	Blanding Mechanical Inc	Light Industry	Vac Industrial	None	$10,500.00	0.40
101	3-01-122	300 Mill St	Niagara Mohawk Power Corporation	Light Industry	Elec Transmission - Substation	Substation	$589,500.00	0.43
102	2-01-101	309 Mill St	Watertown Redevelopment C	Light Industry	Apartments 4 or more	Apt Building - 35,100 sq. ft.	$656,000.00	0.22
103	2-01-103	137 Main Ave.	Dealmaker Dodge LLC	Light Industry	Office Building	Vac Office Build - 35,568 sq. ft.	$500,000.00	4.48
104	2-01-103.1	235 Main Ave.	Dealmaker Dodge LLC	Light Industry	Car Dealership/Repair	Car Dealership/Repair Shop & Body Shop - 32,618 sq. ft. & Cell Tower	$500,000.00	2.32
105	2-03-102	303 Main St W	Joseph Roukous & Jon-Michael Roukous	Commercial	Multi Use Row Detach	Pizza Shop – 3024 sq. ft.	$98,500.00	0.09
106	2-03-103	311 Main St W	Beverly Sanders	Residence C	2 Family House	Private Residence - 1591 sq ft.	$30,000.00	0.19
107	2-03-104	315 Main St W	Marilyn Davis	Residence C	1 Family House	Private Residence - 1490 sq ft.	$24,000.00	0.12
108	2-03-105	325 Main St W	James S Barber	Residence C	2 Family House	Private Residence -	$48,500.00	0.30

						2466 sq ft.		
109	2-03-106	333 Main St W	M E Church Bethany	Residence C	1 Family House	Private Residence - 1792 sq ft.	$46,000.00	0.19
110	2-03-107	343 Main St W	Bruce Lynch	Residence C	2 Family House	Private Residence - 1545 sq ft.	$44,000.00	0.20
111	2-03-108	351 Main St W	Larry Fluno	Residence C	2 Family House	Private Residence - 1936 sq ft.	$34,000.00	0.13
112	2-03-109	357 Main St W	David F Wilder & Donald J Wilder	Residence C	2 Family House	Private Residence - 1488 sq ft.	$44,500.00	0.12
113	2-03-110	361 Main St W	Elizabeth McClure	Residence C	1 Family House	Private Residence - 1827 sq ft.	$42,000.00	0.22
114	2-03-111	367 Main St W	Claudette L Mason	Residence C	2 Family House	Private Residence - 2085 sq ft.	$30,000.00	0.14
115	2-03-112	371 Main St W	Michael J Sholette & Gregory H Sholette	Residence C	2 Family House	Private Residence - 1655 sq ft.	$34,000.00	0.11
116	2-03-113	377 Main St W	SLC Properties Inc, c/o Charlebois	Residence C	2 Family House	Private Residence - 1991 sq ft.	$30,000.00	0.18
117	2-03-114	409 Main St W	L D Fluno	Neighborhood Business	Multi Use Row Detach	Retail Center - 10,368 sq. ft.	$109,000.00	0.29
118	2-03-114.1	403 Main St W	Leroy D Fluno	Neighborhood Business	Multi Use Row Detach	Retail Center – 4100 sq. ft.	$60,000.00	0.06
119	2-03-115	423 Main St W	Leroy D Fluno	Neighborhood Business	Parking Lot	Parking Lot – 9900 sq. ft.	$20,000.00	0.23
120	2-03-117	437 Main St W	State of New York		Vac Commercial	None	$15,000.00	0.28
121	6-02-103	333 Factory St	Donald E Rowland	Light Industry	Storage Warehouse	Stg Whse – 1901 sq. ft.	$23,000.00	0.19
122	6-02-104	327 Factory St	Donald E Rowland	Light Industry	Multi Use/Retail Center	Retail Center – 6874 sq. ft.	$162,000.00	0.15
123	6-02-107	247 Factory St	Coon, Varley, and Associate	Light Industry	Strg Wrhse/Sm Retail Store	Retail Store – 33,743 sq. ft.	$329,700.00	0.82
124	6-01-201	213 Factory St	JCIDA	Light & Heavy Industry	Manufacturing	Paper Mill – 163,571 sq. ft.	$859,000.00	3.84
125	6-01-101	250 Mill Street	Erie Blvd Hydropower LP	Light Industry		None	$8,595,100.00	0.60

126	7-01-201	100 Newell St	L C Derouin	Commercial	Strg Wrhse/Row Retail Center	Retail Store – 10,200 sq. ft.	$162,700.00	0.18
127	7-01-202	108 Newell St	Newell Street Realty LLC c/o Mark Burtick	Commercial	Storage Warehouse	Stg Whse – 13,650 sq. ft.	$143,500.00	0.40
128	7-01-204	122 Newell St	Kenneth E & Penelope Powley	Commercial	Stg Whse/ Formerly Adk River Outfitters	Stg Whse – 3024 sq. ft.	$36,000.00	0.50
129	**7-01-302**	**Mill St**	**City of Watertown**	**Light Industry**	**Vac Industrial**	**None**	**$3,000.00**	**0.02**
130	7-01-302.1	Mill St	Erie Blvd Hydropower LP	Light Industry	Vac Industrial	None	$6,000.00	0.05
131	7-01-301	201 Mill St	Beebee Island Properties	Light Industry	Car Body Shop	Body Shop – 11,744 sq. ft.	$322,000.00	1.70
132	7-01-301.1	Mill St	Gary R & Betty E Freeman	Light Industry	Car Body Shop	Body Shop – 8420 sq. ft.	$138,300.00	0.63
133	**7-01-301.2**	**Mill St**	**City of Watertown**	**Light Industry**	**Vac Industrial**	**None**	**$10,000.00**	**1.30**
134	**7-03-211**	**259 Newell St**	**City of Watertown**	**Commercial**	**Vac Commercial**	**None**	**$1,000.00**	**0.07**
135	**7-03-210**	**301 Newell St**	**City of Watertown**	**Commercial**	**Vac Commercial**	**None**	**$2,500.00**	**0.15**
136	**7-07-101**	**402 Newell St**	**City of Watertown**	**Commercial**	**Vac Com/Sewer Right-of-Way**	**None**	**$2,500.00**	**0.05**
137	7-07-105	438 Newell St	Guilfoyle Ambulance Service	Commercial	Ambulance Service	Office/Garage - 4975 sq. ft.	$303,300.00	0.73
137A	**7-01-137**	**JB Wise Pl**	**City of Watertown**	**Parking Lot**	**Public Parking**	**None.**	**$398,000.00**	**4.60**
						TOTAL	**$14,604,600.00**	**27.53**
						Total Non City Props	**$14,187,600.00**	

Significant Properties:

There are several properties in this area that would be affected by whitewater improvements.
One property that would be affected is the site of a hydroelectric project. Property 125 is the site of a hydroelectric facility operated by BRASCAN. BRASCAN's cooperation and involvement would be necessary for any of the proposed in-stream improvements. Erie Boulevard, LLP (a subsidiary of BRASCAN) owns rights to the head of the river in association with this facility.

Another property impacted is a portion of Property 24, which is the site of Knowlton Brothers Paper Mill. The southern portion of the property is the former millrace, which would be a vital segment of the project in order to allow access to (and through) the entire Black River corridor within the City of Watertown. The millrace is no longer used for power by Knowlton Bros.

The City's Riverwalk could benefit from, and provide support for, whitewater improvements. The Riverwalk could provide excellent viewing and amenities for spectators. With the increased traffic additional parking, bathrooms, and restaurants or food stands would probably be necessary. There is a city-owned public parking lot (J.B. Wise Place) directly across Newell Street from the Riverwalk (Property 137A). Increased use of this area would likely create increased use of this parking lot. A direct connection (e.g. pedestrian bridge) between the Riverwalk and the public parking would probably help the flow of traffic.

It may be beneficial to create an access point at the upstream end of the Riverwalk. A planned access point to the river may relieve some liability issues. Currently, kayakers commonly access the Black River via Property 128, which is the site of Adirondack River Outfitters (a rafting company) and is private property. If in-stream improvements were included in the Riverwalk area, there would be increased boater traffic that would have to be accommodated.

The remaining properties would likely be affected in minor ways. Property ownership typically is assumed to extend to the centerline of the river, meaning any in-stream improvements would likely require the cooperation of the landowner.

Beebee's Island Construction Analysis

State and Federal Requirements

Any construction below the high water line of the Black River will require the issuance of a Section 10 Permit (Rivers and Harbors Act) from the United States Army Corps of Engineers (ACOE) and an Article 15 Permit (Excavation and Fill in Navigable Waters) from the New York State Department of Environmental Conservation (DEC). The permit application for these agencies is a joint application. The application will have to be accompanied by a detailed set of engineering drawings and will require an archaeological assessment of structures near the work area. The archaeological assessment will be initially reviewed by the DEC. If the DEC determines further review necessary, then it will be reviewed by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP). The application will also have to explain why lower impact options are not viable.

The plans submitted with the application must show the area that is to be de-watered in order to complete the construction. The de-watered area should be kept to a minimum and will have to be approved by the DEC and ACOE. The de-watering process must not negatively affect the turbidity of the river. Commonly turbidity curtains are used to both dewater the area and protect the quality of the water. Other imported materials may also be able to be used to construct cofferdams.

There are several other state agencies that are sometimes involved with the permitting requirements for specific construction projects within rivers. For the improvements being considered none of these agencies are involved.

As with any construction projects, if the project will affect more than 1-acre, a State Pollutant Discharge Elimination System (SPDES) Permit must also be obtained. In order to obtain this permit a Storm Water Pollution Prevention Plan (SWPPP) will have to be developed. The SWPPP must be developed in order to prevent the contamination or increased turbidity of waters in and around construction sites.

In addition to the above requirements the City will also have to complete a State Environmental Quality Review. This will require review of the plans by several state agencies including the DEC

Division of Fish, Wildlife and Marine Resources and the OPRHP. The SEQR also requires public meetings be held. The City of Watertown has fulfilled many of the SEQR requirements already.

The Federal Energy Regulatory Commission (FERC) regulates hydropower projects and issues licenses proscribing their operation. Changes to the dam must not cause the hydropower project to violate its FERC licensing requirements. There is a hydropower facility run by BRASCAN on the northern branch of the river around Beebee's Island. This facility operates at run-of-river conditions. Changes to the dam would require permission from BRASCAN.

Local Requirements

The proposed improvements must not conflict with area zoning and land use. Any improvements that require a zoning change or variance must be approved by the planning board. Beebee's Island is zoned as Light Industrial. Much of the land in the area is zoned as commercial or Light Industrial.

The property ownership in the area will have to be researched. According to the NYS Office of General Services (OGS) the State does not own land under the Black River, and has not since the late 1700's. Commonly, property ownership for properties on a river is assumed to be to the centerline of the river unless the deed describes the property line as extending along the riverbank. Careful inspection of the deeds of the properties on both sides of the river within the work area will have to be performed by a professional land surveyor to determine property ownership.

Most of the proposed improvements are shown in the southern channel of the river. This is owned by Jefferson County Industrial Development Agency (JCIDA) and is the site of Knowlton Brother's Paper Mill. Knowlton uses water from the river for producing paper. It does not use the river for power. Improvements through this area would require permission from Knowlton and JCIDA. The channel is very narrow and currently there are several safety issues with paddling through this channel. There are several support columns within the middle of the channel and other obstacles to safe passage.

There is a river access point at the downstream side of Beebee's Island from the south bank of the river. This is through a private property owned by a commercial rafting outfit. They currently allow other boaters to access the river via their property. An easement could secure this access for all

boaters at all times. The proposed trail locations would require land acquisition or easements as much of the proposed trail is through private land.

Construction Impacts

Construction in this area would possibly have a negative impact on the hydropower facility's operation. Construction could be coordinated to occur during times of lower flows so as to minimize lost production. A determination would have to be made to determine what affect the potential loss or reduction of power production would have on the power grid and cost of electricity. Would there be sufficient power production to make up for losses at this facility, etc? This area of the river is not used significantly by boaters or fishers due to the danger posed by the dam.

There are no properties in the immediate vicinity of the proposed improvements that appear to offer space for staging construction materials. The City of Watertown owns the western end of Beebee Island, however the City of Watertown could stage most materials at a remote location (possibly) at one of the properties discussed in relation to Sewall's Island or dewater a sufficient portion of the river in order to allow staging of materials in the riverbed. This may not be the most appropriate option, as it would pose a risk to water quality should the dewatering methods fail and the riverbed become inundated, thus contaminating the river with whatever materials were being staged in the riverbed.

Construction Materials

Much of the construction requires the use of large native stone. There are ample supplies of limestone available for the proposed work. Cofferdam construction may require imported materials or synthetic materials.

Environmental

There were no threatened or endangered species identified by the DEC in this area. The proposed improvements do not appear to be in areas of known environmental contamination, however this area has been used for industrial purposes for many years. Some properties are still used for industrial purposes. A complete environmental assessment of the pertinent properties should be conducted prior to beginning work.

S-Bends & Riverwalk Construction Analysis

State and Federal Requirements

Any construction below the high water line of the Black River will require the issuance of a Section 10 Permit (Rivers and Harbors Act) from the United States Army Corps of Engineers (ACOE) and an Article 15 Permit (Excavation and Fill in Navigable Waters) from the New York State Department of Environmental Conservation (DEC). The permit application for these agencies is a joint application. The application will have to be accompanied by a detailed set of engineering drawings and will require an archaeological assessment of structures near the work area. The archaeological assessment will be initially reviewed by the DEC. If the DEC determines further review necessary, then it will be reviewed by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP). The application will also have to explain why lower impact options are not viable.

The plans submitted with the application must show the area that is to be de-watered in order to complete the construction. The de-watered area should be kept to a minimum and will have to be approved by the DEC and ACOE. The de-watering process must not negatively affect the turbidity of the river. Commonly turbidity curtains are used to both dewater the area and protect the quality of the water. Other imported materials may also be able to be used to construct cofferdams.

There are several other state agencies that are sometimes involved with the permitting requirements for specific construction projects within rivers. For the improvements being considered none of these agencies are involved.

As with any construction projects, if the project will affect more than 1-acre, a State Pollutant Discharge Elimination System (SPDES) Permit must also be obtained. In order to obtain this permit a Storm Water Pollution Prevention Plan (SWPPP) will have to be developed. The SWPPP must be developed in order to prevent the contamination or increased turbidity of waters in and around construction sites.

In addition to the above requirements the City will also have to complete a State Environmental Quality Review. This will require review of the plans by several state agencies including the DEC Division of Fish, Wildlife and Marine Resources and the OPRHP. The SEQR also requires public meetings be held. The City of Watertown has fulfilled many of the SEQR requirements already.

Local Requirements

The proposed improvements must not conflict with area zoning and land use. Any improvements that require a zoning change or variance must be approved by the planning board.

The property ownership in the area will have to be researched. According to the NYS Office of General Services (OGS) the State does not own land under the Black River, and has not since the late 1700's. Commonly, property ownership for properties on a river is assumed to be to the centerline of the river unless the deed describes the property line as extending along the riverbank. Careful inspection of the deeds of the properties on both sides of the river within the work area will have to be performed by a professional land surveyor to determine property ownership.

There is a river access point at the downstream side of Beebee's Island from the south bank of the river. This is through a private property owned by a commercial rafting outfit. They currently allow other boaters to access the river via their property. An easement could secure this access for all boaters at all times. Portions of the proposed trail are through private land and would require land acquisition or easements.

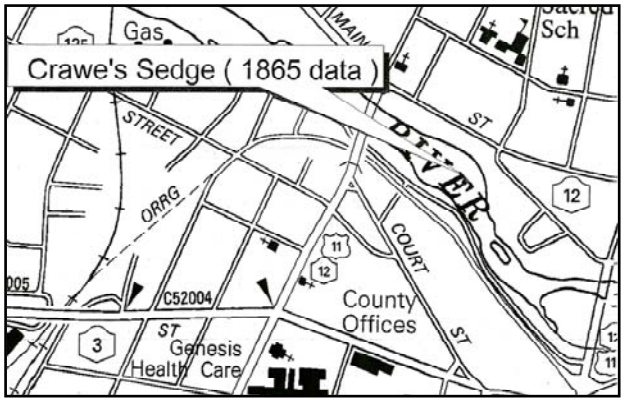
Construction Impacts

This area of the river is used by one commercial rafting outfit that puts in from the river access point discussed above. Construction in this portion of the river could potentially affect this rafting company, however, they likely could navigate around any construction areas.

There no properties in the immediate vicinity of the proposed improvements that appear to offer space for staging construction materials. The City of Watertown could stage most materials at a remote location (possibly) at one of the properties discussed in relation to Sewall's Island or dewatering a sufficient portion of the river in order to allow staging of materials in the riverbed. This may not be the most appropriate option, as it would pose a risk to water quality should the dewatering methods fail and the riverbed become inundated. The City of Watertown owned Riverwalk may be able to be used to stage some materials, but it does not offer a significantly large area and is well above the river at the top of a cliff.

Construction Materials

Much of the construction requires the use of large native stone. There are ample supplies of limestone available for the proposed work. Cofferdam construction may require imported materials or synthetic materials.



Environmental

There was an endangered species of plant (Crawe's sedge) identified by the DEC in this area. It was last observed in this location in 1865. A portion of the map provided by the DEC is included to the left. The proposed improvements do not appear to be in areas of

known environmental contamination.

Hole Brothers

Site Summary:

Hole Brothers, like the Route 3 Wave is an existing attraction to boaters. This section features a relatively low gradient formed by a limestone ledge system which used to be the foundation for a diversion structure. The site is bordered by collapsing concrete structures. On the river left bank there is a decaying concrete structure that features exposed rebar and is a hazard to spectators on this bank. The mid-stream features an island composed of limestone blocks and on the right bank is composed of a collapsing concrete and rock wall. This bank is in need of immediate repair.

The in-stream features at this site are different in character from the Route 3 Wave and are a regional attraction for park-and-play, freestyle kayaking. The existing hydraulic is well used and should be preserved.

Access:

The primary access is from the river left bank on City owned property and a privately owned parking lot. This access site has potential to be improved for both viewing and park-and-play access. Additionally continuous trail access from the City's Riverwalk should be explored.

Land Ownership and Associated Issues:

A picture of the area is included below with the approximate property boundaries indicated. City owned properties are indicated in yellow. The City owned properties on the south bank (158 & 160-164) would serve as an excellent viewing area for the Hole Brothers area.

The table on the following pages (Table 5) describes the properties in this area.

Property Profiles Hole Brothers

Map ID	Parcel	Address	Owner	Zoning	Use	Buildings	Assessed Value	Acreage
138	1-01-307	503 Main St W	John L & Vickie Rice	Neighborhood Business	Vac Commercial	None	$7,000.00	0.32
139	1-01-306	515 Main St W	John L & Vickie Rice	Neighborhood Business	Tavern/Multi-Use	Tavern - 1242 sq. ft.	$62,100.00	0.17
140	1-01-306.3	Main St W	John L Rice & Vicki Rice	Neighborhood Business	Vac Res	None	$100.00	0.01
141	1-01-306.4	Main St W	Allen M Gonya	Neighborhood Business	Vac Res	None	$100.00	0.01
142	1-01-306.1	525 Main St W	Allen M Gonya	Neighborhood Business	1 Family House	Private Residence - 2316 sq ft.	$36,000.00	0.13
143	1-01-305	531 Main St W	Tracy L Rafferty	Neighborhood Business & Light Industry	Dealership (Nonauto)	Retail Store - 5784 sq. ft.	$110,000.00	0.53
144	1-01-302	549 Main St W	Tracy L Rafferty	Light Industry	2 Family House	Private Residence - 1286 sq ft.	$36,000.00	0.30
145	1-01-301	557 Main St W	Michael Chiappone	Light Industry	Body Shop	Car Body Shop 8043 sq. ft.	$160,000.00	0.49
146	1-01-301.1	Main St W	Robert V Peterson	Light Industry	Vac Commercial	None	$2,500.00	0.26
147	1-14-124	575 Main St W	Raymond A Desrosier & L Desrosier	Neighborhood Business	2 Family House	Private Residence - 2144 sq ft.	$27,000.00	0.11
148	1-14-121.2	595 Main St W	Credo Community Center/Treat	Neighborhood Business	Office Building	Office Building - 4779 sq. ft.	$758,400.00	0.37
149	1-14-121.1	611 Main St W	Jefferson Hostels Inc	Neighborhood Business	Manufacturing	Manuf - 29,784 sq. ft.	$536,000.00	1.87
150	1-14-121	Main St W	Black Clawson Co Inc	Light Industry	Manufacturing	Manuf - 12,644 sq. ft.	$155,000.00	4.18
151	1-14-201	Main St W	Doppelmayr CTEC Inc	Heavy Industry	Manufacturing	Manuf - 26,281 sq. ft.	$265,000.00	1.34
152	1-17-210.2	Poplar St	Doppelmayr CTEC Inc	Light Industry	Vac Industrial	None	$2,500.00	0.13

153	1-17-210.1	451 Martin St	Ives Louis/ Steven W/Davi	Light Industry	Storage Warehouse	Stg Whse - 15,258 sq. ft.	$40,000.00	0.69
154	1-17-210	455 Martin St	Doppelmayr CTEC Inc	Light Industry	Strg Wrhse/Lt Manuf	Manuf - 13,028 sq. ft.	$24,500.00	0.37
155	7-07-401	400 Newell St	Robert M Weldon Jr & Elizabeth R Weldon	Light Industry	Vac Commercial	None	$2,500.00	0.07
156	7-07-402	410 Newell St	Patrick J Cunningham	Light Industry	Vac Res	None	$13,500.00	0.31
157	7-07-403	424 Newell St	Patrick J Cunningham	Light Industry	Storage Truck Term	Truck Terminal - 2792 sq. ft.	$33,500.00	0.47
158	**7-08-301**	**Newell St**	**City of Watertown**	**Light Industry**	**Vac Commercial**	**None**	**$9,800.00**	**0.22**
159	7-08-302	500 Newell St	Michael J Bauer & Michael V Martini	Light Industry	Restaurant	Restaurant - 10,998 sq. ft.	$298,000.00	0.16
160	**7-08-303**	**Newell St**	**City of Watertown**	**Light Industry**	**Vac Commercial**	**None**	**$7,400.00**	**0.24**
161	**7-08-304**	**522 Newell St**	**City of Watertown**	**Light Industry**	**Vac Commercial**	**None**	**$10,500.00**	**0.25**
162	**7-08-305**	**544 Newell St**	**City of Watertown**	**Light Industry**	**Vac Waterfront**	**Vacant Building - 1152 sq. ft.**	**$51,500.00**	**0.87**
163	**7-08-307**	**564 Newell St**	**City of Watertown**	**Light Industry**	**Vac Waterfront**	**None**	**$8,000.00**	**0.34**
164	**7-16-112**	**337 Engine St**	**City of Watertown**	**Light Industry**	**Storage Warehouse**	**Distr. Whse - 15,717 sq. ft.**	**$341,800.00**	**1.35**
165	7-16-112.1	341 Engine St	Sarah D Purcell	Heavy Industry	Storage Warehouse	Stg Whse - 6450 sq. ft.	$79,300.00	0.18
166	7-16-114	345 Engine St	R P Purcell	Heavy Industry	Storage Warehouse	Stg Whse - 10,000 sq. ft.	$82,000.00	1.61
167	77-01-001		NY Central Lines LLC	Heavy Industry	Ceiling Railroad	None	$989,004.00	
						TOTAL	**$4,149,004.00**	**17.34**
						Total Non City Props	**$3,720,004.00**	

Significant Properties

There are several properties in this area that would be affected by whitewater improvements.

Property 157 is the site used by the Hudson River Rafting Company that runs rafting trips downriver and accesses the river at Hole Brothers. Hudson River Rafting also owns the parking lot adjacent to the City's access point and Hudson River Rafting allows public access from its lot. Improved access to the river would be beneficial to this company.

The title to Property 150 is listed as Black Clawson Co. Inc. This title grants rights to the head of the river. In-stream improvements in this area would have to ensure that the owner's rights are not infringed upon and/or require the cooperation of the Black Clawson Company.

Properties 158 and 160 are owned by the City of Watertown, which has rights to the head of the river in association with these properties.

Many of the properties on the south side of the Black River (river left) are underutilized or vacant and could benefit from increased traffic to this site.

The remaining properties would likely be affected in minor ways. Property ownership typically is assumed to extend to the centerline of the river, meaning any in-stream improvements would likely require the cooperation of the landowner.

There is an inactive hazardous waste site in the area of Properties 164-167. This was formerly the site of a Manufactured Gas Plant (MGP) which operated primarily from 1905 to 1953 when natural gas was brought to the area. The MGP site continued to be used through the early 1960's. This site is contaminated with volatile organic compounds (VOCs), coal tar compounds and other contaminants associated with the MGP. There is groundwater contamination at the site and it is thought that there may be contaminants seeping into the Black River. This is an active cleanup site. Continued monitoring and cleanup activities at and around this property are expected for the foreseeable future. This is the site of the City of Watertown's new Public Works facility.

State and Federal Requirements

Any construction below the high water line of the Black River will require the issuance of a Section 10 Permit (Rivers and Harbors Act) from the United States Army Corps of Engineers (ACOE) and an Article 15 Permit (Excavation and Fill in Navigable Waters) from the New York State Department of Environmental Conservation (DEC). The permit application for these agencies is a joint application. The application will have to be accompanied by a detailed set of engineering drawings and will require an archaeological assessment of structures near the work area. The archaeological assessment will be initially reviewed by the DEC. If the DEC determines further review necessary, then it will be reviewed by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP). The application will also have to explain why lower impact options are not viable.

The plans submitted with the application must show the area that is to be de-watered in order to complete the construction. The de-watered area should be kept to a minimum and will have to be approved by the DEC and ACOE. The de-watering process must not negatively affect the turbidity of the river. Commonly turbidity curtains are used to both dewater the area and protect the quality of the water. Other imported materials may also be able to be used to construct cofferdams.
There are several other state agencies that are sometimes involved with the permitting requirements for specific construction projects within rivers. For the improvements being considered none of these agencies are involved.

As with any construction projects, if the project will affect more than 1-acre, a State Pollutant Discharge Elimination System (SPDES) Permit must also be obtained. In order to obtain this permit a Storm Water Pollution Prevention Plan (SWPPP) will have to be developed. The SWPPP must be developed in order to prevent the contamination or increased turbidity of waters in and around construction sites.

In addition to the above requirements the City will also have to complete a State Environmental Quality Review. This will require review of the plans by several state agencies including the DEC Division of Fish, Wildlife and Marine Resources and the OPRHP. The SEQR also requires public meetings be held. The City of Watertown has fulfilled many of the SEQR requirements already.

Local Requirements

The proposed improvements must not conflict with area zoning and land use. Any improvements that require a zoning change or variance must be approved by the planning board. The land on both sides of the river in this area is zoned Light Industrial, however much of this land is no longer used for industrial purposes.

The property ownership in the area will have to be researched. According to the NYS Office of General Services (OGS) the State does not own land under the Black River, and has not since the late 1700's. Commonly, property ownership for properties on a river is assumed to be to the centerline of the river unless the deed describes the property line as extending along the riverbank. Careful inspection of the deeds of the properties on both sides of the river within the work area will have to be performed by a professional land surveyor to determine property ownership.

Much of the land where improvements are suggested appears to be owned by the City of Watertown.

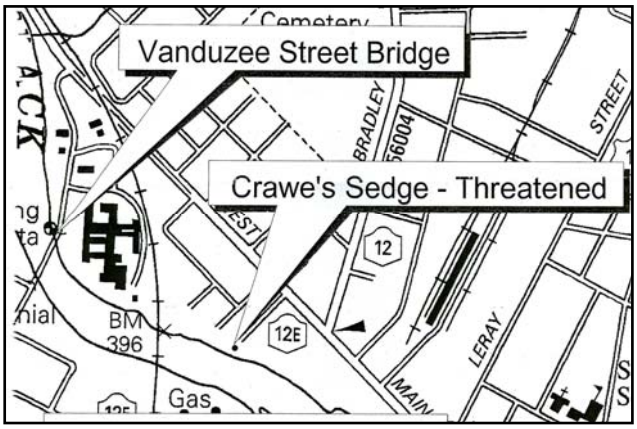
Construction Impacts

This area of the river is used by three commercial rafting outfits (the outfit mentioned previously in regards to the Beebee's Island, and two that put in at Hole Brothers). The bank improvements suggested may create some difficulties in accessing the river during construction. Construction should be staged in such a way so as to allow a path to the river at all times.

There are several properties in the area that are vacant or unused at present that likely could offer a place to stage materials. Materials should not be staged at the downstream end of this area, as this site is an Inactive Hazardous Waste Site and could potentially contaminate any materials staged there.

Construction Materials

Much of the construction requires the use of large native stone. There are ample supplies of limestone available for the proposed work. Cofferdam construction may require imported materials or synthetic materials.



Environmental

There was an endangered species of plant (Crawe's sedge) identified by the DEC in this area. It was last observed in this location in 1990. It does appear as though it was observed in an area of proposed improvements. A portion of the map provided by the DEC is included to the left.

The proposed improvements are bounded to the west (downstream side) by an Inactive Hazardous Waste Site. It is located on the south side of the river near the intersection of Newell Street and Engine Street. It was the formerly the site of a Manufactured Gas Plant. Remedial efforts have been undertaken at the site, but there may still be contamination remaining.

Vanduzee Street Bridge

Site Summary:

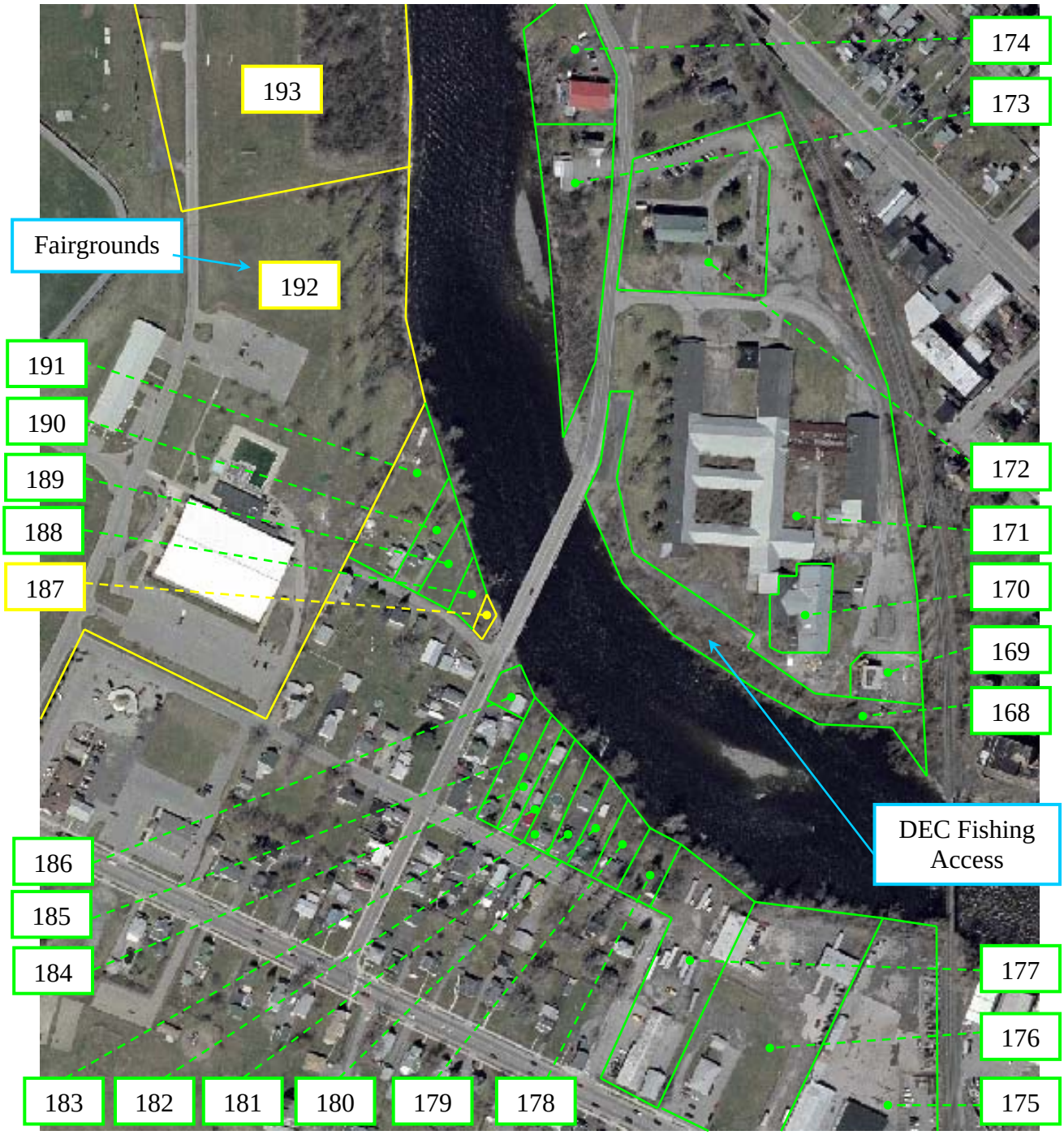
The Vanduzee Street Bridge Site is being considered solely as a take out point for paddle-through and possibly commercial boaters. There is an existing gravel parking lot, low gradient bank, and street access.

Access:

There is direct access from Vanduzee Street.

Land Ownership and Associated Issues:

A picture of the area from the railroad bridge just upstream of the Vanduzee Street Bridge to the Fairgrounds (a short ways downstream of the Vanduzee Street Bridge) is included below with the approximate property boundaries indicated. City owned properties are indicated in yellow.



The table on the following pages (Table 6) describes the properties in this area.

Property Profiles for Vanduzee Street Bridge Area

Map ID	Parcel	Address	Owner	Zoning	Use	Buildings	Assessed Value	Acreage
168	1-18-102.1	Vanduzee St	State of New York & DEC/Fishing Access	Light Industry	Vac Industrial	None	$13,000.00	1.06
169	1-18-102.4	Vanduzee St	Richard E Alexander	Light Industry	Storage Warehouse	Stg Whse – 2888 sq. ft.	$7,600.00	0.46
170	1-18-102.3	424 Vanduzee St	Robert W Shambo	Light Industry	Storage Warehouse	Stg Whse – 11,810 sq. ft.	$45,200.00	0.79
171	1-18-102	424 Vanduzee St	No. Ctry Dev of Jefferson Co	Light Industry		112,548 sq. ft.	$217,400.00	9.64
172	1-18-103.1	444 Vanduzee St	NYSARC, Inc.	Light Industry	Manufacture/Assoc	10,044 sq. ft.	$180,000.00	1.54
173	1-19-101	471 Vanduzee St	Jack Weston	Light Industry	1 Family House	Private Residence - 1480 sq ft.	$62,000.00	0.89
174	1-19-102	475 Vanduzee St	Nordic Technology	Light Industry	Manufacturing	Manuf - 4250 sq. ft.	$75,000.00	0.40
175	7-16-104	616 Coffeen St	Stephanie Capone & MD Natoli	Light Industry	Storage Warehouse	Stg Whse – 26,077 sq. ft.	$654,000.00	4.69
176	7-16-105	636 Coffeen St	St. Lawrence Tours Inc c/o John A Smith	Light Industry	Mult Use 1 Story Sm	Retail Store – 4944 sq. ft.	$127,000.00	1.72
177	7-16-106	646 Coffeen St	Lawrence E Smith c/o John A Smith	Light Industry	Storage Truck Term	Truck Terminal - 680 sq. ft.	$349,000.00	1.33
178	7-17-201	700 Lawrence St	Glenora M Stevens	Residence B	2 Family House	Private Residence - 1936 sq ft.	$22,000.00	0.24
179	7-17-202	706 Lawrence St	Theodore A Sosnovik	Residence B	1 Family House	Private Residence - 1077sq ft.	$30,000.00	0.26
180	7-17-203	712 Lawrence St	Gamble Starr E Life Use	Residence B	1 Family House	Private Residence - 1406 sq ft.	$39,000.00	0.14
181	7-17-204	716 Lawrence St	Suzanne M Nutting	Residence B	1 Family House	Private Residence - 1428 sq ft.	$50,000.00	0.14

182	7-17-205	720 Lawrence St	Michael E Traynor	Residence B	1 Family House	Private Residence - 1068 sq ft.	$36,500.00	0.19
183	7-17-206	722 Lawrence St	George M Carpenter & M Carpenter	Residence B	1 Family House	Private Residence - 11653 sq ft.	$48,000.00	0.11
184	7-17-207	724 Lawrence St	Kay K Gaffney	Residence B	1 Family House	Private Residence - 1449 sq ft.	$42,500.00	0.13
185	7-17-208	730 Lawrence St	Bruce G Boynton & Brenda L Boynton	Residence B	1 Family House	Private Residence - 1236 sq ft.	$35,500.00	0.31
186	7-17-211.1	350 Vanduzee St	John F Murray & James C Murray	Residence B	Vac Res Small Imprvt	None	$7,300.00	0.13
187	**8-21-101**	**Earl St**	**City of Watertown**	**Residence B**	**Vac Residential**	**None**	**$400.00**	0.02
188	8-21-102	Earl St	Joey Barrett & Kim Barrett	Residence B	Vac Residential	None	$1,000.00	0.09
189	8-21-103	Earl St	Joey Barrett & Kim Barrett	Residence B	Vac Residential	None	$1,400.00	0.18
190	8-21-104	814 Earl St	Robert F & Martha Hamilton	Residence B	1 Family House	Private Residence - 696 sq ft.	$20,000.00	0.26
191	8-21-105	816 Earl St	K Mallette	Residence B	1 Family House	Private Residence - 1376 sq ft.	$25,000.00	0.62
192	**8-22-101**	**970 Coffeen St**	**City of Watertown**	**Residence A**	**Fairgrounds**	**Skating Rink - 15,260 sq. ft.**	**$4,442,000.00**	41.30
193	**8-28-101**	**700 William T Field Dr**	**City of Watertown**	**Residence A**	**Sewage Treatment**		**$18,000,000.00**	22.50
						TOTAL	**$24,366,800.00**	**88.34**
						Total Non City Props	**$1,924,400.00**	

Significant Properties:

There are several properties in this area that would be affected by the proposed improvements. Property 168 is the site of the New York State Dept. of Environmental Conservation's Fishing Access. This site could serve as an access point to the river for kayakers and other boaters. The proposed improvements would likely benefit this property, as it would make the river more accessible to more groups of people. There are currently river access and parking provided by the NYS DEC for public use. Additional parking could be provided. Property 192 is owned by the City of Watertown and is the site of the Fairgrounds. This property could be used as an access point for boaters as well. Property 193 is also owned by the City and is the site of the sewage treatment plant. Increased traffic may require increased measures to protect people and the treatment facility.

State and Federal Requirements

Any construction below the high water line of the Black River will require the issuance of a Section 10 Permit (Rivers and Harbors Act) from the United States Army Corps of Engineers (ACOE) and an Article 15 Permit (Excavation and Fill in Navigable Waters) from the New York State Department of Environmental Conservation (DEC). The permit application for these agencies is a joint application. The application will have to be accompanied by a detailed set of engineering drawings and will require an archaeological assessment of structures near the work area. The archaeological assessment will be initially reviewed by the DEC. If the DEC determines further review necessary, then it will be reviewed by the NYS Office of Parks, Recreation and Historic Preservation (OPRHP). The application will also have to explain why lower impact options are not viable.

The plans submitted with the application must show the area that is to be de-watered in order to complete the construction. The de-watered area should be kept to a minimum and will have to be approved by the DEC and ACOE. The de-watering process must not negatively affect the turbidity of the river. Commonly turbidity curtains are used to both dewater the area and protect the quality of the water. Other imported materials may also be able to be used to construct cofferdams.

There are several other state agencies that are sometimes involved with the permitting requirements for specific construction projects within rivers. For the improvements being considered none of these agencies are involved.
As with any construction projects, if the project will affect more than 1-acre, a State Pollutant Discharge Elimination System (SPDES) Permit must also be obtained. In order to obtain this permit a Storm Water Pollution Prevention Plan (SWPPP) will have to be developed. The SWPPP must be developed in order to prevent the contamination or increased turbidity of waters in and around construction sites.

In addition to the above requirements the City will also have to complete a State Environmental Quality Review. This will require review of the plans by several state agencies including the DEC Division of Fish, Wildlife and Marine Resources and the OPRHP. The SEQR also requires public meetings be held. The City of Watertown has fulfilled many of the SEQR requirements already.

Local Requirements

The proposed improvements must not conflict with area zoning and land use. Any improvements that require a zoning change or variance must be approved by the planning board. The land on the south side of the river is mostly zoned as Residential, while the land on the north side of the river in this area is zoned as Light Industrial, however much of this land is no longer used for industrial purposes.

The property ownership in the area will have to be researched. According to the NYS Office of General Services (OGS) the State does not own land under the Black River, and has not since the late 1700's. Commonly, property ownership for properties on a river is assumed to be to the centerline of the river unless the deed describes the property line as extending along the riverbank. Careful inspection of the deeds of the properties on both sides of the river within the work area will have to be performed by a professional land surveyor to determine property ownership.

The improvements suggested at this location are minor. The amount of material that would likely be necessary could probably be staged on one the adjacent properties that are not currently in use.

Construction Impacts

This area of the river is used by three commercial rafting outfits. It is not likely that the improvements suggested would impede the passage of the commercial rafts

Construction Materials

Much of the construction requires the use of large native stone. There are ample supplies of limestone available for the proposed work. Cofferdam construction may require imported materials or synthetic materials.

Environmental

There were no threatened or endangered species identified by the DEC in this area. The proposed improvements do not appear to be in areas of known environmental contamination.

Permitting

The following permits (listed with the associated regulating organization) will have to be obtained prior to construction of the proposed improvements:

State Environmental Quality Review should be completed by the City. The City should be the lead agency. This includes an Environmental Assessment Form (EAF) - New York State Dept. of Environmental Conservation (NYS DEC)

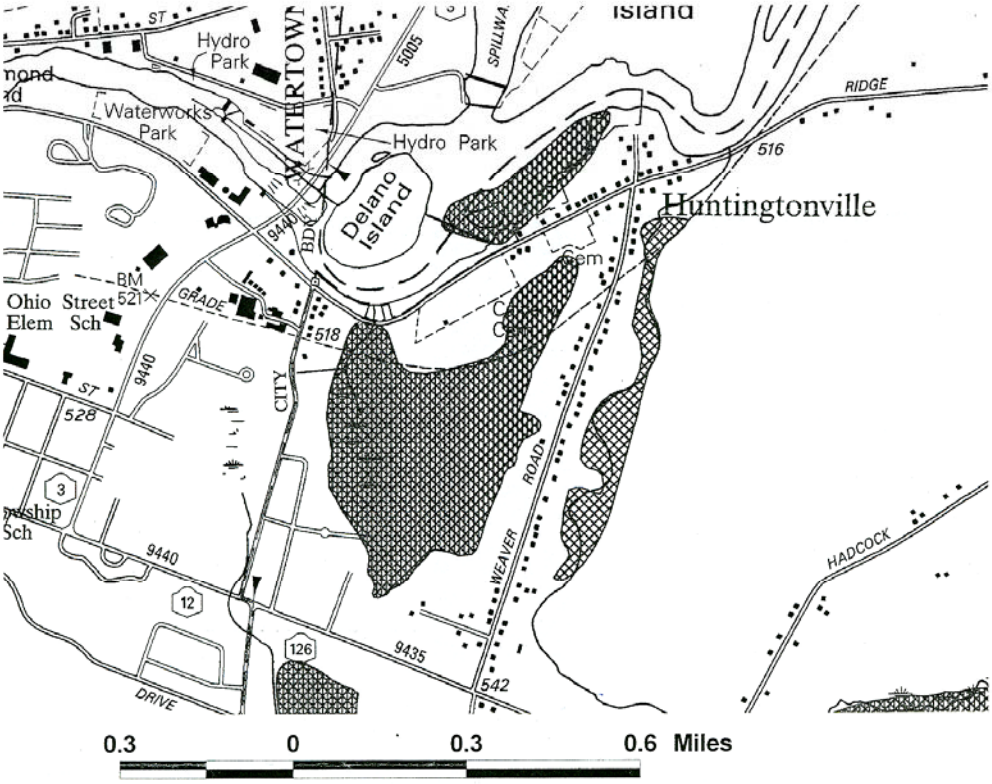
- Section 10 (Rivers and Harbors Act) U.S. Army Corps of Engineers (US ACOE)
- Article 15 (Navigable Waters) NYS DEC
-
- Note: There is a joint application process for Section 10 and Article 15 permits. The permit application will have to be submitted with detailed engineering plans.

- Section 404 (Waters of the United States) US ACOE (if necessary)
- Article 24 (Freshwater Wetlands) NYS DEC (if necessary)

Note: These permits can be applied for in the Joint Application process described above. They will only be necessary for activity within 100 feet of a wetland area. Notably, there is a regulated wetland area near Delano Island that may be affected. This will be determined by the DEC and ACOE once the application is reviewed. Determination by one agency that a permit is not necessary does not mean the other agency will not require it. A copy of a map supplied by the DEC is included on the following page and indicates the wetland area mentioned above.

- Construction, Reconstruction, or Repair of a Dam or Impoundment Structure NYS DEC (if necessary)

Note: This is a supplementary permit that is covered under the Joint Application.



NYS Regulatory Freshwater Wetland
- Class 1
- Class 2
- Class 3
- Class 4
- Uncoded

N
W E
S

- State Pollution Discharge Elimination System General Permit # GP-02-01 –OR– State Pollution Discharge Elimination System General Permit 98-03 NYS DEC

Note: If more than one acre of land is disturbed during construction activities, one of these permits will have to be applied for. The DEC will make the determination which process should be followed. General Permit # GP-02-01 is for general construction activities. General Permit 98-03 is for industrial activities. These permits are applied for by completing a Notice of Intent and require the development of a Storm Water Pollution Prevention Plan (SWPPP).

- Flood Hazard Permit

- Application for Floating Objects Office of Parks, Recreation and Historic Perseveration (OPRHP)

Note: This may be required for projects which include mooring buoys, swim floats, and private navigational aids. The OPRHP will also review the application to ensure the project will not negatively affect historic or cultural resources.

As part of the Joint Application the following must be submitted along with the Application form. This information was obtained from the U.S. Army Corps of Engineers.

All application packages must include the following diagrams/maps on 8-1/2" x 11" paper (large scale drawings may be submitted, but at least one set must be on 8-1/2" x 11" paper).

- A general map showing:
  - The waterway shoreline and waterway name
  - The wetland edge and name (if applicable)
  - The direction of water flow

- The exact location of the proposed project
- The nearest street or road
- The nearest road intersection, or significant landmark
- North arrow (magnetic north)

- A plan view map showing:
  - Waterway name and direction of flow
  - Existing shoreline (water's edge)
  - Property lines; length of property between lot lines
  - North arrow
  - Location of cross-section drawings
  - Existing Federal wetlands, vegetated shallows and/or aquatic beds
  - Ordinary High Water level (if different from existing shoreline)
  - Location, age and dimensions of existing structures, if any; distance from wetlands, waterway and property lines
  - Location and dimensions of proposed structures and fills; distance from wetlands, waterway and property lines
  - Length of water ward encroachment
  - Names of all property owners adjoining proposed work area (depicted on plan view diagram and listed on supplemental mailing list form).

- A cross section map showing the following:
  - Existing shoreline
  - Bank slope and height
  - Waterway bottom
  - Ordinary High Water (OHW) level
  - Wetlands, vegetated shallows, or aquatic beds, if any
  - Proposed structures and fills; type of construction material to be used
  - Height of proposed structures above OHW and/or emergent vegetation
  - Depth of water at water-ward end of proposed structures

- Distance of water-ward encroachment

- A short written narrative describing the purpose and need for the project, how the work will be accomplished, the equipment that will be used, the construction schedule, etc.

- Note: Drawings should be kept as simple as possible to facilitate ease of processing. Engineering-grade drawings, which contain extraneous detail often create confusion and may impede the evaluation process.

- The following information is not required, but may help the process:
  - Photographs
  - Alternative Analysis
  - Wetland Delineation Report(including site description and data sheets)
  - Adequate field markings on the site
  - A conceptual mitigation plan
  - Size and type of equipment to be used to construct the project
  - Secondary environmental impacts that might be expected due to construction of the project. These impacts may or may not be adverse.

The following additional information is required for marinas, mooring buoys, and/or piles:

- Plan View
  - Distance from Federal navigation channel(s), if applicable
  - Location and dimensions of dredging and disposal areas, if applicable
  - Buoys only – location within a designated mooring area, if applicable
  - Adequate field markings on the site

- Cross-sectional View
  - Depth of dredging or excavation, if applicable. Describe the nature of the dredge material and the amount in cubic yards.
  - Buoys only – Illustrate proposed buoy and anchor system

The following additional information is required for breakwaters, groins and jetties:

- Purpose of the project (Why must the structure be constructed?)
- Nature and source of the fill material that will be used to construct the structure.
- When will work be accomplished
- Composition of the substrate in the area where the structure will be constructed
- Details of any associated dredging and/or excavation work that will be required.

Significant Habitat

According to the NYS DEC there are 4 species of threatened or endangered plants in the area. They area as follows:

Crawe's Sedge – Carex crawei – Threatened Species – A map of locations where this species has been found in the past is included on the following page. It appears that the location near the Vanduzee Street Bridge may be the site of the NYS DEC's boat launch. It was last seen at this location on June 9, 1990. The plant was last observed in 1865 at the other locations indicated. One location where it was located is in the riverbed in the area referred to as the S-Bends.

Lake Cress – Neobeckia aquatica – Threatened Species

Listed for Watertown – No specific location provided

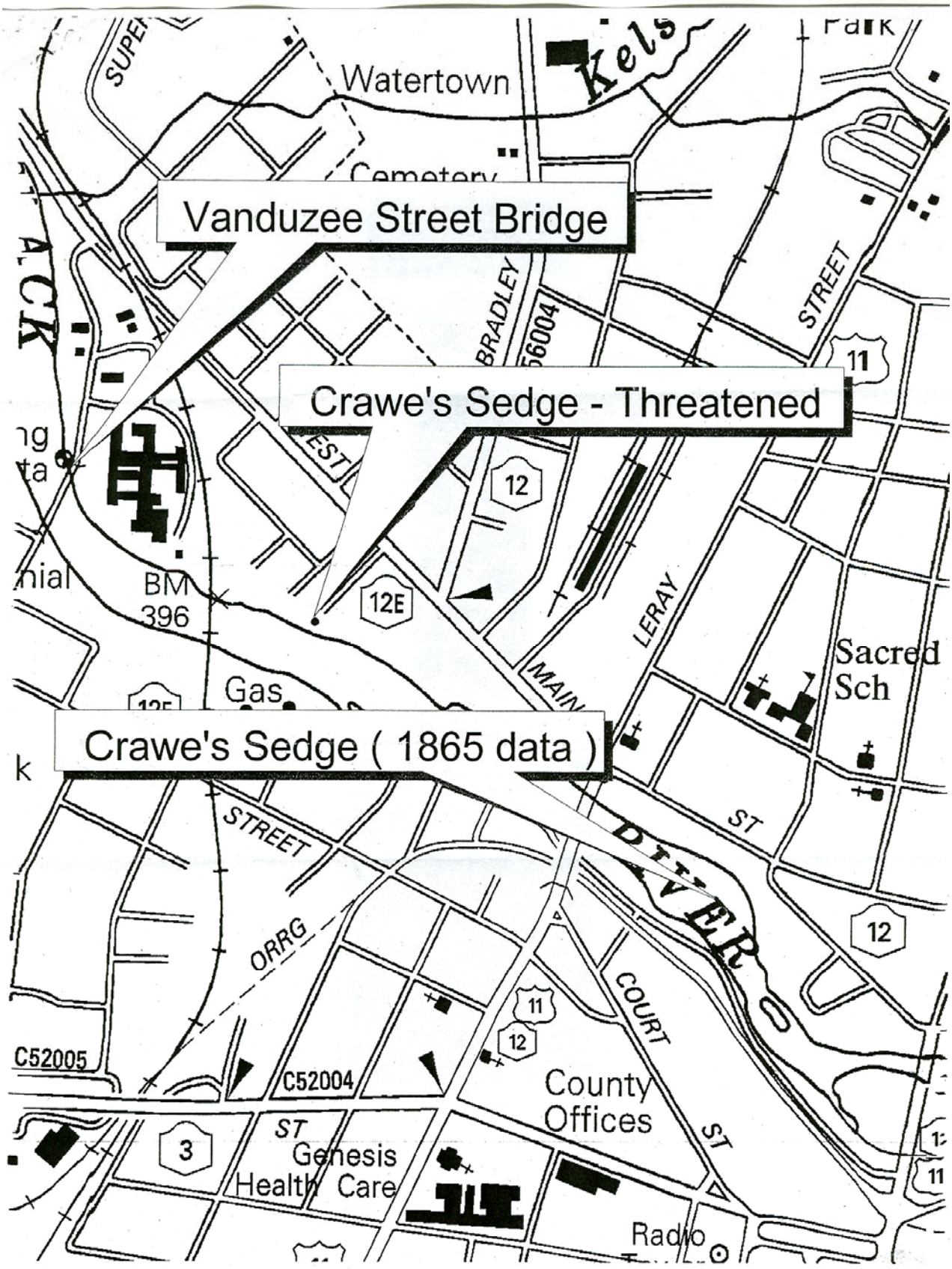
Other species identified by the NYS DEC as a potential concern are listed below. These species do not appear to be present within the projects bounds; however, they are listed for reference purposes.

Northern Stickseed – Hackelia deflexa var.Americana – Endangered Species

Last observed July 12, 1951 in a shaded ravine in massive limestone west of Watertown.

Rocky Mountain Sedge – Carex backii – Threatened

Last observed March 6, 1950 one mile west of Watertown.


Vanduzee Street Bridge
Crawe's Sedge - Threatened
Crawe's Sedge (1865 data)
Watertown
Cemetery
BRADLEY
STREET
11
12
12E
BM
396
Gas
LERAY
Sacred
Sch
MAIN
STREET
ORRG
RIVER
ST
COURT
C52005
C52004
County
Offices
3
Genesis
Health Care
Radio

Implementation Strategy

The Black River Whitewater and Trail Feasibility Study required the design team to look at the Black River Corridor, with an eye towards whitewater recreation, navigability and trail/pedestrian continuity, within the larger context of the State of New York Local Waterfront Revitalization Plan (LWRP). The City of Watertown has a stated goal of creating whitewater features that will attract tourism to the Watertown area, host large competitive events, and provide in-stream recreation for local boaters.

The proposed project taken in its entirety is a large and complex enhancement of the Black River Corridor through Watertown. Given the amount of private property and re-development that will go hand in hand with the improvements and the economic hurdles that the City faces, it is unrealistic to expect that the proposed improvements will be completed in one, publicly funded, effort. Phasing plans need to be flexible to allow for unexpected opportunities; however, a rough outline for completion of projects is useful.

Funding for this type of project typically encompasses a mix of private and public sources and is obtained on a project-by-project basis.

Project Phasing

A phasing plan for the proposed improvements may be useful. Ultimately a mix of community initiative and private re-development is going to dictate the pace and sequence of completion of projects. For this reason it is not useful to simply assign a firm ranking to projects. For the purpose of this report projects have been classified in three categories:

1) Stand Alone. Stand-alone projects can be completed by the City for a reasonable investment of funds and do not require extensive re-development or adaptive reuse of industrial sites or hydroelectric operations. These projects also do not require that other sites be completed for access and can be used as recreational sites without dependence on other sites.

2) Opportunity Areas. Areas of opportunity are sites that may have very high value to the community as a recreational resource, but the impetus for completion of these projects may rise from external opportunities. These sites will almost always require a public/private partnership and may be linked to broader re-development opportunities that are spelled out in the LWRP.

3) Project Links. Late stage projects include sites that hold no critical importance as individual projects but that are important as other sites are phased in over time.

Stand Alone Projects

The following improvements should be considered early and will serve as foundational projects, demonstrating the City's and the community's commitment to transformation of the Black River corridor.

- **Hole Brothers**: Access, bank and trail improvements will provide a recreational enhancement for a well used resource as well as serve as an anchor for future business re-development in the area.

- **Route 3 Wave**: Access, trail and bank improvements at the Route 3 Wave are relatively inexpensive and provide enhancements for a popular attraction for Watertown. The Route 3 Wave has also been a successful venue for national level competitions and site improvements will create a more useable location as these events grow.

- **The First Three and Riverwalk**: While these improvements involve larger costs and more involved engineering and permitting requirements, they can be completed without impacting hydroelectric operations, without substantial re-development of adjacent lands and are accessible from existing public amenities.

Opportunity Areas

The following improvements and sites encompass the most exciting opportunities and greatest challenges proposed by this study. While there are real and somewhat daunting challenges with these sites, there are also tremendous benefits to be reaped by the community if these projects are completed.

- **Horseshoe Dam**: Navigation and creation of additional park-and-play opportunities above the Route 3 Wave area will add features and attractions to this, already popular, destination. These improvements also serve as the beginning of the Town Run and put-in for paddle-through users.

- **Sewall's Island**: Sewall's Island improvements could be phased in a number of ways over the course of time. Almost any conceivable combination of the three options described in the Feasibility Study would create a significant recreational anchor for the Island. The lower end of the South Channel could be completed initially as a destination whitewater park, in the event that public access was created from the Island. Recreational improvements on Sewall's Island will most likely be driven by a private/public clean up and re-development of the island. This site should become the number one priority when the opportunity arises.

- **Beebee's Island**: Adaptive reuse of the tailrace at Beebee's Island is, in some regards, the idea that is too exciting to disregard, despite the obvious and numerous challenges that exist. This concept, referred to in this study as the Mill Street Canyon, would create a singular and world class attraction in the heart of Watertown's historic business district. The Mill Street Canyon will take a mix of community momentum and a potential future relocation of some of the existing businesses.

Project Links

The following sites do not hold keystone importance to the larger vision of a revitalized Black River corridor. However, as projects are phased in and the reality of a navigable Black River through Watertown becomes more distinct, these projects will become more critical.

- **Delano Island Dam**: The proposed modifications of Delano Island Dam would provide passage from the popular flatwater area above Route 3 and remove a significant safety hazard from the study area. However these improvements are relatively costly in relationship to their overall contribution.

- **Diamond Island Dam**: There is not sufficient flow, under the normal conditions of the Black River, at the crest of the Diamond Island dam to create a world class whitewater destination. However navigation past the dam becomes critical if and when improvements are completed at Sewall's Island in order to create a river-way link from the Route 3 Wave to Sewall's Island.

- **Vanduzee Street**: The proposed improvements at Vanduzee Street are not critical except as a take-out for the town run, or paddle-through Watertown experience. If all of the upstream improvements were completed, then enlargement of the existing parking area and enhancement of the slack water along the bank would make sense at Vanduzee Street.

Funding Sources/Mechanisms

Projects of this magnitude are a heavy burden for a municipality of the size of Watertown. However, deliberate and consistent budgeting of funds as matching funds for grants or smaller improvements will serve as the seed money for the ultimate realization of this vision of the Black River corridor. Completed projects, even relatively small projects, are often the

spark that creates momentum for future, larger, project elements. There are several general mechanisms for funding the proposed improvements:

- **Taxpayer Financed Bond Issues**: The taxpayers in Watertown or the surrounding region may be asked if the community would be willing to fund a series of the proposed projects along the Black River over time. This mechanism has the distinct advantage of allocating larger sums of money for projects in one package.

- **Public/Private Partnerships**: As private industries or businesses re-develop adjacent lands along the Black River the City of Watertown will have opportunities to partner with private entities to complete individual projects. All of the proposed projects have real and tangible benefits for businesses looking at re-development opportunities along the Black River. Distinct potential partners in some of these improvements are the energy companies who own assets along the Black River. There would be mutual benefits to the City of Watertown and energy companies partnering to complete some of the recommended dam modifications.

- **Grassroots Fundraising/Community Involvement**: In all of the similar projects all over the country, invariably there is a core of hard working, committed residents who create the backbone of a community's ability to complete a project. Many local communities have partnered with local non-profit groups that are formed to assist in the completion of a project or already exist and have a congruent mission.

Management and Operation

All of the proposed improvements are envisioned as public amenities, free and open to the wide range of potential users. In this manner they can viewed as being managed like any other public park improvement. In-stream improvements are generally maintenance free unless they are damaged during a catastrophic flood event. Trails and park spaces are already being managed by the City and the access improvements detailed in this report require much of the same maintenance. There are some portions of recommended trail extensions that would, during periods of high flow, be covered in water. However, this is a

common scenario on greenways and along river corridors around the country and simple signage to alert the public to trail closures is usually sufficient.

A more detailed analysis of the legal and liability issues related to boat chutes past dams in the State of New York would be required before implementation of the proposed dam modifications. However it is worth noting that all of the proposed improvements greatly enhance the safety of the Black River in Watertown and that the existing conditions are hazardous for navigation by canoes, rafts and kayaks, as well as less skilled users.

Conclusions

There are many appropriate sites for development within the selected reach of the Black River within the City of Watertown. The Black River possesses adequate flow and drop throughout the reach and there are, in fact, many natural features such as the Route 3 Wave that are already heavily utilized by in-stream users. The City and residents of Watertown will be the prime users of these projects and their objectives for in-stream modification can be summarized into three general objectives: a) Enhance current usage and provide an attraction for large events such as the U.S. Freestyle Team Trials and North American Championships; b) Provide and enhance development opportunities for both recreation and mixed use development; and c) Create a link between the City, with its history and culture, and the Black River, with its recreational attraction and stunning natural beauty. This feasibility study quickly focused on ways to make the entire reach navigable by enhancing the many in-stream diversion structures to create whitewater on the downstream side of the diversion while preserving the utility of the diversion as a source of energy. Sites evaluated for improvement in this study include Delano Island, the Horseshoe Dam, the Route 3 Wave, Diamond Island, Sewall's Island, Beebee's Island, the Hole Brother's Wave and Vanduzee Street Bridge.

In-stream improvements are highly recommended for the Black River in Watertown, New York. These improvements could take many different shapes and forms but an analysis of typical users of the proposed park suggests that improvements that are linked with the City

through parks and trails and which allows for park-and-play, paddle through, and instructional paddling would provide the most benefit. Those improvements that are far upstream of Watertown's downtown district are designed to augment and improve Watertown's ability to continue to host large competitive events and maintain the excellent standard of boating that exists in Watertown at present. Those improvements designed at Sewall's Island are intended to enhance any future development at this site and to serve as an attraction that would augment any new development at this site. Lastly, the Mill Street Canyon concept is designed to create a central whitewater facility right in the heart of downtown Watertown. This facility would host large whitewater events, serve as a tourist attraction, and showcase Watertown's storied history in the form of a float-through river corridor that passes through the heart of Watertown's industrial roots.

The proposed improvements will take a significant investment on the part of the City of Watertown. Multiple layers of environmental review and permitting are required and given Watertown's long history of industry and current hydroelectric operations, the proposed improvements will be complex in nature. However a logical phasing plan will allow the community to set smaller goals that fit into the larger vision detailed within this report.

Ultimately the Black River is a tremendous asset to the City of Watertown and recreational improvements will provide direct benefit to the local economy and quality of life. The transition from an industrial based economy and culture is a long and winding road. The Black River Whitewater and Trail Feasibility Study is a tool to guide the transition as it occurs along the river corridor.

Appendix 1. Cost Estimates

Watertown, Delano Island Site, Option 1

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$50,000.00	$50,000.00
2	Water control	L.S.	L.S.	$25,000.00	$25,000.00
3	Drop #1, "U" drop. Includes rock placement, pool excavation, water control and backfill	1500	Cubic Yards 6' dia. smooth rock	$75.00	$112,500.00
4	Concrete grout pumped within voids in rock as directed.	225	Cubic Yards	$180.00	$40,500.00
				Subtotal:	$228,000.00
				Contingency (.25%)	$57,000.00
				Total:	**$285,000.00**

Watertown, Delano Island Site, Option 2

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$70,000.00	$70,000.00
2	Water control	L.S.	L.S.	$200,000.00	$200,000.00
3	Notching dam and placement of rock berm including all water control, excavation, rock placement and backfill	4500	Cubic Yards 6' dia. smooth rock	$75.00	$337,500.00
4	Drop #1, "U" drop. Includes rock placement, pool excavation, water control and backfill	1600	Cubic Yards 6' dia. smooth rock	$75.00	$120,000.00
5	Concrete grout pumped within voids in rock as directed.	915	Cubic Yards	$100.00	$91,500.00
				Subtotal:	$819,000.00
				Contingency (.25%)	$204,750.00
				Total:	**$1,023,750.00**

Watertown, Horseshoe Dam Site

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$30,000.00	$30,000.00
2	Water control	L.S.	L.S.	$25,000.00	$25,000.00
3	Drop #1, "U" drop. Includes rock placement, pool excavation, water control and backfill	2473	Cubic Yards 6' dia. smooth rock	$75.00	$185,449.20
4	Drop #2, "U" drop. Includes rock placement, pool excavation, water control and backfill	606	Cubic Yards 6' dia. smooth rock	$75.00	$45,422.40
5	Drop #3, "U" drop. Includes rock placement, pool excavation, water control and backfill	957	Cubic Yards 6' dia. smooth rock	$75.00	$71,773.24
6	Concrete grout pumped within voids in rock as directed.	605	Cubic Yards	$180.00	$108,952.14
				Subtotal:	$466,596.98
				Contingency (.25%)	$116,649.24
				Total:	**$583,246.22**

Watertown, Route 3 Wave

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$10,000.00	$10,000.00
2	Parking Lot	4000	square feet	$8.00	$32,000.00
3	Concrete path including all grading, site preparation, forming and pouring of concrete	600	Linear Feet	$45.00	$27,000.00
4	Limestone stairs including all ground preparation, Natural rock placement, forming and grouting, and rail placement	1	Lump Sum	$30,000.00	$30,000.00
5	Selected natural bank improvements including all acquisition, placement and backfill	100	Cubic Yards 6' dia. smooth rock	$75.00	$7,500.00
				Subtotal	$106,500.00
				contingency (.25%)	$26,625.00
				Total:	$133,125.00

Watertown, Diamond Island Site

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$30,000.00	$30,000.00
2	Water control	L.S.	L.S.	$25,000.00	$25,000.00
3	Drop #1, "U" drop. Includes rock placement, pool excavation, water control and backfill	4006	Cubic Yards 6' dia. smooth rock	$75.00	$300,440.54
4	Drop #2, "U" drop. Includes rock placement, pool excavation, water control and backfill	1153	Cubic Yards 6' dia. smooth rock	$75.00	$86,462.30
5	Drop #3, "U" drop. Includes rock placement, pool excavation, water control and backfill	917	Cubic Yards 6' dia. smooth rock	$75.00	$68,777.78
6	Concrete grout pumped within voids in rock as directed.	911	Cubic Yards	$180.00	$164,045.02
7	Concrete path including all grading, site preparation, forming and pouring of concrete	950	Linear Feet	$45.00	$42,750.00
				Subtotal	$717,475.65
				contingency (.25%)	$179,368.91
				Total:	$896,844.56

Watertown, Sewall's Island, Option #1

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$30,000.00	$30,000.00
2	Water control	L.S.	L.S.	$25,000.00	$25,000.00
3	Drop #1, "U" drop. Includes rock placement, pool excavation, water control and backfill	3445	Cubic Yards 6' dia. smooth rock	$75.00	$258,369.88
4	Drop #2, "U" drop. Includes rock placement, pool excavation, water control and backfill	1928	Cubic Yards 6' dia. smooth rock	$75.00	$144,576.11
5	Drop #3, "U" drop. Includes rock placement, pool excavation, water control and backfill	474	Cubic Yards 6' dia. smooth rock	$75.00	$35,577.37
6	Concrete grout pumped within voids in rock as directed.	877	Cubic Yards	$180.00	$157,868.41
7	Selected Bank terracing including all excavation, placement and backfill	600	Linear Feet	$30.00	$18,000.00
8	Concrete path including all grading, site preparation, forming and pouring of concrete	700	Linear Feet	$45.00	$31,500.00
				Subtotal:	$700,891.77
				contingency (.25%)	$175,222.94
				Total:	$876,114.71

Watertown, Sewall's Island, Option #2

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$40,000.00	$40,000.00
2	Water control	L.S.	each	$25,000.00	$25,000.00
3	Removal of Existing Concrete Diversion Structure	L.S.	L.S.	$450,000.00	$450,000.00
4	Major Excavation and grading works including all regrading, placement, compaction and lining.	L.S.	L.S.	$600,000.00	$600,000.00
5	All Rock Structures placed in Channel includes rock placement, pool excavation, water control and backfill	3557	Cubic Yards 6' dia. smooth rock	$75.00	$266,804.03
6	Concrete grout pumped within voids in rock as directed.	534	Cubic Yards	$180.00	$96,049.45
7	Selected Bank terracing including all excavation, placement and backfill	2000	Linear Feet	$30.00	$60,000.00
8	Concrete path including all grading, site preparation, forming and pouring of concrete	2600	Linear Feet	$45.00	$117,000.00
				Subtotal:	$1,654,853.48
				contingency (.25%)	$413,713.37
				Total:	$2,068,566.85

Watertown, Sewall's Island, Option #3								Item Total Price
Item Number	Description		Estimated Quantity		Unit		Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.		1		L.S.		$70,000.00	$70,000.00
2	Drop Structures		4500		Cubic Yards		$60.00	$270,000.00
3	Channel Clean-Up Selective Improvements		1		L.S.		$85,000.00	$85,000.00
4	Bank Terracing/Re-grading		1500		Lin Feet		$35.00	$52,500.00
5	Concrete Trail		1200		Lin Feet		$45.00	$54,000.00
							Subtotal:	$531,500.00
							contingency (.25%)	$132,875.00
							Total:	$664,375.00

Watertown, Beebee's Island

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$60,000.00	$60,000.00
2	Water control	L.S.	each	$10,000.00	$10,000.00
3	Removal of Existing Concrete Structures	L.S.	each	$300,000.00	$300,000.00
4	Major Excavation and grading works including all regrading, placement, compaction and lining.	L.S.	each	$800,000.00	$800,000.00
5	Channel Costs	1003	Lin foot	$664.37	$666,363.11
6	Pond Costs	45000	sq ft	$7.86	$353,700.00
7	Selected Bank terracing including all excavation, placement and backfill	3500	Linear Feet	$30.00	$105,000.00
8	Concrete path including all grading, site preparation, forming and pouring of concrete	1700	Linear Feet	$45.00	$76,500.00
				Subtotal:	$2,371,563.11
				contingency (.25%)	$592,890.78
				Total:	$2,964,453.89

Watertown, First Three/Riverwalk

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$30,000.00	$30,000.00
2	Concrete path including all grading, site preparation, forming and pouring of concrete	800	Linear Feet	$65.00	$52,000.00
3	Whitewater drop strucutre, 6' min. diameter native stone	1500	Cubic Yards	$75.00	$112,500.00
4	Water Control	1	L.S.	$50,000.00	$50,000.00
				Subtotal:	$244,500.00
				contingency (.25%)	$61,125.00
				Total:	$305,625.00

Watertown, Hole Brothers

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$12,000.00	$12,000.00
2	Stone Terracing on banks	580	Cubic Yards	$75.00	$43,500.00
3	Concrete path including all grading, site preparation, forming and pouring of concrete	400	Linear Feet	$65.00	$26,000.00
4	Restoration & Stabilization of existing concrete structure & stone wall repair	1	L.S.	$65,000.00	$65,000.00
				Subtotal:	$146,500.00
				contingency (.25%)	$36,625.00
				Total:	$183,125.00

Watertown, Vanduzee Street Bridge

Item Number	Description	Estimated Quantity	Unit	Unit Price	Item Total Price
1	Mobilization to include costs for bonding, insurance, traffic control, staging, etc.; no measurement for payment shall be made of any of the work, materials and equipment used for mobilization.	L.S.	each	$10,000.00	$10,000.00
2	Deflector #1, "U" drop. Includes rock placement, pool excavation, water control and backfill	126	Cubic Yards 6' dia. smooth rock	$75.00	$9,433.13
3	Concrete path including all grading, site preparation, forming and pouring of concrete	200	Linear Feet	$5.00	$1,000.00
				Subtotal:	$20,433.13
				contingency (.25%)	$5,108.28
				Total:	$25,541.41

Appendix 2. Agency Comments

The following comments were received from the New York Department of Environmental Conservation and US Army Corps of Engineers. These comments were based on a cursory review of the first phase of conceptual designs and do not constitute an official agency review of the proposed project.

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 6
Dulles State Office Building, 317 Washington Street, Watertown, New York 13601-3787
Phone: (315) 785-2245 • **FAX:** (315) 785-2242
Website: www.dec.state.ny.us

Denise M. Sheehan
Acting Commissioner

April 26, 2005

Mr. William Plante, PLS
Environmental Department Manager
GYMO P.C.
220 Sterling Street
Watertown, NY 13601

RE: WHITEWATER IMPROVEMENTS
WATERTOWN, NY

Dear Mr. Plante:

We are in receipt of your recent letter concerning whitewater improvements the City of Watertown is considering in the Black River. Please be advised that any excavation or filling in the Black River would require an Article 15 permit since the Black River is a navigable body of water. A similar permit would be required from the Army Corps of Engineers under Section 10 - Rivers and Harbors Act.

There is a regulated freshwater wetland at Delano Island (wetland RU-3- refer to the attached map) and any activity in or within 100 feet of the wetland would require an Article 24 - Freshwater Wetland Permit.

Requirement of the State Environmental Quality Review (SEQR) law should be completed by the City prior to submitting any applications to the Department. The City should act as lead agency, do a coordinated review and then make a determination of significance relative to the proposed action. Since there are divergent interests among whitewater groups, it is important that the City satisfy SEQR requirements to prevent possible legal action on the applications.

The Department maintains a fisherman parking and access site along the Black River at VanDuzee Street. There is an inactive hazardous waste site off Engine Street as shown on the enclosed map.

There are two specific locations (map attached) for Crawe's Sedge - Carex crawei. This plant is listed as a threatened species. The site closest to Vanduzee Street Bridge was last noted on June 9, 1990. The upstream location was last observed in 1865.

For general coverage of the area, the following additional species were listed:

Northern Stickseed - Hackelia deflexa var.americana - endangered
Last observed July 12, 1951 - Shaded ravine in massive limestone west of Watertown.

Lake Cress - Neobeckia aquatica - threatened
Last observed - No date available
Listed for Watertown, No specific location provided.

Rocky Mountain Sedge - Carex backii - threatened
Last observed - March 6, 1950 - One mile west of Watertown

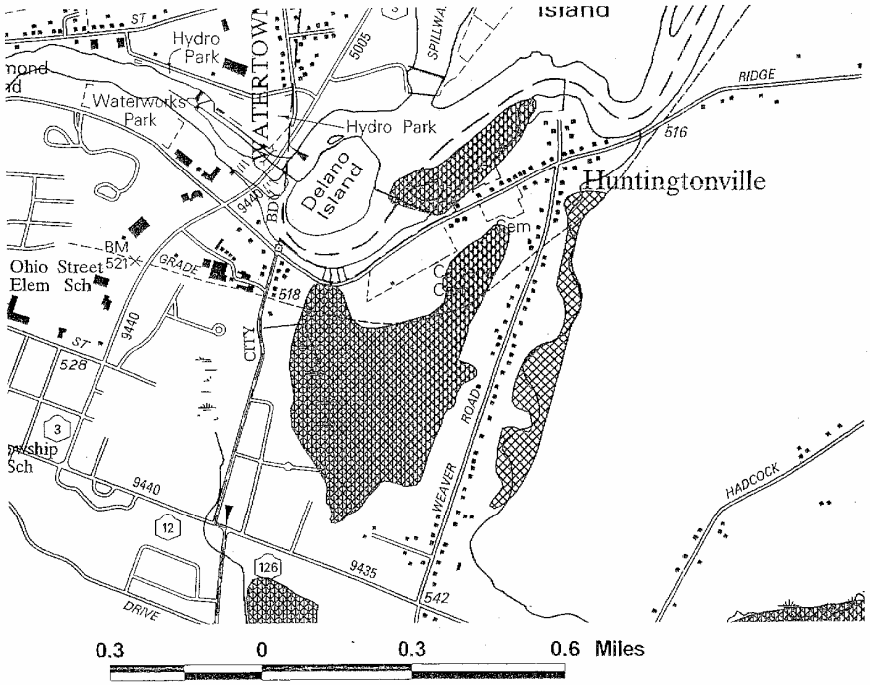
Please feel free to contact me if you have any questions on this letter.

Sincerely,

Brian Fenlon

Brian D. Fenlon
Supervisor of Environmental Permits
Region 6

BDF:sgs



NYS Regulatory Freshwater Wetland
- Class 1
- Class 2
- Class 3
- Class 4
- Uncoded

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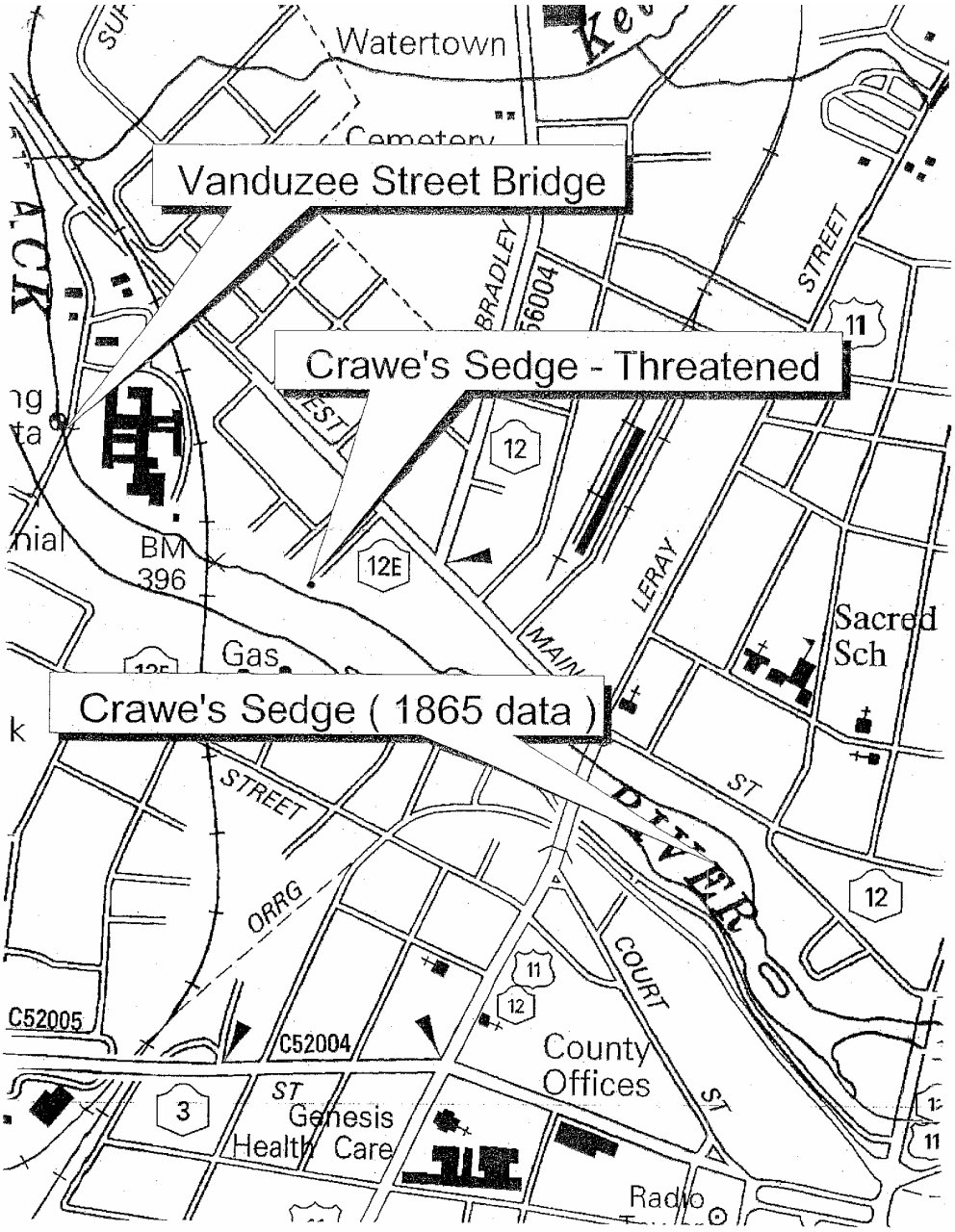
Watertown
Vanduzee Street Bridge
Crawe's Sedge - Threatened
Crawe's Sedge (1865 data)
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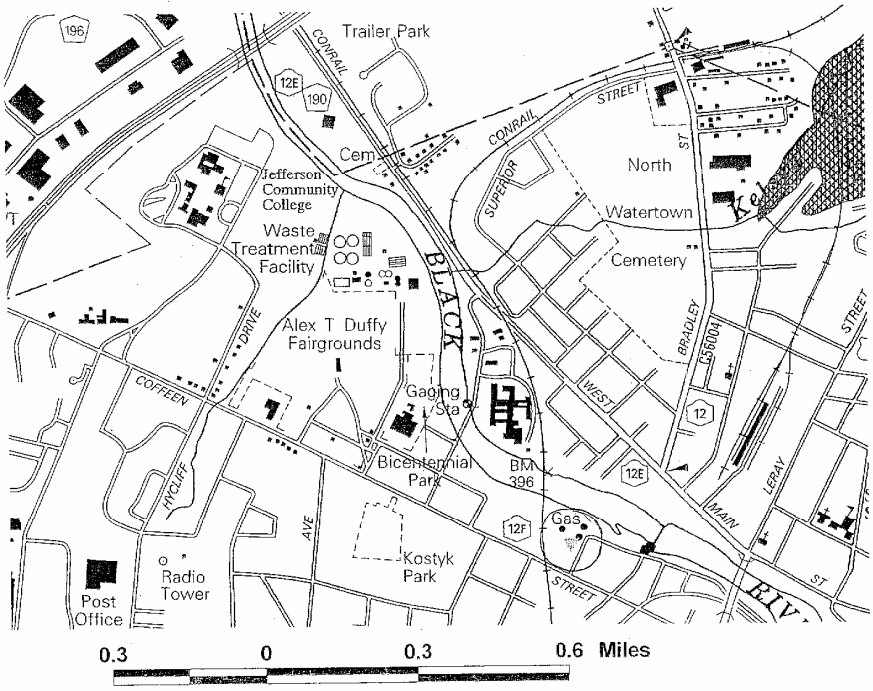
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Trailer Park
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Jefferson Community College
Waste Treatment Facility
BLACK
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DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
ATTENTION OF:

April 25, 2005

Regulatory Branch

SUBJECT: Department of the Army Permit Requirements, Application No. 2005-01239(0)

RECEIVED APR 2 7 2005

Mr. William Plante
220 Sterling Street
Watertown, New York 13601

Dear Mr. Plante:

Reference is made to our recent telephone conversation in which you requested information on Department of the Army permit requirements for breakwaters, jettys, and groins, boat ramps, launches, mooring buoys, in water structures, and pilings.

Under Section 10 of the Rivers and Harbors Act of 1899, and Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers has regulatory authority over construction, excavation, or deposition of materials in, over, or under navigable waters of the United States. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States, including freshwater wetlands. Certain types of excavation activities are defined as discharges of dredged material when they occur in waters of the United States. For instance, landclearing using mechanized equipment, ditching, channelization and other types of excavation when performed in such waters, including wetlands, would likely be regulated under Section 404 of the Clean Water Act.

In response to your request, I am enclosing the following:
a. a Department of the Army permit application
b. a list of required drawing elements

Prior to submitting your application, please ensure that all of the requested information is properly identified and labelled to ensure that we can readily conduct our evaluation. If you are enclosing photographs, the photo locations should be indicated on one or more of the attached maps. Although it is not possible to predict how long it will take to complete our evaluation, a properly completed application will expedite this process. Your cooperation in this matter is appreciated. Finally, in addition to our review, your application will be forwarded to the New York State Department of Environmental Conservation (DEC). DEC will

determine, independent of our review, if your project requires a state permit. DEC will directly notify you of their determination. If you do not hear from DEC prior to when you intend to initiate work you are strongly encouraged to contact DEC to ensure that you have fulfilled all their regulatory requirements. For your reference, a list of DEC regions, with addresses and telephone numbers, is included on the back of the application.

Questions pertaining to this matter should be directed to me at (716) 879-4337, by writing to the following address: U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207, or by e-mail at: vincent.d.pero@usace.army.mil

Sincerely,

Vincent D. Pero
Biologist

Enclosures

Department of the Army Permit Requirements

All application packages must include the following diagrams/maps on 8-1/2" X 11" paper (large scale drawings may be submitted, but at least one set of drawings must be on 8-1/2" X 11" paper):

A general location map showing the following:

1. The waterway shoreline and waterway name (if applicable)
2. The wetland edge and name (if applicable)
3. The direction of water flow (if applicable)
4. The exact location of the proposed project
5. The nearest street or road
6. The nearest road intersection, or significant landmark
7. The nearest town or village
8. North arrow (magnetic north)

An acceptable "general location" map may consist of a street map, road atlas, USGS topographic map, or other similar map, providing that sufficient detail is included to locate the project within the surrounding region. Tax maps and/or property surveys are generally not acceptable examples of "general location" maps because they do not always "key" into the region surrounding the property where the project is located.

A plan view map showing the following:

1. Waterway name and direction of flow
2. Existing shoreline (water's edge)
3. Property lines; length of property between lot lines
4. North arrow
5. Location of cross-section drawings
6. Existing Federal wetlands, vegetated shallows and/or aquatic beds, if any
7. Ordinary High Water level (if different from existing shoreline)
8. Location, age and dimensions of existing structures, if any; distance from wetlands, waterway and property lines
9. Location, age, dimensions and composition of existing fills, if any; distance from wetlands, waterway and property lines
10. Location and dimensions of proposed structures and fills; distance from wetlands, waterway and property lines
11. Length of waterward encroachment
12. Names of all property owners adjoining proposed work areas (depicted on plan view diagram and listed on supplemental mailing list form).

A cross section map showing the following:

1. Existing shoreline
2. Bank slope and height
3. Waterway bottom
4. Ordinary High Water (OHW) level
5. Wetlands, vegetated shallows, or aquatic beds, if any
6. Proposed structures and fills; type of construction material to be used
7. Height of proposed structures above OHW and/or emergent vegetation
8. Depth of water at waterward end of proposed structures
9. Distance of waterward encroachment

In addition to the required application drawings, and completed and signed application form, applicants should include a short written narrative describing the purpose and need for the project, how the work will be accomplished, the equipment that will be used, the construction schedule, etc.

Note: In order to facilitate ease of processing, drawings should be kept as simple as possible. Engineering-grade drawings, which contain extraneous detail often create confusion and may impede the evaluation process.

The following information, while not technically required for a complete application, will assist in our review of the proposal:

1. Photographs.
2. Alternative Analysis.
3. Wetland Delineation Report (including site description and data sheets).
4. Adequate field markings on the site.
5. A conceptual mitigation plan.
6. Size and type of equipment to be used to construct the project.
7. Secondary environmental impacts that might be expected due to construction of the project. These impacts may or may not be adverse.

MARINAS, MOORING BUOYS, PILES

The following additional information must be provided for all marinas, mooring buoys, and/or piles:

Plan View

1. Distance from Federal navigation channel(s), if applicable
2. Location and dimensions of dredging and disposal areas, if applicable
3. **Marinas only** - Provisions for maintaining water quality (i.e. water circulation and basin flushing) and dissolved oxygen levels within the boat basin
4. **Buoys only** - location within a designated mooring area, if applicable

Cross-sectional View

1. Depth of dredging or excavation, if applicable. Describe the nature of the dredge material and the amount in cubic yards.
2. **Buoy only** - Illustrate proposed buoy and anchor system

BREAKWATERS, GROINS, AND JETTIES

The following additional information must be provided for all breakwaters, groins, and/or jetties:

1. Purpose of the project (Why must the structure be constructed?)
2. Nature and source of the fill material that will be used to construct the structure.
5. When will the work be accomplished
6. Composition of the substrate in the area where the structure will be constructed.
7. Details of any associated dredging and/or excavation work that will be required.

Appendix 3: Public Comment

General Design Principals for In-stream Improvements Recreation, Engineering and Planning, Boulder, Colorado:

The Black River is an outstanding whitewater resource and there are ample opportunities to enhance this resource for the local residents and the broader paddling community. The number one design principal, being explored initially, is the creation of a continuous stream corridor, for both downstream paddling and along the riparian corridor. This goal may be attained by creating safe boat passage and park-and-play opportunities at the all of the dams found within the project area and creating a continuous trail corridor along the river from the Horseshoe Dam to the Vanduzee Street Bridge. The following areas of interest are being explored and investigated in advance of considering conceptual designs for in-stream whitewater improvements.

Black River Whitewater and Trail Feasibility Study:

Note- the outline follows the course of the river from upstream at the Horseshoe Dam and Delano Island downstream through the Vanduzee Bridge. Any area not specifically noted in the outline while not immediately seen as requiring intensive improvements may require selective clean up and restoration within the stream corridor.

1. Route 3 Wave Area- Horseshoe Dam and Upstream Delano Island Dam

-Modification of both dams for safe passage and park-and-play whitewater opportunities.
- Trail Connection from area to the existing RR grade trail.
- Preserve whitewater play spot at the Route 3 wave, no obvious in-stream improvements recommended.
- Enhance access on both sides of Rt. 3 Wave, natural stone staircase on river right side, through cliff band. Trail connection to limestone ledge on river left, utilizing existing diversion remnants.

2. Diamond Island

- Dam modification, river left channel bypass and park-and-play whitewater opportunities, maintain head and step dam down to grade.
- Portage trail
- Continuous river trail (possible land acquisition, home purchase by City of Watertown along Huntington Street.

3. Sewall's Island

- Dam modification, river left bypass channel/park-and-play whitewater, maintain head and step dam down to grade.
- Trail crossing onto island trail on island utilizing existing City owned RR grade.
- Sewall's Island, work with Behan Planning to create integrated concept on the island merging, in-stream, trail and access improvements with possible recreation and commercial development on island.
- Ideal location for a Slalom Course along the Sewall's Island. Narrow, high gradient, excellent existing whitewater characteristics. Minimal in-stream improvements needed, possible selective enhancements including island creation and mid-stream deflectors.

4. Mill Street, Falls & Beebee's Island (detailed mapping required)
- Critical area, challenging, however could ultimately be the key link to creating a continuous trail and stream corridor through Watertown.
- Boat and fish passage through existing diversion channel
- Subterranean pedestrian trail and controlled low flow channel "Mill Street Canyon"
- Ownership and operational information needed in order to consider this option.

5. Hole Brothers
- In-stream modifications (preserve existing whitewater play)
- Organize and define channels. Create additional surf waves and play spots that come in at different flows.
- River left and right bank access improvements.

Personal Observations: The Black River through Watertown, from the perspective of an outside, whitewater enthusiast, is a truly unique stretch of whitewater. The River has very attractive natural qualities including whitewater play boating, limestone cliffs and attractive riparian vegetation. The mix of human history and natural elements make it a fascinating float. The historic buildings located along the corridor are not seen as an eyesore but rather a unique resource. The dams do, however represent a significant challenge and hindrance to downstream passage. With modification of the dams and trail and access improvements Watertown would boast, arguably the finest urban whitewater stretch in the nation.

Public Meeting
7:00-9:45 PM March 17, 2005
State Office Building
317 Washington Street
Watertown, NY 13601

Mike Harvey and Scott Shipley (REP) presenting

Gave overview of other projects and concerns commonly dealt with
Described concepts for Watertown

Others at meeting:

Jeff Graham
Mary Corriveau
Frank Wheel
Bob Peterson
Reg (RJ) Schweitzer
Andy Short
Ken Mix

Mike Lumbis
Jon Elmer
Bonnie Devine- D.O.S. Coastal Resources Rep.
John Michael
Norman Waite
Christine Hoffman

Questions, Comments & Concerns from Community

Will local contractors be hired to do work?

Will fishing and fish habitat be considered?

Need ramps and access to river.

What funding sources will be used?

Veteran's Park-need to improve accessibility

When was licensing agreement made and where?

What are liabilities and how will you handle them?

What level of features will be constructed (expert, intermediate, beginner, etc)?

Sewall's Island – how is water "acquired" ----BRASCAN willing to give up water?
What about stretch downstream of Sewall's Island Dam on left branch down to Pearl St. Bridge?

Fishing access from shore in downtown?

Why no improvements in S-bend area?

This area is underutilized…may increase if people had place to "hang"

Left hand side of Hole Bros could be good for beginners...may not want to change that.

Funneling @ Hole Bros might ruin right bank surfing for rafters.

Sewage Treatment Plant takeout area ---could be good for beginners

Would you clean up debris, etc while making improvements?

May consider supporting existing structure/feature at Hole Bros to keep from deteriorating further (debate on whether Hole Bros has changed in last few years.)

Facilities needed at Hole Bros---suggested to maybe expand DPW building for said facilities

Restrooms needed across the length of the River

Steel debris in water---what to do?

Worried about losing rafting time during construction? What will you do?

Where should focus be placed?

S-turn area – already city owned, 3 channel section

Priorities - #1 – Cleanup

#2 – Additional Features to mitigate potential crowding

Sewall's below tale race to west tip (river left)

Focus on downtown area.

Boating (raft) friendly areas (address specifically)

Discuss river cleanup

1412 Huntington Street
Watertown, New York 13601
sleinad@gisco.net
tommygunn44@hotmail.com
(315) 782-0705 (315) 486-7864

Black Water Development Corp.

February 18, 2006

To Whom It May Concern:

We are sending this letter to advise that we will be unable to attend the LWRP meeting which is to be held on March 17th, 2005. We have been looking forward to this meeting as we have been involved in the Entire Vision Plan Phase and we were in attendance at the first LWRP presentation meeting held by Behan and Associates at the State office Building. Unfortunately, other business takes us out of the country on this date.

We do, however, feel compelled once again to mention that Black Water Development Corp. has done extensive research concerning wave modification at the Route 3 Wave area and along with GYMO Architectural and Engineering as well as Eric Jackson and team , have found this area to be the most easily adaptable for modification.

We agree that major River Bed Modifications may not enhance the existing wave, although, we do believe that it is worth looking at seriously. As the Route 3 wave may be best left as the great wave that it currently is, we have also studied the potential of enhancement above the existing wave, just below The Horseshoe Falls. This area of the river lends itself to National and International Events because it is the one spot on the river where the water release is most controllable and utilizes existing features and access.

As the leaders of this planning process, Behan and Associates, along with the City Planning Department, posed the question to our group: "What areas of the River can be readily enhanced, rather quickly, with the least amount of money spent, that would bring Economic Development Watertown". With four years of research into the Route 3 Wave area, and with the fact that we have successfully held a major national event at the route 3 wave (US Team Trials), and having worked with GYMO, Black Water Development Corp. graciously requests that In Stream River Engineering Studies and access improvements at the Route 3 site be seriously considered and studied as the catalyst for Local Waterfront Revitalization and the continued growth of recreational and competitive boating on the Black River.

Thank you for your consideration in this matter.

Sincerely,

Thomas W. O'Riley
Sara J. Daniels
Black Water Development Corp.

To Whom It May Concern:

American Whitewater is pleased to have this opportunity to offer our comments on the Black River Whitewater Improvements Study. American Whitewater's interests regarding the Black River have been to ensure a fair, open, public, objective process for determining what changes to the Black River will best meet the needs of the City of Watertown and the Paddling Community. We feel that Recreational Engineering and Planning (REP), under the guidance of the City of Watertown, has met those interests, for which we are very grateful.

In general we like REP's focus on the entire river corridor rather than focusing on any one location. We feel that this is the wisest approach, since there are so many opportunities to enhance recreational use throughout the corridor. REP proposes alterations throughout the corridor that will improve safety, navigability, play boating opportunities, river access, spectator options, aesthetics, and the overall recreational experience. Importantly, REP proposes to protect existing recreational play features, while creating new ones, which American Whitewater believes is very much in line with the interests of the vast majority of the paddling community. Therefore, their proposal will lead to increased use and enjoyment of the Black River by whitewater paddlers.

We offer the following specific comments:

Delano Island: We support altering the low head dam to provide safe and enjoyable boater passage.

Route 3 Wave: We strongly support REP's proposal to **not modify** the Route 3 Wave, while improving access to the area and the overall aesthetics. The paddling community is largely against the alteration of this existing excellent play feature, and the REP proposal therefore directly meets paddlers' interests.

Diamond Island: We support stepping down the existing dam leading to the river left channel, thereby creating a flow from Rt. 3 down to this area to make the whole stretch usable. We also encourage REP to follow up on comments made at the recent meeting regarding potential opportunities in the area downstream of Diamond Island.

Sewall's Island: We feel that a very reasonable alternative would be to create an access point just below the dam where people could just put in to access the run on river left. We are not opposed to any of the study alternatives.

We are also interested in potential development of the three-channel area from Club House turn to Court Street Bridge, including the modified

channel below the hydro by Sewall's heading downstream under the Pearl St. Bridge. This site has potential for brownfield funding and the development of slalom and play areas.

Beebee Island: We support cleaning up and developing the area from Knowlton Brothers to ARO on the left channel.

Hole Brothers: We support not modifying hole brothers, while cleaning up the area and make better access, possibly in the Burns Wall area.

Conclusion: We are very pleased with the Black River Whitewater Improvements Study and are excited by the opportunities proposed in the study. The recommendations in the study, if brought to fruition, would protect the resources that currently attract paddlers to Watertown while creating new opportunities and a greatly improved recreational experience. We feel that the recommendations do an excellent job of meeting diverse yet consistent interests, and are socially and environmentally responsible. We look forward to working with REP and the City of Watertown in refining and implementing the recommendations in the Black River Whitewater Improvements Study.

Thank you for respecting and meeting the interests of American Whitewater and the greater paddling community.

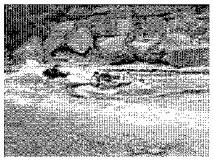
Sincerely,

Kevin Colburn
American Whitewater
Eastern Stewardship Director
Kevin@amwhitewater.org

Nancy Weal
American Whitewater
Volunteer Regional Coordinator

Steve Kittleberger
American Whitewater
Volunteer Regional Coordinator

Route 3 Wave Threatened? (NY)



The Route 3 Wave on New York's Black River is a popular after work park-n-play spot for locals who don't have time to run the whole Black. The other great p-n-p is just below the put-in on the main Black, at Hole Brothers.

January 16, 2002
Mayor Joe Butler
Office of the Mayor
Dulles State Office Building
317 Washington Street
Watertown, NY 13601

Dear Mayor Butler:

It has come to my attention that the City of Watertown is considering modifications to the so-called "Route Three Wave", supposedly to make it into a rodeo spot suitable for expert paddlers. The plan, I understand, is to create a hole for expert training and rodeo. This will destroy a wave which is a great place for a whole range of paddlers from beginners to advanced. It is a rare natural wave that is forgiving and easy-going for most paddlers. Many of us have learned to play boat here.

In addition to the questionable value of destroying this spot for the many for the benefit of the few, there is the uncertainty of even successfully carrying out the engineering. As those of us who follow the sport know, design and engineering of whitewater courses and holes is not a science. The only accepted approach to the problem is trial and error, usually much error, sometimes permanent error. In spite of best design engineering and scale model trials, the courses at Dickerson, MD., the Atlanta Olympic Course, and the Rochester, NY, Lock 32 course required numerous modifications and are still regarded as imperfect or incomplete. There is a very real risk that an attempt to modify Route 3 Wave will destroy it altogether!

Route 3 Wave draws paddlers from all over New York State and eastern Canada throughout the paddling season. We bring substantial revenue and good will to the Watertown area. I don't want to think what could happen to this tourism if Route 3 Wave were to be destroyed and the paddling community infuriated by the loss of one of our treasured resources.

Please stay in touch with the paddling community with your thoughts on this subject. Please leave Route 3 Wave as it is.

Sincerely,
Steve Kittelberger
FLOW Paddlers' Club
Publicity Chair

Posted: January 16, 2002 by Jason Robertson

Contact: Kevin Colburn
EASTERN CONSERVATION/ACCESS DIRECTOR
329 N Jefferson St.
Moscow, ID 83843
E-mail: Kevin@amwhitewater.org

Guestbook

Sign the Guestbook | Administration

Guestbook - Go

Friday, 29. April 2005 11:35
Thank you for stopping by my site. Here you can leave your mark.

Total Records: 6 Records Viewed Per Page: 10

Name	Comments
6) **Chuck Florence** cflorenc@twcny.rr.com Location: Carthage	Thursday, 24. March 2005 13:25 Host: drum-cache.drum.army.mil It's nice to see the river gaining so much attention. The City has never understood how much traffic our two play spots generate, on any given day you can find people visiting from all over the north east just to paddle the river. I concur with the comments from others about keeping Route 3 and Hole Brothers as is. I learned to kayak at the route 3 wave and have always thought of it as the Baby Pool.. I am disappointed the study didn't look farther up stream than Route 3, the area down stream from the Black River village bridge should be concidered in any plan. The newly constructed walk/bike path borders the river between the village and Route 3 and could offer some exceptional viewing areas. No matter what happens any additional play spots will benefit everyone who lives in Watertown and Jeff county. Keep up the good work.
5) **Bob D.** robertdebovis@hotmail.com Location: Watertown,NY	Thursday, 24. March 2005 10:14 Host: cpe-24-59-229-219.twcny.res.rr.com ☺ I'm surprised and very excited about these huge goals! I noticed mixed grounds for entertainment, Shoppe's and so forth..Congrats I hope that there is much planning on safety issues with the river that will be answered! and P.S. I believe this walkway near the river should be the entire span of Watertown's river frontage! "NEWS on the plans on doing more improvements too river walk near downtown", and hate too say it those decaying IRON block buildings being removed Then maybe in the future this can continue on towards the fairgrounds, removing all them old state and highway buildings that are for sure a eyesore and possible danger. MAKING WATERTOWN SOO MUCH MORE APPEALING.
4) **Andy Cook** acoo0802@brockport.edu Location: -	Monday, 21. March 2005 07:58 Host: ip139.peso.dial.bluefrog.com Thanks for the great discussion of the future of the Black. I think your existing drawings are great for a long term plan for the Black. I'd echo what Scott said about relieving the pressure on existing play spots by adding to those areas. Specifically, the area above three wave and the low-head dam downstream of 3 wave. When I was at Hole Bros. yesterday, I also noticed that immediately downstream of the main hole is a wave that surges quite a bit and isn't quite sticky enough to play on. I wonder if that wouldn't form a nice feature with a little bit of constriction? Anyway, I'd love to see the Black River be boatable through Watertown between the park and play bookends, and I think it's a great goal even if it may be decades off. Keep up the good work and email me at acoo0802@brockport.edu or call (585)747-8478 if you need boats, gear or pictures.
3) **Kathy Crofoot** crowfeet@dreamscape.com Location: Boonville, NY	Sunday, 20. March 2005 20:56 Host: utc-mdm-07-216-171-186-110.dreamscape.com ☺ I am writing to relay information that may be of interest to people who want to preserve and enjoy the Black River for generations to come. A very large landfill is set to be constructed right next to Moose Creek, a tributary of the black river. Local residents have fought for 12 years but construction

will begin as soon as this week. Alarming new information, the liner specs call for a lead-filled liner. All landfills eventually release toxic substances into the environment. When they reach the Moose creek they will be bound for the Black River. We are conerned about the lead and whatever the lead is being used for...radioactive waste? We are very concerned for the inhabitants of the black river and anyone who may have their drinking water supplied by the river. Learn more about ACAL...adirondackcommunities.org

2)

Scott Barnes

spbkayak@aol.com

Location:
DC

Tuesday, 8. March 2005 01:41 Host: cache-rtc-aa08.proxy.aol.com

The overall arguement over the past couple of years is really the crux of the issue: why modify any existing good playspot? Route 3 wave runs as is very often and is a terrific spot for learning to surf. It is also fun for experienced paddlers. Hole Brothers has many different fun levels.

I hope the focus of any further development on the Black River in Watertown is on places that have unreliable play features so that the town can ADD to the already great attraction that is the Black River.

What is the drop between Hole Brothers and Knife's Edge? I imagine a few waves and holes on that stretch to make a short, easier play run in what is not a pretty dead section. I could be a short walking shuttle play run that would both attract more people to the town and alleviate the pressure on Hole Brothers and Route 3 as the destination park and play spots.

1)

Mike

Location:
-

Monday, 7. March 2005 16:44 IP: 69.146.176.124

Welcome to the guestbook for comments and feedback.

HTML code is disabled

Appendix 4. Conceptual Drawings