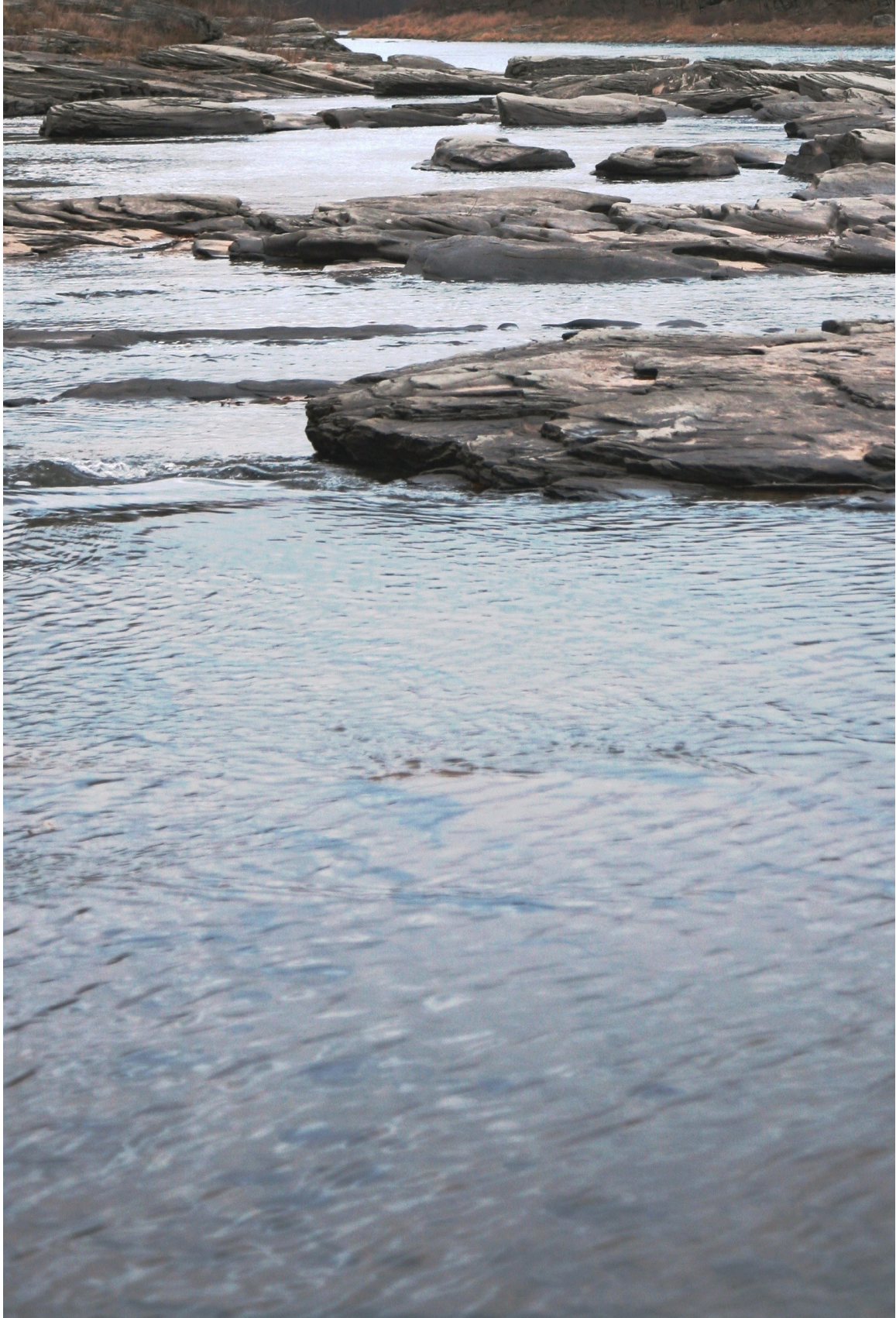




# **Site Designs for Six River Access Points**

Upper Delaware River, Sullivan County

January 2015



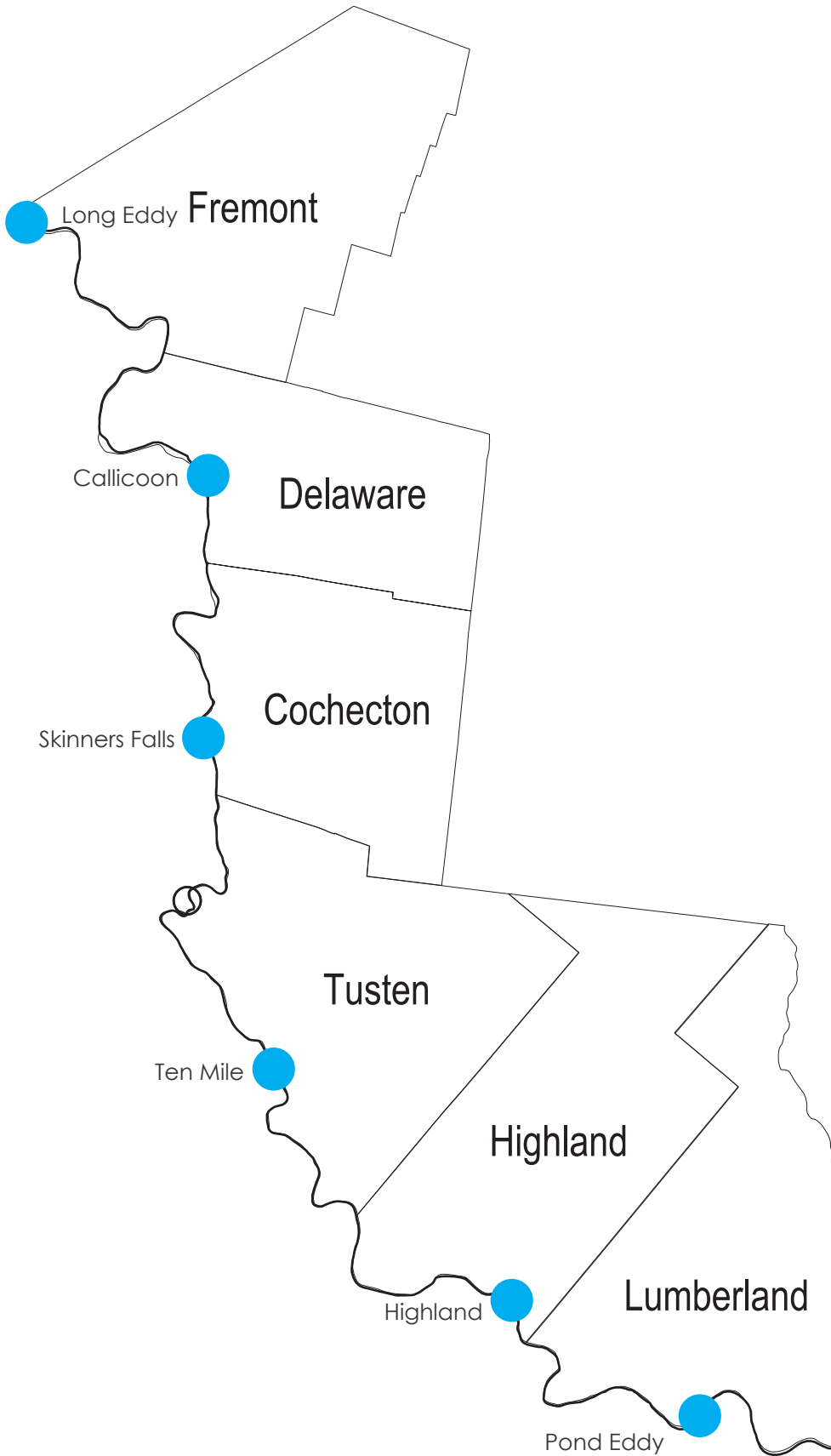
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# List of Abbreviations

RMP: River Management Plan  
NPS: National Park Service  
DEC: Department of Environmental Conservation  
PA: Pennsylvania  
NYS: New York State  
DOT: Department of Transportation  
UDC: Upper Delaware Council  
LWRP: Local Waterfront Revitalization Program  
OPDC: Opinion of Probable Development Costs  
DYC: Delaware Youth Center  
HSS: High Speed Steel









# Introduction

The Upper Delaware River along New York's border with northeast Pennsylvania creates a high-sided valley of dense forests, bucolic landscapes and surging brooks as the river's broad, free-flowing (undammed) waters wind from Hancock, in Delaware County, past Sullivan County's six river towns; Fremont, Delaware, Cochecton, Tusten, Highland, Lumberland. This long reach of river features sweeping vistas, abundant wildlife and clear water. The river is dotted with active hamlets and surrounding communities of year-round and seasonal residents who value the unique resources of the river environs.

The New York State Route 97/Upper Delaware Scenic Byway provides access to the corridor for motorists, bicyclists and boaters, and is a lifeline for residents as it connects to regional highways at either end. The National Park Service recognized the area's intrinsic value in its designation of the Upper Delaware Scenic and Recreational River and in the creation of the Upper Delaware Council to administer the River Management Plan (RMP). Through a previous Local Waterfront Revitalization Program (LWRP) grant from New York State Department of State (NYS DOS), Sullivan County Division of Planning and Environmental Management (SCDPEM) has been creating an integrated plan, synthesizing existing regional and municipal planning initiatives into a cohesive and consensus-based document (still in development). Through this process, SCDPEM applied for additional funding to improve existing accesses in each of these river towns.

The Waterfront Advisory Committee (WAC) was selected for the previous grant to create the Plan for the corridor. It consists of representatives from each of the communities in the catchment area, and other stakeholders in the corridor. The WAC also acted as an advisory committee for the development of schematic designs for the six access points.



## Project Overview

Through this project, Sullivan County is identifying a battery of uniform and coordinated river access site improvements in each of its river towns. The sites are all existing river access points and were chosen in cooperation with Town representatives at the outset of the project.

These improvements address the issue of balancing the unique public and private nature of the Upper Delaware River by improving the visitor's experience while protecting private landowners from unintentional trespassing. Recreational pursuits and nature appreciation generated by the water trail and the river access points will create a desirable community, enhance quality of life and promote business development. These projects involve a multi-county, multi-state, and multi-agency collaboration and commitment of resources. Collaboration on these discrete and well-focused projects could set the stage and establish the precedent for achieving success on more complex projects. The Delaware River is an asset to a substantial number of communities which all have an interest in maintaining the quality of the water, resident lives and the economics of the river.

Overall, the project seeks to accomplish the following purpose:

- To prepare site plans for each of the six sites
- To engage the towns and local stakeholders including the liveries
- To understand the costs associated with river improvements so that a clear path for funding can be charted
- To identify the optimal management structure utilizing the existing agencies and organizations who are involved at the local, regional and national level





## Engagement

The effective communication of information and ideas, and the building of consensus among the project's various constituents are essential components that are vital to the success of any project. Communication with respect to the six Upper Delaware River accesses flowed along two primary pathways: between the EPD Team and Sullivan County Division of Planning and Environmental Management (SCDPEM), and between the EPD Team, the communities and the stakeholders.

## Planning and Design Vision

These access points should reinforce the Upper Delaware corridor as a world-class destination. The vision for these access points is a uniform set of six sites that can be implemented independently while providing an enhanced user experience and protecting the pristine character of the area.

## Planning and Design Goals

Each site and the overall system should achieve the following goals:

1. **Enrich the visitor experience**
2. **Promote river safety for all users**
3. **Accommodate contemporary uses and needs for recreation and leisure**
4. **Create a world-class destination**
5. **Safeguard the aesthetic of the corridor**
6. **Celebrate the regional vernacular in terms of landscape, patterns and architectural forms/styles**
7. **Provide universal accessibility**
8. **Respect the power of the river and the limited resources available**

## SCDPEM Coordination Meetings

Communication between the EPD Team and SCDPEM served as the guiding foundation of the project. The EPD Team facilitated Coordination Meetings throughout the planning and design process to discuss project goals/objectives, identify design parameters, review work completed to date, work through and build consensus regarding planning/design issues and discuss future

implementation schedules, directions and activities.

Equally important for development of the project and ultimately imperative for the long-term success of each individual river access, was the civic engagement process in which consensus was built among the communities to buy into the project, build momentum, and ultimately carry that momentum through implementation. The civic engagement process also integrated input from a series of stakeholders, such as the New York State Department of State and National Park Service, adjoining property owners, etc.

Additionally, the EPD Team interviewed other key persons whom are local leaders/experts or knowledgeable persons regarding specific issues and the general public. Each of these persons, who make up the communities, possess a wealth of knowledge and ideas which need to be shared and communicated in order to illuminate facts, discuss alternatives and begin to build consensus. The intent of this approach was to reach out to as many individuals/groups as possible in order to build awareness, gather and present facts, discuss alternatives and divergent view points, and build consensus.





### **Public Meetings/Events**

The EPD Team hosted an intensive Design Workshop for invited river stakeholders and key persons, as well as the general public at strategic points. Design workshops are an effective way to engage the general public and allow individuals to choose their own level of participation. The Design Workshop was formatted to include time for the public to review work products and conduct informal “one-on-one” discussions, followed by formal presentations and Q&A periods, and finally time for concluding informal “one-on-one” discussions. It was an interactive, informal venue to; 1) present work products; 2) conduct a series of brainstorming, planning and design exercises to understand the feasibility of planning and design concepts; 3) allow participants to discuss divergent viewpoints; and 4) build consensus and trust between the various groups involved.

Charrette-style brainstorming/design exercises actively engage the community to identify design principles, goals and potential preferred improvements, as well as allow participants to critique initial concepts and begin to build consensus and develop a final preferred site concept plan.

The fact-finding and anecdotal feedback gleaned through the Design Workshop and stakeholder outreach provided another lens through which to define practical program elements and site improvements, select durable design features and materials, determine sustainable operational expectations and establish a unifying identity or brand for the overall river corridor. Concept coordination was heavily emphasized and influenced the overall site concept plans – specifically coordination in the context of design features, aesthetics, signage and ambiance/identity.



### **Scenic and Recreation Segments**

The RMP divides the river into character zones or segments: scenic and recreation. The segments subsequently establish a hierarchical structure to guide decisions related to the use and management of facilities, water, etc. The scenic segments are the most restrictive zone and generally only allow the use and improvement of facilities or access locations that existed prior to the inception of the RMP. While the recreation segments are less restrictive, the RMP clearly limits the visual and physical aspects of improvements within this zone. The RMP's hierarchy requires that "the look and feel" of the two access points situated within the scenic segments will be very different than the four access points located in the recreation segments.

While the differentiation of the scenic and recreation segments does not change the planning and design approach, the hierarchy does provide a "lens" to evaluate the specifics and potential of each access location. The differentiation was also used as the organizing element to distinguish specific design features and treatments. While the RMP distinguishes between the recreation and scenic segments, there are considerations that have emerged in the past thirty years that also needed to be woven into the planning and design process. For example, unless there is a way to avoid

providing ADA access at every access point, visible improvements may be needed in scenic segments to meet ADA requirements.

### **Facilities**

The RMP's objectives for "Facility" outline the generalities of what improvements are permitted. In addition, the Facility discussion calls for the location and development of the various types of facilities to be coordinated and enables the municipalities to control and maintain their own facilities. Given the details of this section as well as the discussions during the project, the resource capacity (time, equipment, money, etc.) of each of the Towns and other organizations as related to the long-term development and upkeep of the respective access points was an important consideration in developing the overall schematic designs.

### **Water Use**

The "Water Use" section of the RMP provides the most detail for the actual design of the access points. Consequently, all the objectives were pertinent to the creation of conceptual designs. However, several objectives specifically impacted the discussions with the various Stakeholders and the public. They ultimately helped to guide the physical form and function of potential design solutions. The first such objective is "Prevent river bank erosion." This



objective presented an opportunity to enhance and restore (where appropriate) the natural state of the river's edge. A second Water Use objective that shaped the approach was "Provide an Enjoyable Recreation Experience." The Upper Delaware's recreation market has changed over the past 30 years. It is increasingly important to think of recreation as a business and to view the river users as customers. Today, customers demand high quality and safe environments where the vast majority of their time is being spent on the recreational activity. In fact, recent studies have shown that customers judge their recreation experience in the first 15 minutes of arrival. Consequently, creating an inviting environment that eliminates nuisances such as trash or inconveniences such as poor way-finding signage is of the utmost importance. While the RMP does not specifically speak to these aspects or issues – it's objectives clearly recognize them. This objective led the team to reduce the emphasis on broad brush programming and place more emphasis on the user experience including way-finding and signage.

As issues, opportunities and challenges emerged during the planning process, they were constantly weighed against the principles and objectives in the RMP. It was a living part of the planning and design process.

### **Additional Influences**

Related planning documents were reviewed at the outset of the project including the RMP. Other important considerations, such as the American with Disabilities Act (ADA) Guidelines, which will influence the final design of the access points, were considered. The RMP is an important point of reference. Additional considerations included floodplains, ice scour, visibility from the river and the "soft ties" that link the river to the communities. The following considerations integrated specific objectives from the RMP and took a holistic look at all influencing factors.





### Concepts and Designs

The access points are more than just a collection of programmed and un-programmed spaces and elements. The individual access points will allow for a unique and unified assemblage of spaces, uses and experiences along the Delaware River. The articulation of each access point's detailed design celebrates local identity, culture and reinforces the overall vision for the Upper Delaware Scenic and Recreational River. Further, the site's ecological systems and processes were balanced with the needs and requirements for human activity and experience. The uses and activities are grounded in realistic economic and operational assumptions. Recreation development with limited or no means to financially support itself is a thing of the past. Today, outdoor recreation spaces need to be able to re-shape and re-constitute themselves in order to take advantage of "found" opportunities. The individual accesses will be meaningful, memorable and lasting components of the overall corridor.

There are three main sources of "ideas" which the EPD Team evaluated and

synthesized, culminating in the site concept plans, including SCDPEM input, community input (including stakeholders, key persons and the public) and influential factors, which includes physical, environmental, economic, social and transportation conditions/factors. The methods of garnering input from the SCDPEM and the Community have been addressed in the previous sections.

Each of the following chapters includes a summary of the process of collecting and analyzing the influential factors, and how the conclusions are synthesized with SCDPEM and community ideas to develop the site concept plans.

Based upon the identified project opportunities/challenges and working with the identified vision and goals, the EPD Team developed initial design alternative diagrams. Through an iterative and interactive process (including the intensive Design Workshop), the EPD Team worked with SCDPEM to critique the initial alternatives, identify preferred design elements, prioritize design elements (from need, desire and fiscal perspectives) and begin to develop the framework

of preferred site concept plans. The ultimate success of developing each of the river access point site concept plans and designs lies in a highly engaging community involvement process. The community was very hands-on in the development of the final designs. This breeds enthusiasm and momentum which will be needed moving forward with implementation and long-term operation/maintenance.

### **Final Site Concept Plans**

Working from the preferred elements/framework identified by the community, the EPD Team developed the final site concept plans. The site concept plans for each access point include a map and series of recommended improvements and/or policies which should occur within the area. Some recommendations are physical in nature; others relate to various operational or management type policies.

The overall concept is that each site contributes to the overall river corridor, providing river access for various water-related activities. Such a landscape presents the opportunity to establish a contemporary model for how public and private partners can practically and responsibly manage environs rich in sensitive natural resources as well as to educate the public about conservation-oriented strategies and the landscape's

cultural significance. Each site concept plan builds upon the many conservation values identified as part of this project's planning process.

Each site concept plan concentrates on outlining potential activities related directly to resources within the site's defined boundary. However, the fact is that, it is imperative to recognize that an equally important aspect of the corridor's health is the activity that occurs on lands surrounding each site and in the greater region and the Delaware River watershed.

Accordingly, a series of ballpark style Opinion of Probable Development Costs (OPDC) was created detailing specific proposed improvements and anticipated construction costs for each river access. These OPDCs will also include estimated design and engineering fees as well as anticipated contingencies.

### **Organization**

The following chapters take each of the six sites through analysis, site design and recommendations. The final chapters include overall recommendations and funding considerations.





## Context

The six river access points included in this project are part of a larger system within the Upper Delaware River's length and each contribute in a unique way to the system of river access points.

## Overall Corridor

The overall Upper Delaware corridor features an array of access points that can be used for fishing and boat launching.

## General Existing Programming and Site Amenities

### All Upper Delaware Access Points

Access Point	Existing Amenities		
	River Access	Restrooms	Parking
Balls Eddy	Boat Launch	■	■
Shehawken	Canoe/Fish Access		■
Hancock	Canoe/Fish Access	■	■
Buckingham	Boat Launch	■	■
Lordville	Canoe/Fish Access	■	■
Long Eddy*	Boat Launch		(none on site)
Basket Creek	Fish Access Only		■
Kellams	Fish Access Only		■
Hankins	River Rest Stop		■
Callicoon, NY*	Canoe/Fish Access	■	■
Callicoon, PA	Boat Launch	■	■
Damascus	Boat Launch	■	■
Skinnners Falls*	Canoe/Fish Access	■	■
Narrowsburg, NY	Boat Launch, Camping	■	■
Narrowsburg, PA	Boat Launch	■	■
Ten Mile*	Boat Launch	■	■
Lackawaxen	Boat Launch, Phone	■	■
Highland*	Canoe/Fish Access		■
Barryville	Boat Launch		■
Pond Eddy*	Fish Access Only		■
Mongaup	Canoe/Fish Access, Picnic Area	■	■
Sparrowbush	Boat Launch		■
Matamoras	Boat Launch		■

\*Included in design/planning report



**Individual Sites**

The six individual river access points included in this project are envisioned to be part of a unified system of river access points in Sullivan County. The various entities involved in the sites from ownership to management to easements is vast. The creation of a truly unified system of access points that has a coordinated level of service and visual elements will require significant coordination.

**Existing Site Ownership/Management Matrix**

Site	Owner	Manager/Operator	Easements	EMS Provider
<b>Long Eddy</b>	Town of Fremont	None	None Known	Long Eddy Fire Upper Delaware EMS
<b>Callicoon</b>	Delaware Youth Center	Town of Delaware	“The People of the State of New York By the Conservation Commissioner of the State of New York” has an easement for the boat launch, but they do not own it outright.	Callicoon Fire Upper Delaware EMS
<b>Skinnners Falls</b>	New York State DEC	NPS	None Known	Lake Huntington Fire Cochecton EMS
<b>Ten Mile River</b>	Greater New York Councils Boy Scouts of America	NPS	None Known	Lava Fire Tusten EMS
<b>Highland</b>	New York State DOT Right-of-Way	DEC	New York State DOT Right-of-Way	Yulan Fire American Legion EMS
<b>Pond Eddy</b>	Sullivan County Department of Public Works	Sullivan County Dept. of Public Works	NYS DOT Right-of- Way/Sullivan County	Lumberland Fire and EMS

Responding to the variations in the six sites, the existing amenities, the surrounding communities and conversations with stakeholders, The scale and proportion of the site amenities is consistent with the region's historic construction practices. They contribute a unifying character.

Forms and materials are reflective of the regional vernacular and are designed for the reality of the riverside location. Individual elements can be moved or are designed to allow maximum flow of water to pass through--reducing problems during periods of high water.

**Proposed Programming and Site Amenities**  
 Sites Within Study/Report

	Long Eddy	Callicoon	Skinners Falls	Ten Mile River	Highland	Pond Eddy
Bike Rack	■	■	■	■	■	■
Garbage Receptacle	■	■	■	■	■	■
Canoe Rack	■					
Guard Rail					■	■
Barrier Screen	■	■				
Bluestone Landing	■	■	■	■		
Ranger Station			■	■		
Comfort Station			■	■		
Picnic Pavilion	■	■	■	■	■	■
Folding Sign Stand		■				





## Signage

Signage is a crucial element involved in the enhancements of the access points. If signage is not properly handled, site improvements may be dysfunctional from a systems or circulation standpoint, negatively impacting the visitor experience and possibly reducing motivation to return to the site. Developing a plan and design for the Upper Delaware river access signage system encompassed a review of the Upper Delaware RMP as well as the current signage guidelines of the various partners and stakeholders involved with the access sites. A careful study of the National Park Service signage guidelines and signage standards from the Upper Delaware Scenic Byway, Delaware River Water Trail, and Delaware & Lehigh National Heritage Corridor in combination with interviews from NYS Department of Environmental Conservation and the Department of Transportation along with a mapping of existing Town signage, served as a platform for merging these signage plans into a cohesive sign system which provides the user with wayfinding ease and a consistent experience between each river access site.

### A. Gateway

Located along NYS Route 97 to provide identification to the entrance way to the river access site. Name of site and managing partners.

### B. Arrival

Located at the point of entry/egress to the river access site. Name of site and managing partners.

### C. Directional Vehicular and Pathway

Provides the user a quick directions to comforts and access throughout each site via symbol and arrow system.

### D. High-Profile Wayside

Provides information about the site, region as well as important warnings.

### E. Trailhead

Provides information about the trail terrain, mileage, rules and regulations via symbols, etc. Name of trail and managing partners.

### F. River Landing

Located at the point of entry / egress to the river access site from the river. Name of site, managing partners, and river milage.

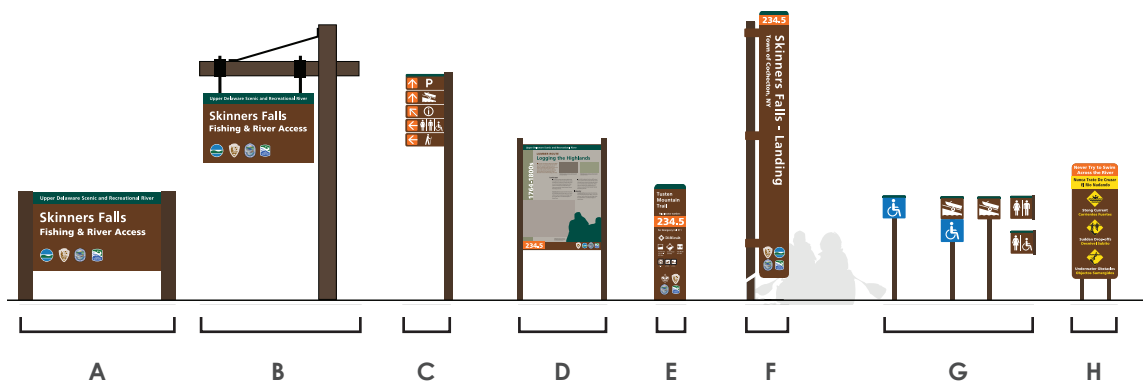
### G. Icons at Location

Provides the user quick directions to comforts and access locations via symbols.

### H. Swimming Warning

Located near the point of entry / egress to the river. Offers warnings via symbols accompanied in English and Spanish.

In addition, it is being recommended that Department of Transportation Recreational and Cultural Interest Area Symbol signs are placed at the appropriate distance along NYS Route 97 with a directional arrow and milage to provide vehicles advance warning of the approaching the access site.



## Overall Proposed Sign Typology

\*Long-term Long Eddy site to reuse and add to short-term proposed sign list.

SIGN DESCRIPTION	Long Eddy Short-term	Long Eddy Long-Term*	Callicoon	Skidders Falls	TMR	Highland	Pond Eddy	Total
<b>I IDENTIFICATION</b>								
Gateway (on Rt. 97)	1	1	1	2	1	2	2?	9
Arrival Double-sided (entry point)	1	1	1	1	1	2	1	6
River Landing	1	1	1	1	1	1	1?	6
Launch icon at location	1	1		1				2
Canoe icon at location					1	1		2
ADA Transfer at location	1	1	1	1	1	1		2
Restroom icon at location				2	2			4
Trailhead at location					1			1
<b>D DIRECTIONAL</b>								
Rt 97 DOT Symbols (approach to access)	2	2	2	2	2	2	2	12
Launch icon with arrow	1	1		1				3
Canoe icon with arrow					5	1		6
Restroom icon with arrow				2	5			7
Picnic Area icon with arrow				2	5			7
Rangers Station icon with arrow				2	5			7
Trail icon with arrow					4			4
Slow for Pedestrians					4		2 exist	4
One-Way Traffic		1			2			3
One Lane Traffic	1							1
Drive-in / Reverse Out	1							1
Clearance for truck entrance	1	1						1
ADA Path	2	2	2	2	2	2	2	12
<b>P PARKING</b>								
Parking								
ADA Parking	1	2	3	5	2	2	2	15
Angler Parking				2		3 ?		5
Trailer Parking	6	8		2 (8 spots)				8
No Parking							?	
No Trailer Parking						1		1
<b>I INTERPRETIVE</b>								
NPS	3 new	3 new		3 existing	3 exis	3 existing	3 new	15
Additional				3	3	3		9
Existing NPS Trail					1			1
<b>O ORIENTATION</b>								
You are Here Map / ADA Launch sites	1	1		2	2	1	2	7
Map of Hamlet parking spots	1							1
<b>R RULES &amp; REGULATIONS</b>								
General Rules & Regs	1	1	1	1	1	1		5
DEC Rules & Regs				3		3		6
NPS Warning: Never Try to Swim Across the River	1	1	1	1	1	1	1?	6



## Long Eddy



The Town of Fremont, which is home to the Long Eddy access point, was a historically significant ferry route to Pennsylvania and a railroad stop.

The Upper Delaware features riffles and Class I and II rapids interspersed with several long stretches of quiet pools known as eddies. Long Eddy is one of these deep, slow moving stretches of the river.

Currently, the Long Eddy access point is primarily used for canoe and fishing access. The access road crosses an active Central New York rail line. The site is located between several residential lots and near a small manufacturing plant that produces Tree by Kerri Lee and Dedeco. There are some nearby amenities for access point users such as the Chestnut Cafe and Long Eddy Hotel.

Primary issues at the Long Eddy access point include the railroad, the narrow access point, lack of parking and conflict with surrounding land uses.

Fishing is the primary use for the Long Eddy access point. It is a popular launch point for driftboat fishing as well as fishing from the shoreline.



## Existing Conditions

### Existing/Popular Uses

- Driftboat launch site
- Fishing from the shore and wading

### Site Access and Parking

- Uncontrolled/undefined access from Route 97 can create conflicts
- Existing utility poles cause conflicts with truck turning movements
- Non-sanctioned parking along the existing fence can cause conflicts with trucks
- Non-sanctioned parking along the railroad tracks occurs frequently
  - o Minimum RR requirement is 25' from the centerline of the tracks; they can work with communities outside of that area regardless of the legal easement
- Norfolk Southern is the underlying landowner on railroad property; Central New York leases the line from Norfolk Southern
- Approximately 1 train daily, usually at night
- Trailer turning movement conflicts with adjacent property owner

### Site Character and River Character

- 12'-wide paved cartway with no formal ramp improvements; a gravel slope leads to the river edge
- 25' public access easement along the riverfront downstream from the site
- Cobble/river rock shoreline
- Slope drops quickly; 3'-4' deep about 15' from the shoreline

### Adjacent Site/Uses

- Residential homes and cottages (mix of seasonal and year-round)
- Adjacent lot downstream is vacant and not in operation

### Additional Elements/Points

- Historic ferry crossing between NY and PA

### Signage

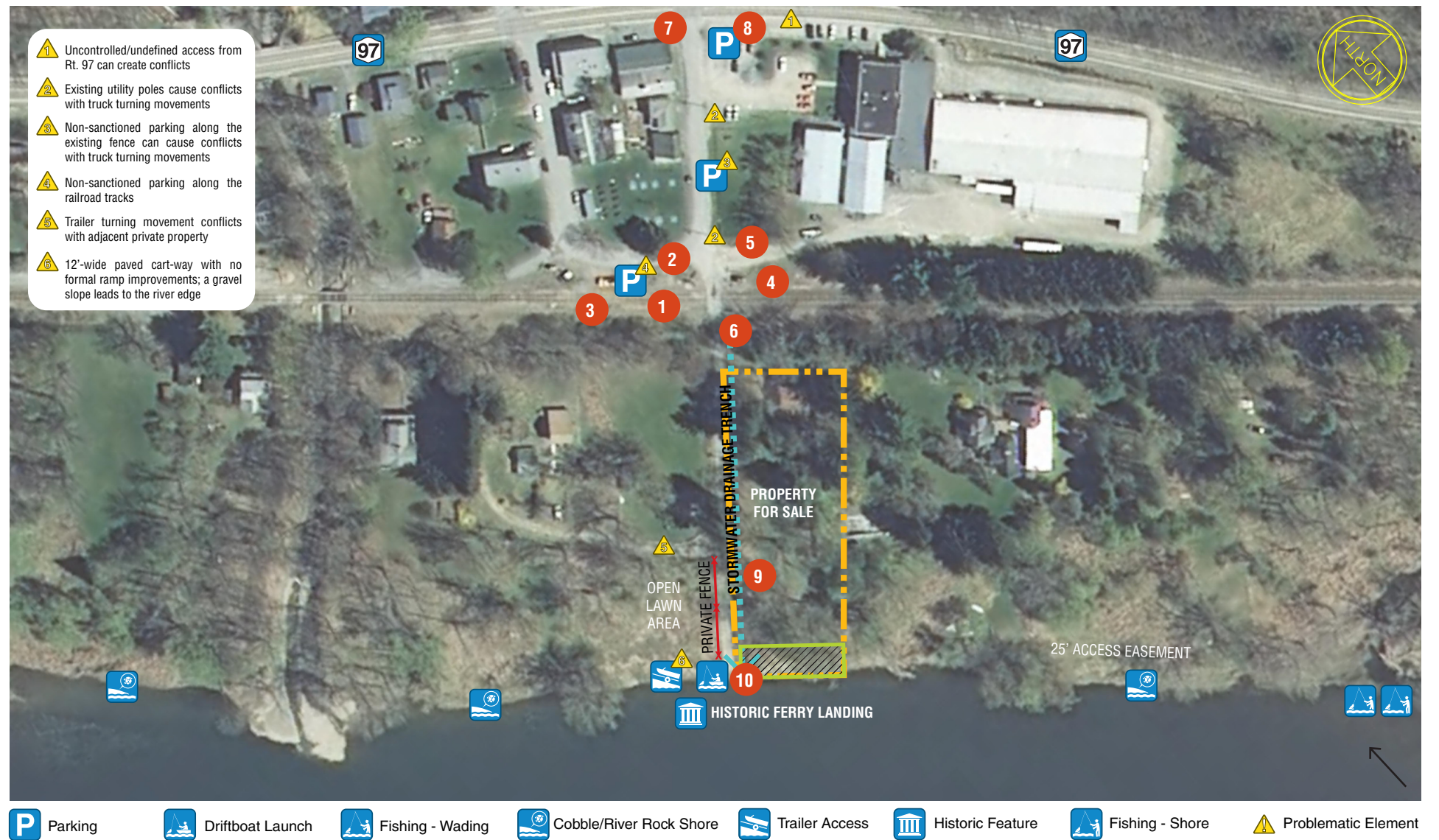
- Municipal directional signage
- Wooden framed Sullivan Renaissance informational signs

## Potential Program

### Site needs to primarily accommodate driftboat fishing

- Promote fishing for economic development
- Trailer parking and trailer access (12-15 trailers and vehicles) and car parking
- One access ramp that can accommodate driftboat launches/landings
- Trash cans
- Fisherman's trail, potential comfort station and potential picnic facilities if the adjacent lot is purchased
- ADA/universal accessibility

## Long Eddy Existing Conditions Analysis



## Long Eddy Existing Signage



## Existing Signage

### Directional

#### Municipal

- Long Eddy River Access with Directional Arrow; green with white reflective lettering on metal 24" x 24" on Depot Road not off Route 97.

### Rules

#### Private

- "Park At Own Risk We Mow Every Saturday or Sunday. Park in Lot, Please." Paper laminated and mounted.

### Near Access Site

#### Municipal

- "No Thru Traffic. Boat Launching Only.;" white with red lettering on metal 18" x 12"
- "STOP"; red with white lettering on metal 24" x 24"
- "No Parking Any Time" white with red lettering on metal

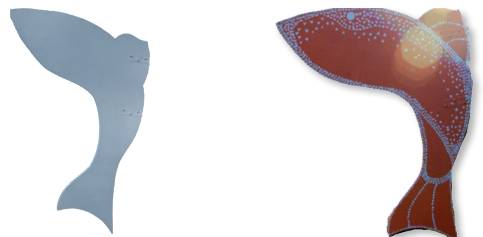
#### Private

- "Posted Private Property" white with red lettering on metal

### Information

#### Municipal

- Sullivan Renaissance: 19" x 25.5" wooden framed Signs; green and gray; Including information about Long Eddy's Pastime, Railroads in Long Eddy, and Long Eddy Ferries



Long Eddy is primarily used as an access point for driftboat fishing and shoreline and wading fishing. Parking is currently permitted in the parking lot, but improvements should be made to organize the parking and to maximize the number of vehicles that can use the lot.

### Site Concept Plans

Because of the possibility of acquisition of the neighboring lot, which would expand the Long Eddy access point, two site concept plans were developed. The long term plan builds on short-term improvements.

#### Short Term Site Concept Plan

The short term plan formalizes the vehicular access via Ferry Street and establishes an improved launch area. Parking will remain near the railroad with additional parking identified in the parking lot near Route 97. An identified ADA parking space and marked path will provide universal access along Ferry Street to the launch site.

#### Long Term Site Concept Plan

The long term plan will build on improvements identified in the short term plan. This plan assumes the purchase of the adjacent lot, which is currently for sale. There has been some expression of interest in moving forward with the purchase during the planning process, but as of the writing of this plan, no action has been finalized.

Assuming that the lot is eventually purchased, parking will be concentrated within that space with additional overflow parking at the improved lot near Route 97.

Launch area improvements will build on the short-term improvements to optimize investment and maximize the initial investments.

### Policy Recommendations

Aside from items shown on the site concept plan and a number of actions are included in this report.

### Invasive Species Control

The Route 97 site's, Highland, Long Eddy and Callicoon have significant areas of Japanese Knotweed and other invasive plant species. A management protocol should be developed for the removal of invasive species and establishment of native plant communities. More information about this can be found in the Overall Recommendations chapter.

### Parking

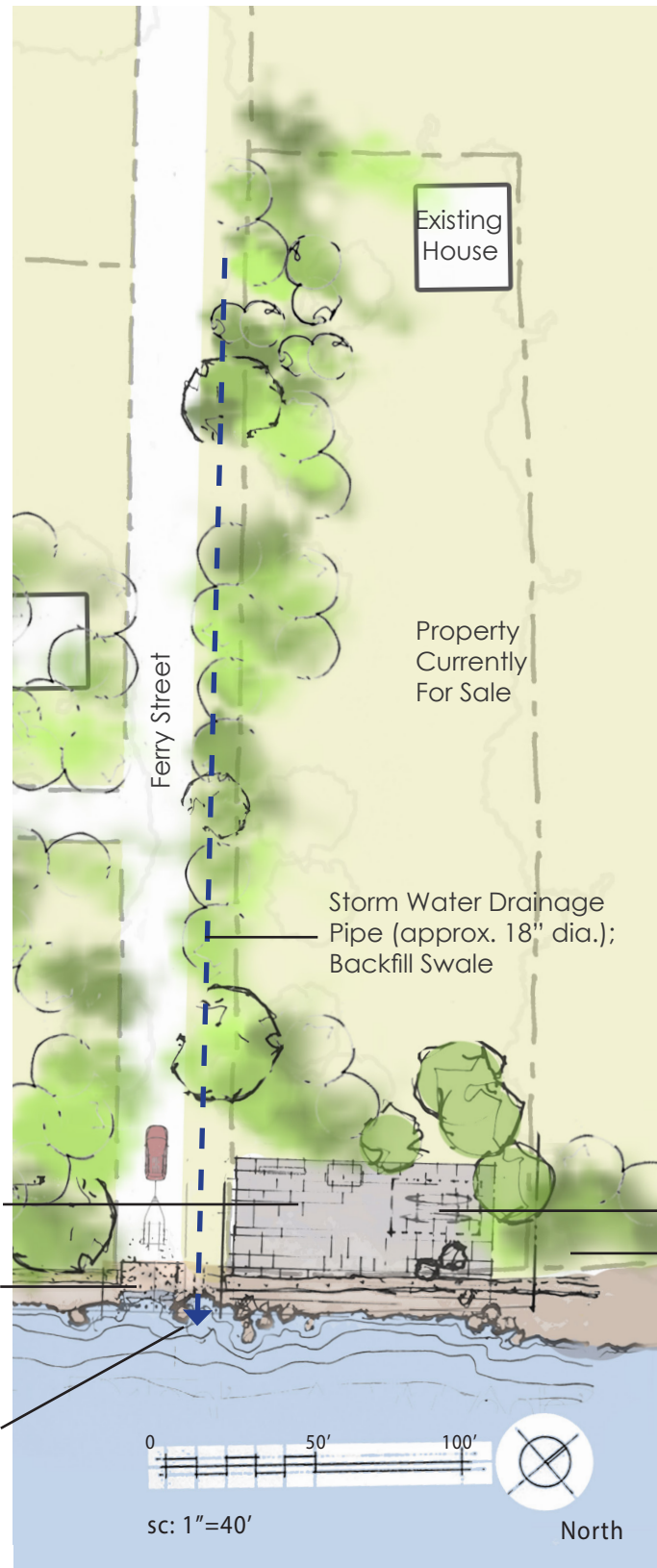
Parking is a significant issue at Long Eddy. Representatives from the Central New York railroad expressed interest in working with the community for parking along the tracks. This relationship should be formalized. The factory parking lot along Route 97 also allows parking for site access. This relationship should also be formalized and the parking lot should be improved with signage and possible reorganization.

### Other Considerations

As noted in the Fremont Comprehensive Plan, a pedestrian bridge across the railroad is needed at Long Eddy and has been funded but requires cooperation from the railroad that is yet to be forthcoming.



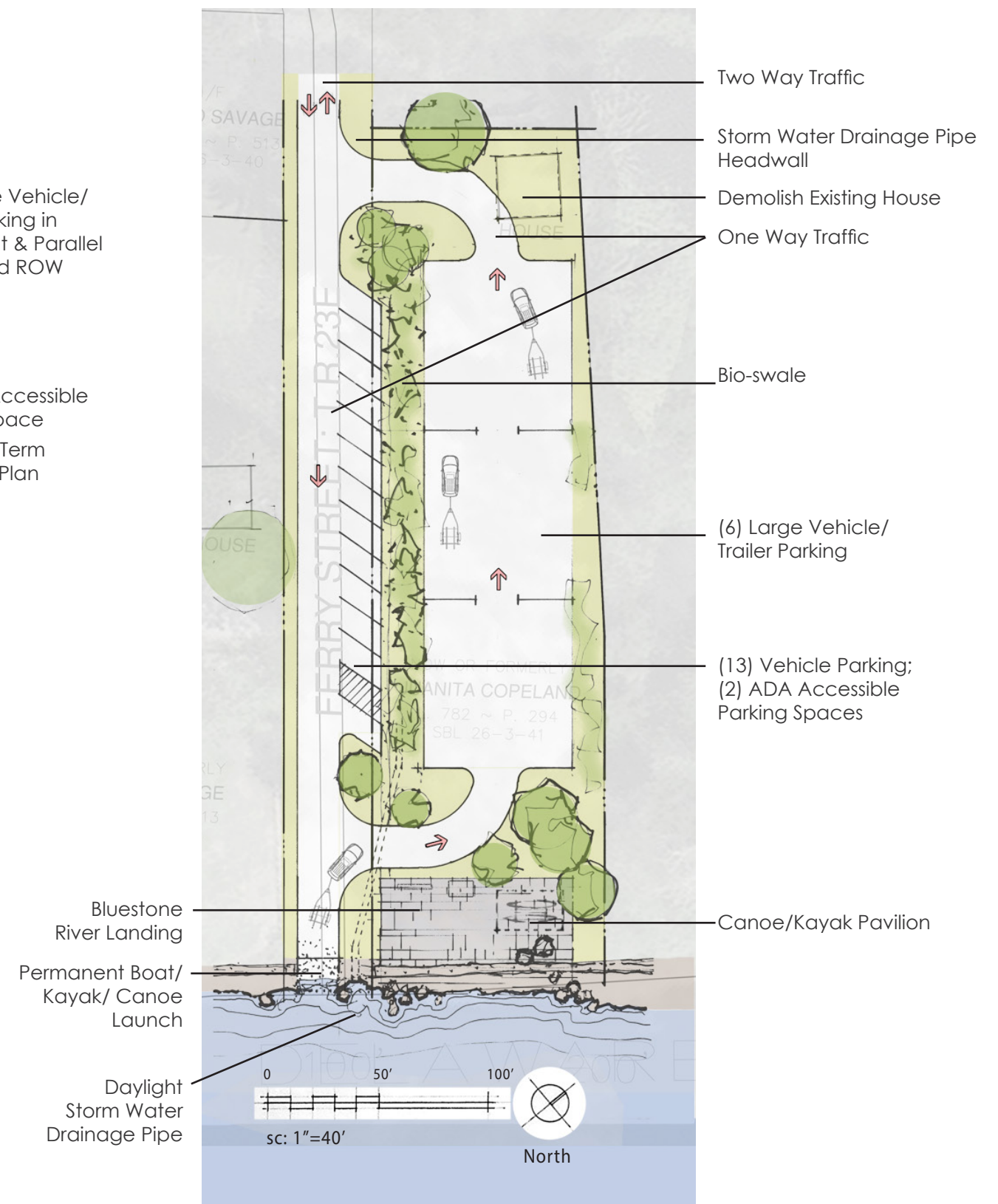
Long Eddy Short Term Concept Plan



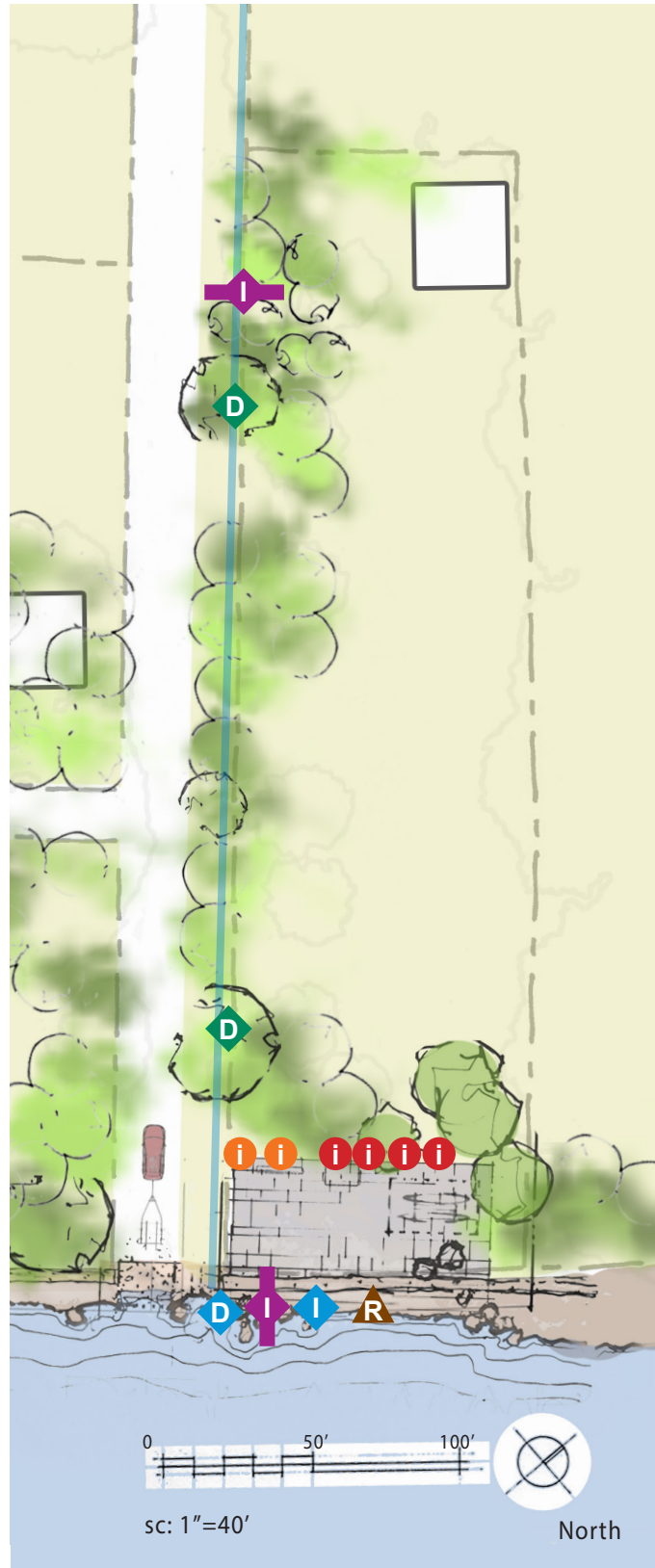
Long Eddy Short Term Parking Plan



Long Eddy Long Term Concept Plan



Long Eddy Short Term Signage Plan



Long Eddy Long Term Signage Plan



KEY: Sign Types




- Arrival / Landing
- Identification
- ADA Transfer
- ADA Directional/Path
- Directional
- ADA Parking
- Parking – Vehicular
- Parking – Trailer
- Interpretive
- Orientation
- Rules & Regulations

Note: Multiple directional symbols may share the same post/location. (i.e. restroom, rangers station, picnic and launch areas.)


## Long Eddy Short Term Proposed Sign Typology

### Qty: Sign Description


#### Identification

1	Gateway double-sided (on Rt. 97)
1	Entrance double-sided (at point of site entrance) 
1	River Landing 
1	Launch icon at location
1	ADA Transfer location 

#### Directional

2	Rt 97 DOT Symbols w/ arrow & millage (on approach to site) – Canoe and/or Launch Symbol
1	Launch icon with arrow
1	Clearance for truck entrance
1	One Lane Traffic
1	Drive-in / Reverse Out by (launch area)
2	ADA Path 

#### Parking

?	No Parking
1	ADA Parking 
6	Trailer Parking

#### Interpretive

3	New NPS Interpretive signs – Launch Area (Create new signs or repeat current from other NPS sites): (Life jackets, Didymo algae, River Heights, River Access, Fishing Licenses, Poison Ivy, Pack in Pack it out, No glass, Emergency Assist.)
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#### Orientation

1	Landing Map / Interpretive: all access along the river (indicate ADA)
1	Map of Hamlet with parking indicated (with box to hold Hamlet amenity rackcard )

#### Rules & Regulations

1	NPS Warning: Never Try to Swim Across the River
1	General Rules & Regulations of the River New Interpretive signs could provide more space for: warning on rocks, high water, turbulent waters, dogs on leashes, etc.




## Long Eddy Long Term Proposed Sign Typology

### Qty: Sign Description

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#### Identification

---

1	Gateway double-sided (on Rt. 97)
1	Entrance double-sided (at point of site entrance) 
1	River Landing 
1	Launch icon at location
1	ADA Transfer location 


#### Directional

---

2	Rt 97 DOT Symbols w/ arrow & millage (on approach to site) – Canoe and/or Launch Symbol
1	Launch icon with arrow
1	Clearance for truck entrance
1	One Way Traffic
2	ADA Path 

#### Parking

---

?	No Parking
2	ADA Parking 
8	Trailer Parking

#### Interpretive

---

3	New NPS Interpretive signs – Launch Area (Create new signs or repeat current from other NPS sites?): (Life jackets, Didymo algae, River Heights, River Access, Fishing Licenses, Poison Ivy, Pack in Pack it out, No glass, Emergency Assist.)
---	---

#### Orientation

---

1	Landing Map / Interpretive: all access along the river (indicate ADA)
---	---

#### Rules & Regulations

---

1	NPS Warning: Never Try to Swim Across the River
1	General Rules & Regulations of the River New Interpretive signs could provide more space for: warning on rocks, high water, turbulent waters, dogs on leashes, etc.



## Opinion of Probable Development Costs

All costs is based on system costs. Quantities have been estimated and scaled from plotted base maps and may not match exactly with field conditions. A base survey was not completed as part of this project. Quantities will need to be verified in the field by contractors. As concepts are refined, the costs will need to be refined as well.

### Long Eddy Short Term Opinion of Probable Development Costs

Site Improvement	Qty	Unit	Unit Cost	Total Cost
1 Site preparation; includes clearing, grubbing and earthwork	1	Acre	\$10,000.00	\$10,000
2 Storm water/erosion controls	1	Lump Sum	\$5,000.00	\$5,000
3 Storm drainage pipe/culvert replacement and headwall	360	LF	\$50.00	\$18,000
4 Asphalt access and drive aisles	10,000	SF	\$6.00	\$60,000
5 Compacted gravel parking area	10,000	SF	\$4.00	\$40,000
6 River landing/launch; includes temporary coffer dams, reinforcing, sub-base, base and surface finish; assumes stamped colored concrete to achieve a bluestone "look"	1	Each	\$100,000.00	\$100,000
7 Native riverine landscaping	750	SF	\$1.50	\$1,125
8 Cellular/WIFI hub/router (assumes solar power)	1	Each	\$7,500.00	\$7,500
9 Site signage	1	Lump Sum	\$24,000.00	\$24,000
10 Design and Engineering Fee				\$47,813
			Subtotal Site Improvements	\$313,438
			Contingency (20%)	\$62,688
			<b>Total</b>	<b>\$376,125</b>

### Long Eddy Long Term Opinion of Probable Development Costs

Site Improvement	Qty	Unit	Unit Cost	Total Cost
1 Site preparation; includes clearing, grubbing and earthwork	1	Acre	\$10,000.00	\$10,000
2 Storm water/erosion controls	1	Lump Sum	\$5,000.00	\$5,000
3 Storm drainage pipe/culvert replacement and headwall	360	LF	\$50.00	\$18,000
4 SWPPP Bio Retention Basin	480	SF	\$40.00	\$19,200
5 Asphalt access and drive aisles	10,000	SF	\$6.00	\$60,000
6 Compacted gravel parking area	10,000	SF	\$4.00	\$40,000
7 Parking wheel stops	14	Each	\$100.00	\$1,400
8 River landing/launch; includes temporary coffer dams, reinforcing, sub-base, base and surface finish; assumes stamped colored concrete to achieve a bluestone "look"	1	Each	\$100,000.00	\$100,000
9 Native riverine landscaping	3,000	SF	\$1.50	\$4,500
10 Cellular/WIFI hub/router (assumes solar power)	1	Each	\$7,500.00	\$7,500
11 Site signage	1	Lump Sum	\$24,000.00	\$24,000
12 Design and Engineering Fee				\$52,128
			Subtotal Site Improvements	\$341,728
			Contingency (20%)	\$68,346
			<b>Total</b>	<b>\$410,074</b>



# Callicoon



The Town of Delaware is home to the Callicoon access point. The development pattern that has taken shape in the Town of Delaware in the recent past can best be characterized as recreation/ tourism related. Most new development within the Town in recent years has been the residential in nature. Commercial development is concentrated in the hamlets of Callicoon, Hortonville and Kohlertown. Most of the Town remains undeveloped and agriculture continues to be an important part of the community's character. Callicoon has been economically revived by the access road and park along the Callicoon Creek (near the access point). These have made possible the opening up of the rear area of Main Street, a new convenience store and restaurant and a farmers' market. There are now several restaurants in the hamlet. Over the long term, more retail and service establishments can be expected as the residential population increases and the demand for such businesses grows.

The Callicoon access point lies at the junction of the Callicoon Creek and the Delaware River. It is behind the Delaware Youth Center and also contains a well for local municipal water supply. Historically this site has been popular for river access but it has been seriously impacted by flooding in recent years. Most of the improvements have been washed away and a diversion channel was constructed to help alleviate flooding of the Youth Center facility. However, the diversion channel has compromised the water quality of the potable water well since it was constructed within the well's setback area.

## Existing Conditions

### Existing/Popular Uses

- Formerly premier access point in the region including trailer access and restrooms
- Kayak/canoe launch

### Site Access and Parking

- Access was formerly paved; today access can be difficult for smaller vehicles
- Access across the diversion channel can be cut off during high water

### Site Character and River Character

- Sandy shore that gradually drops off; 3'-4' deep about 50' from the waterline
- Alluvial deposits have created shallow water conditions making motorized/non-motorized boat access difficult
- Invasive knotweed is overtaking native habitat and can make site access difficult
- Entire site within floodway

### Adjacent Site/Uses

- Delaware Youth Center (DYC)
  - Existing private DYC amenities could appear to be public
  - No possibility of shared facilities/programming
  - Desire to distinctly separate the sites

### Additional Elements/Points

- Existing diversion channel
  - Impact on quality of municipal water supply
  - Safety issues

### Signage

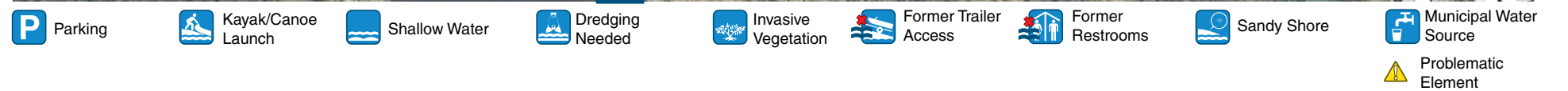
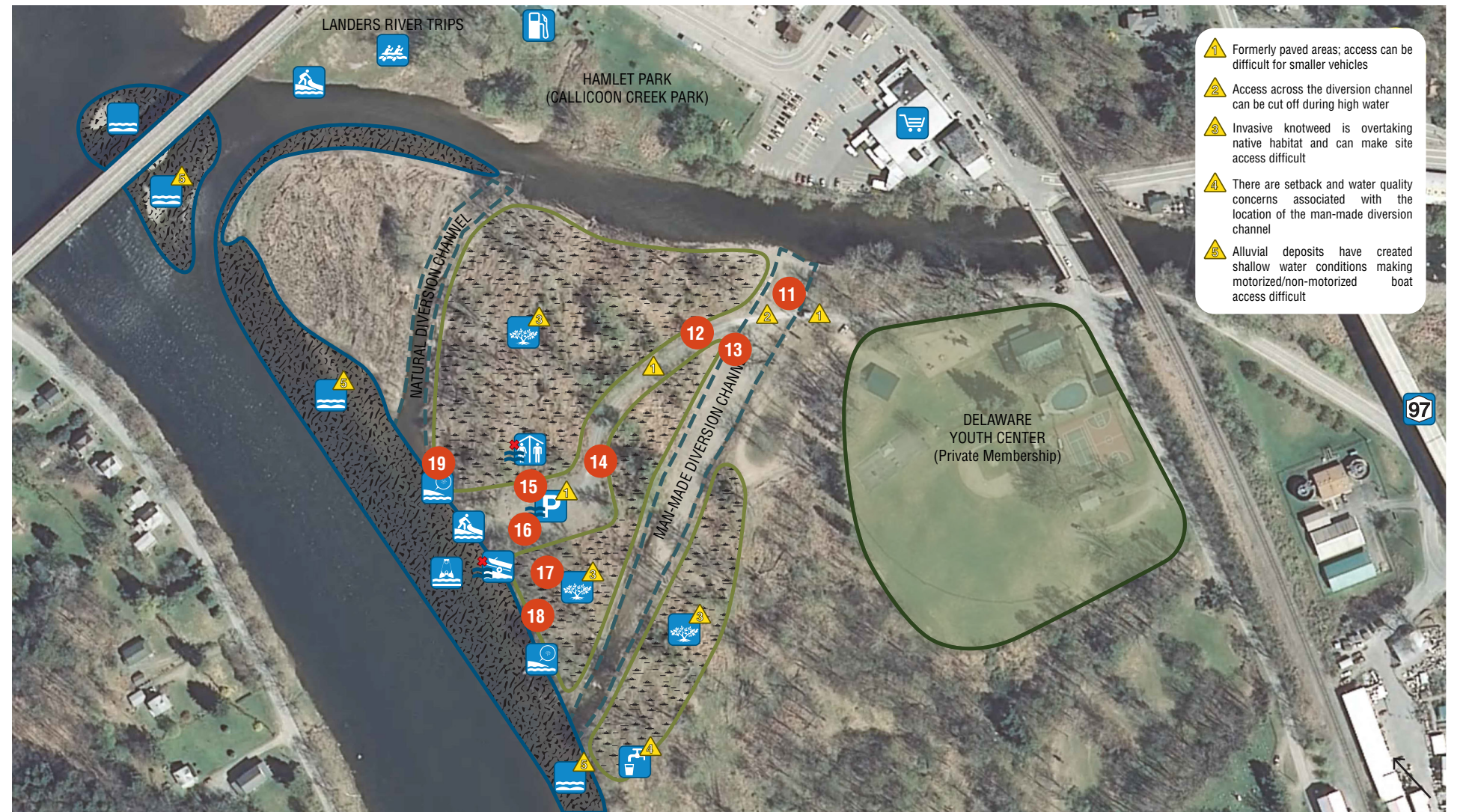
- Generally lacking directional signage; DEC and NPS identification and safety signage

## Potential Program

### Site needs to primarily accommodate motorized and non-motorized boat launches and recreational users

- Possibility of developing the upstream area as a passive park-like space
- Possibility of relocating the diversion channel to an upstream area
- Vehicular access through the diversion channel if not relocated
- Distinct space separate from the Delaware Youth Center/no shared amenities
- Seasonal portable toilets
- Trash cans
- No formal launch areas; maintain natural look as much as possible
- Dredging needed in the long term for boat launches
- ADA/handicapped accessibility

## Callicoon Existing Conditions Analysis



Callicoon Existing Signage



## Existing Signage

### Directional

- Absent around town
- Absent from site

### Rules

- Absent from site

### Near Access Site

#### DEC

- "Fishing Access Area"; white with black lettering on metal on tree hidden behind branches 12" x 12"

#### Municipal

- "Warning! Flood Diversion Channel Ahead Water Can Rise Rapidly. DO NOT Attempt to Use Road if Water is in Channel."; yellow with black lettering 18" x 16"
- Private
- "Private Property. River Access Parking Across Channel" red with white lettering on metal 18" x 12"

### Information

#### DEC

- "Callicoon Creek Public Fishing Stream State of New York Dept. of Environmental Conservation"; yellow paint and logo stickers on brown painted wood 48" x 26"
- "Isaac's Island State of New York Dept. of Environmental Conservation"; yellow paint and logo stickers on brown painted wood 48" x 26"

#### NPS

- "Life Jackets Save Lives", coroplast with metal stakes



### Site Concept Plan

The site concept plan for the Callicoon access point reestablishes some of the previous site amenities but considers the risk of ongoing flooding to be a certainty. As such, most of the elements are able to be removed at the end of the season or under threat of high water.

The parking area provides access for boat launching and fishing.

### Invasive Species Eradication

The Callicoon site has significant (severe) infestation of Japanese Knotweed and other invasive plant species. It has the most severe infestation of invasive plant material out of all six access points in the corridor. A management protocol should be developed for the removal of invasive species and establishment of native plant communities. More information about this can be found in the Overall Recommendations chapter.

### Diversion Channel

In response to significant flooding, a diversion channel was constructed between the Callicoon Creek and the Delaware River. Before any additional improvements or reinvestment are undertaken, a hydraulic study should

be completed to determine the optimal position for the diversion channel.

The current site concept plan shows a relocated diversion channel. This location is preferred by a number of stakeholders but the final conclusions of the hydraulic study should be used to determine the location of the channel.

### Site Access and Facilities

The Delaware Youth Center has expressed concern about differentiating between the Youth Center facilities and the access point facilities (restrooms, playground, etc.). A fence and signage should be erected to clearly indicate that Youth Center facilities are not open to the public and should not be used by access point users.

### Management

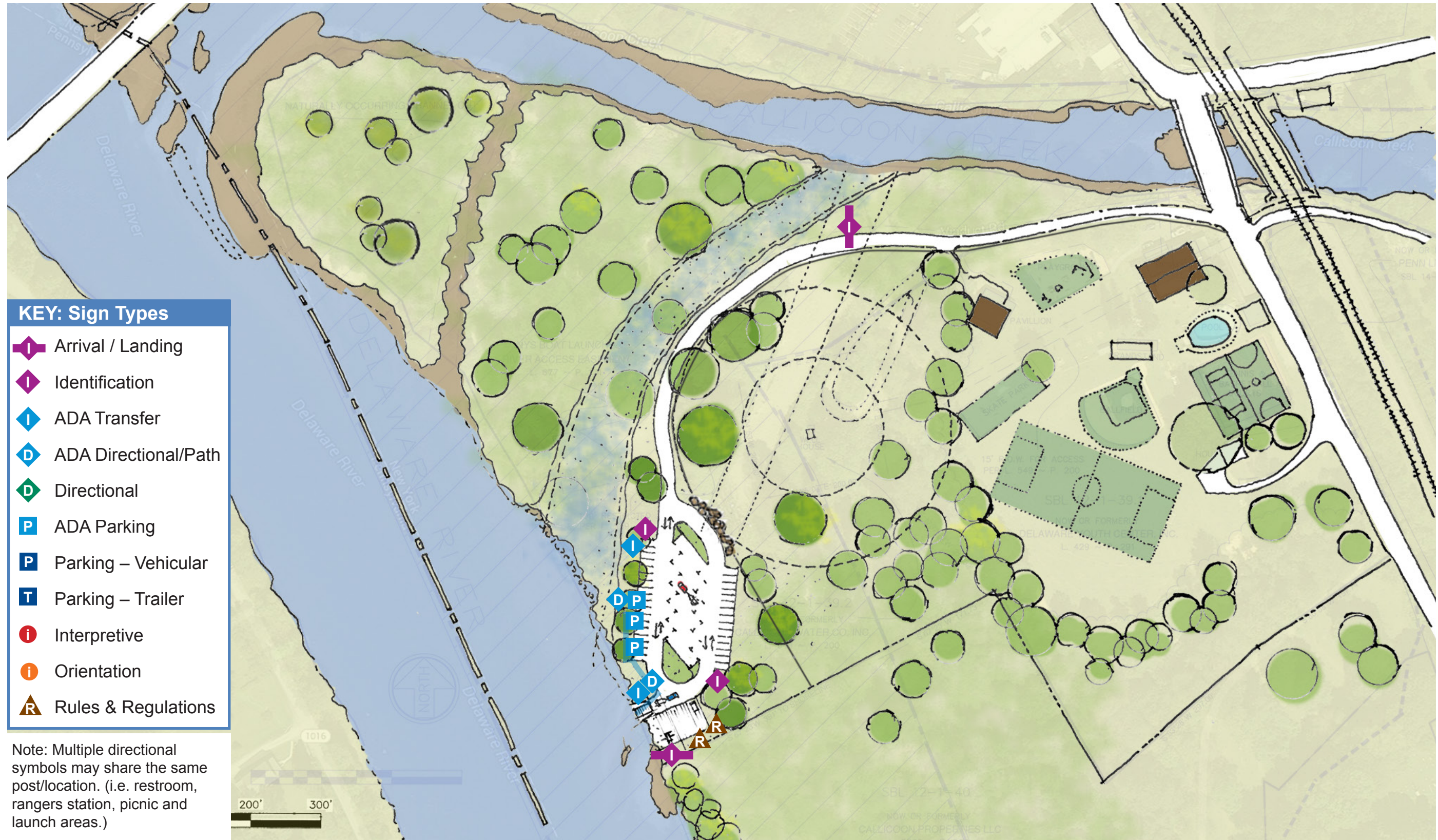
The Callicoon access point was previously managed and operated by the Delaware Youth Center. Moving forward, the Youth Center will not be managing or operating the site, although they will maintain ownership of the land. As planned improvements move forward, the future operations and management of the site will need to be resolved.



# Callicoon Site Concept Plan



# Callicoon Signage Plan





## Callicoon Proposed Sign Typology

Qty: Sign Description


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### Identification

---

1 Gateway double-sided (on Rt. 97)

---

1 Entrance double-sided (at point of site entrance) 

---

1 River Landing 

---

1 ADA transfer location 

---

### Directional

---

2 Rt 97 DOT Symbols w/ arrow & millage (on approach to site) – Canoe and/or Launch Symbol

---

2 ADA Path 

---

### Parking

---

3 ADA Parking 

---

### Rules & Regulations

---

1 NPS Warning: Never Try to Swim Across the River

---

1 General Rules & Regulations of the River

---

New Interpretive signs could provide more space for: warning on rocks, high water, turbulent waters, dogs on leashes, etc.

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## Opinion of Probable Development Costs

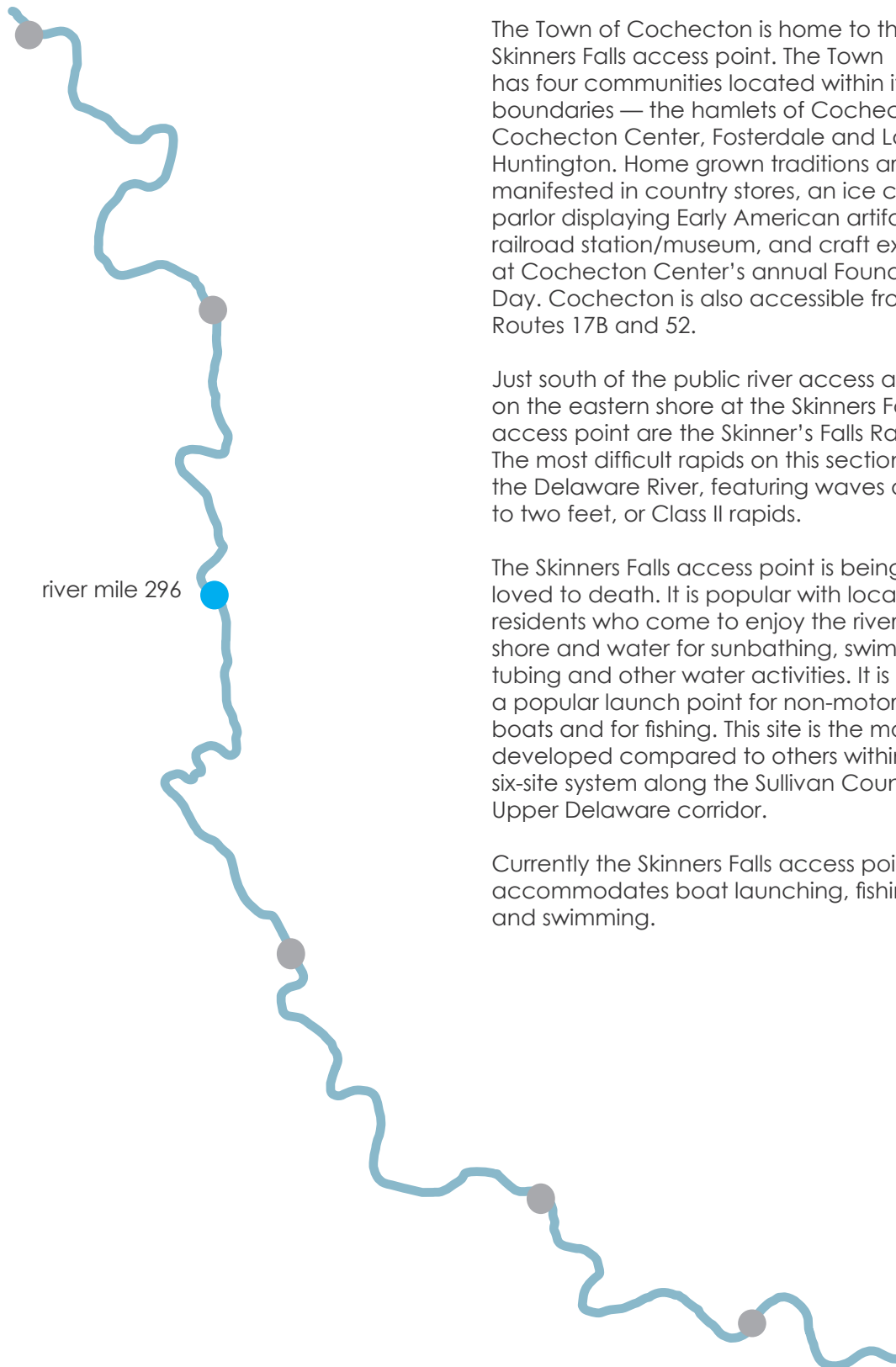
This ballpark opinion of probable development costs is based on system costs. Quantities have been estimated and scaled from plotted base maps and may not match exactly with field conditions. A base survey was not completed as part of this project. Quantities will need to be verified in the field by contractors. As concepts are refined, the costs will need to be refined as well.

## Callicoon Opinion of Probable Development Costs

Site Improvement	Qty	Unit	Unit Cost	Total Cost
1 Site preparation; includes clearing, grubbing and earthwork	1	Acres	\$10,000.00	\$8,000
2 Storm water/erosion controls	1	Lump Sum	\$10,000.00	\$10,000
3 Diversion channel restoration- fill and stabilized existing	600	LF	\$600.00	\$360,000
4 Diversion channel restoration- fill partial Channel for Access	40	LF	\$600.00	\$24,000
5 Compacted gravel access	3,000	SF	\$4.00	\$12,000
6 Compacted gravel parking area	32,000	SF	\$4.00	\$128,000
7 Parking wheel stops	36	each	\$100.00	\$3,600
8 Asphalt ADA parking spaces and loading zones	3	each	\$2,000.00	\$6,000
9 River landing/launch; includes temporary coffer dams, steel grate/mats and anchors	1	each	\$85,000.00	\$85,000
10 River rock boulders (ice scour and debris deflectors; includes concrete foundations, anchors and grout	1	each	\$10,000.00	\$10,000
11 Native riverine landscaping	3,125	SF	\$1.50	\$4,688
12 Native grassland landscaping restoration	75,000	SF	\$1.00	\$75,000
13 Woodland landscaping restoration	13,200	SF	\$1.00	\$13,200
14 Dumpster enclosure	1	each	\$5,000.00	\$5,000
15 Dumpster; bear-resistant	1	each	\$2,000.00	\$2,000
16 Fence	1,200	LF	\$48.00	\$57,600
17 Site signage	1	Lump Sum	\$22,000.00	\$22,000
18 Design and Engineering Fee				\$148,696
			Subtotal Site Improvements	\$974,783
			Contingency (20%)	\$194,957
			<b>Total</b>	<b>\$1,169,740</b>



# Skinners Falls



The Town of Cochection is home to the Skinners Falls access point. The Town has four communities located within its boundaries — the hamlets of Cochection, Cochection Center, Fosterdale and Lake Huntington. Home grown traditions are manifested in country stores, an ice cream parlor displaying Early American artifacts, a railroad station/museum, and craft exhibits at Cochection Center's annual Founders Day. Cochection is also accessible from Routes 17B and 52.

Just south of the public river access area on the eastern shore at the Skinners Falls access point are the Skinner's Falls Rapids. The most difficult rapids on this section of the Delaware River, featuring waves of up to two feet, or Class II rapids.

The Skinners Falls access point is being loved to death. It is popular with local residents who come to enjoy the river shore and water for sunbathing, swimming, tubing and other water activities. It is also a popular launch point for non-motorized boats and for fishing. This site is the most developed compared to others within the six-site system along the Sullivan County Upper Delaware corridor.

Currently the Skinners Falls access point accommodates boat launching, fishing and swimming.

## Existing Conditions

### Existing/Popular Uses

- Kayak/canoe launch
- Fishing
- Swimming

### Site Access and Parking

- Fire Department uses the site for water access
- 52 space parking lot; 1 space designated for ADA parking
- No accessible route from ADA parking to water's edge

### Site Character and River Character

- The narrow 4-5' walkway limits access to the river and is not in conformance with ADA standards
- Invasive knotweed is overtaking native habitat and can make site access difficult
- Skinners Falls rapids are immediately downstream and are a local attraction

### Adjacent Site/Uses

- Landers Campground and River Trips – launch, campground, restrooms and snack bar
- Lou's Tubes

### Additional Elements/Points

- The single lane bridge upstream from the site is slated for reconstruction

### Signage

- Municipal, DOT and NPS directional signage

## Potential Program

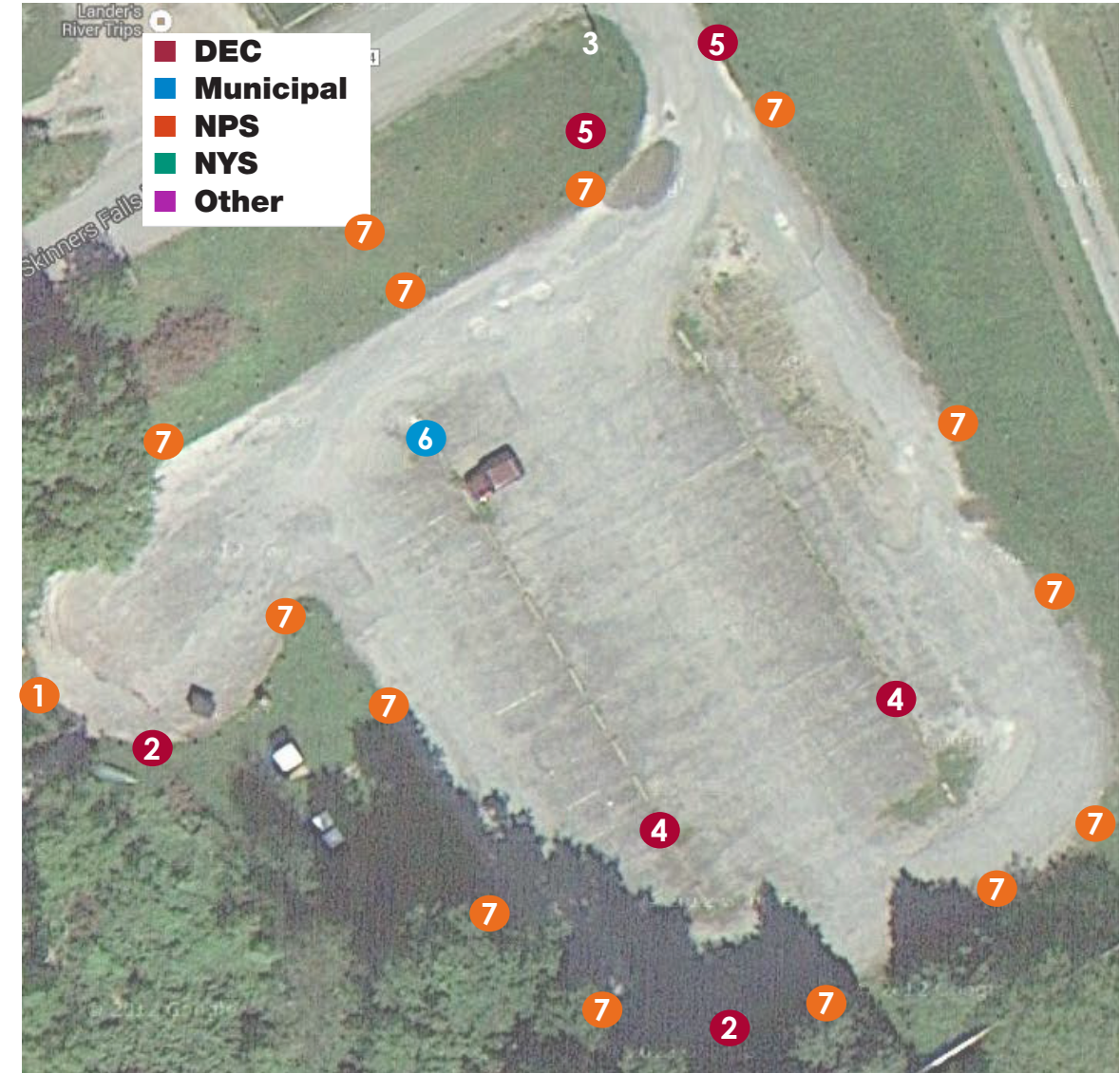
Site needs to primarily accommodate driftboat fishing, non-motorized boating, tubing, wading, swimming and fishing

- Trailer parking and trailer access for driftboats
- Additional car parking (site requires approximately 100 spaces at peak use)
- Two boat ramps
- Trash cans, pavilion or picnic tables, and permanent comfort station
- Ranger Station
- ADA/universal accessibility

## Skidders Falls Existing Conditions Analysis



### Skidders Falls Existing Signage



## Existing Signage

### Directional

#### Municipal/DOT

- Skinners Falls with Directional Arrow; green with white reflective lettering on metal 48" x 24"– Both directions

#### NPS

- Skinners Falls with Directional Arrow; brown with white reflective lettering on metal 36" x 20"– Both directions

#### Private

- "Lander's River Trips Skinners Fall Campground 100 yards on left"; paint on wood approx. 96" x 96"– North on Route 97 only
- "Lander's River Trips Skinners Fall Campground"; paint on wood approx. 96" x 96"– North on Route 97 only

### Information

#### DEC

- "Skinners Falls Fishing Access Site State of New York Dept. of Environmental Conservation"; yellow paint and logo stickers on brown painted wood 48" x 26"

#### NPS

- "River Access – Upper Delaware Scenic and Recreational River"; Green and gray paint with reflective white letters, logo sticker brown digital print on reflective white, adhered to 1/4" metal panels sandwiched to a 2" metal panel, 48" x 25"
- Upper Delaware Scenic and Recreational River; Three brown metal paneled stanchions with box, inset 24" x 48" (6' high)
- Respect the River
- Information: Life Jackets, Didymo algae, River Heights, River Access, Fishing Licenses, Poison Ivy, Pack it in Pack it out!, No Glass, Emergency Assistance
- Upper Delaware

### Rules

#### DEC

- "Rules and Regulations. NYS DEC Division of Fish and Wildlife." Quantity 3, Paper laminated and mounted to a wooden structure.
- "Anglers Park Here"; quantity 2, yellow paint on brown painted wood 18" x 12"

#### NPS

- "Never Try To Swim Across River," warnings in English and Spanish. Quantity 3, white reflective material on metal, translucent red, opaque black letters, yellow and black opaque graphics.
- "No Parking"; quantity 14, brown and red digital print on white direct to metal 12" x 12"
- "Reserved Parking (Disability)"; quantity 1, blue and green on white digital direct to metal 12" x 18"



## Site Concept Plan

The existing Skinners Falls access point is a popular destination. Planned enhancements to the site work within the existing area of the access point. The location of the existing launch is ideal in terms of the quality and character of the shoreline. The existing driveway entrance cannot be relocated because of the approach to the Milanville/Skinner's Falls Bridge. New buildings had to be located outside of the river floodway. Consequently, the overall site design was driven by these limiting factors, creating a straightforward site concept plan to accommodate parking and enhanced site amenities.

Working closely with the National Park Service (NPS) and other stakeholders, it was determined that enhanced amenities were needed based on the popularity of the Skinners Falls access point. A permanent ranger station will provide a point of contact for NPS personnel while a picnic and pavilion area is anticipated to be popular with the many visitors who use the space for day-long swimming and sunbathing.

Along with the Ten Mile site, Skinners Falls is planned to have enhanced ADA access to the water's edge. These sites were chosen for enhanced access because of their more extensive amenities, the fact

that they are representative of the natural beauty and quality of the Upper Delaware River corridor and because the NPS manages these sites.

Because of the site's popularity, parking is at a premium. The enhanced parking area will accommodate 60 car parking spaces, three ADA spaces and six spaces for vehicles with trailers.

Additional riverside picnic areas will accommodate users who use the area for picnicking, sunbathing, swimming and rafting. Restroom facilities will be included to accommodate users who are spending several hours or entire days at the site. These facilities must be located in areas where rising river levels will not impact the structures.

## Invasive Species Eradication

Much like the Callicoon access point, the Skinners Falls location also has significant areas of Japanese Knotweed and other invasive plant species infestation. Of the six sites, it has the second worst infestation (with the Callicoon access point having the worst problem). A management protocol should be developed for the removal of invasive species and establishment of native plant communities. More information about this can be found in the Overall Recommendations chapter.





Skidders Falls Site Concept Plan



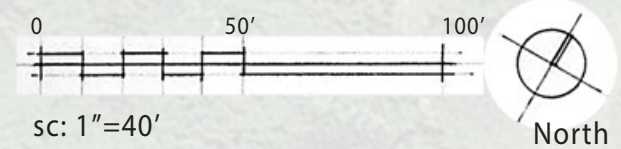
Skidders Falls Signage Plan



**KEY: Sign Types**

- Arrival / Landing
- Identification
- ADA Transfer
- ADA Directional/Path
- Directional
- ADA Parking
- Parking – Vehicular
- Parking – Trailer
- Interpretive
- Orientation
- Rules & Regulations




Note: Multiple directional symbols may share the same post/location. (i.e. restroom, rangers station, picnic and launch areas.)



## Skidders Falls Proposed Sign Typology

### Qty: Sign Description


#### Identification

2	Gateway double-sided (on Rt. 97)
1	Entrance double-sided (at point of site entrance) 
1	River Landing 
1	ADA Transfer / Launch icon at location 
2	Restrooms icon at location

#### Directional

2	Rt 97 DOT Symbols w/ arrow & millage (on approach to site) – Canoe and/or Launch Symbol
1	Launch icon with arrow
2	Picnic Area icon with arrow
2	Restrooms icon with arrow
2	Ranger Station icon with arrow

#### Parking

0	No Parking
5	ADA Parking 
8	Trailer Parking
2	Angler Parking (Currently, 2 DEC spots. Will be 8 spots. Could striping take care of identifying spots)

#### Interpretive

3	Existing NPS Interpretive signs – Launch Area <small>(Life jackets, Didymo algae, River Heights, River Access, Fishing Licenses, Poison Ivy, Pack in Pack it out, No glass, Emergency Assist.)</small>
3	Additional Interpretive signs at – Picnic Area

#### Orientation

2	Landing Map / Interpretive: all access along the river (indicate ADA)
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#### Rules & Regulations

3	DEC Rules & Regulations (currently 3)
1	NPS Warning: Never Try to Swim Across the River
1	General Rules & Regulations of the River <small>New Interpretive signs could provide more space for: warning on rocks, high water, turbulent waters, dogs on leashes, etc.</small>

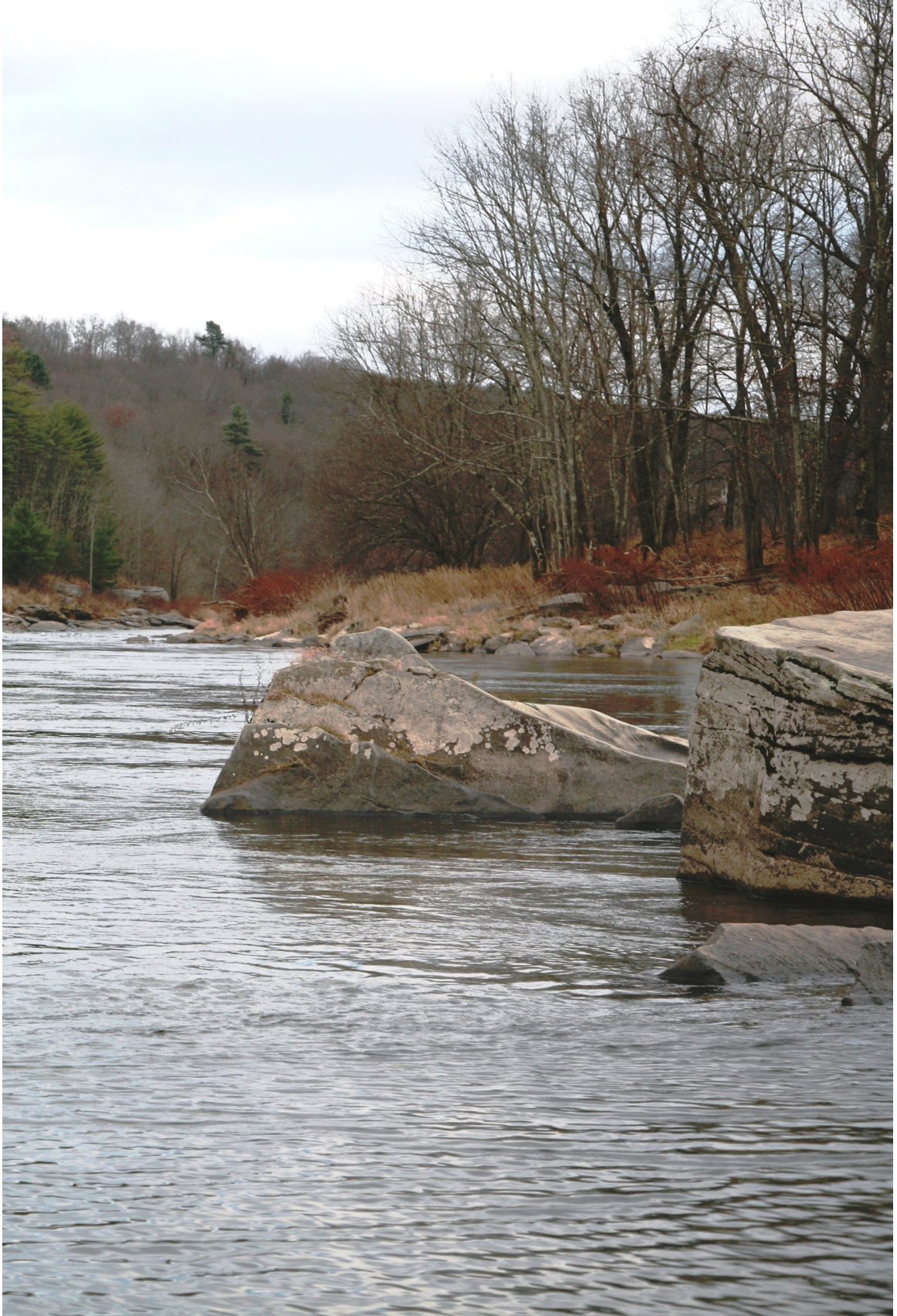
## Opinion of Probable Development Costs

This ballpark opinion of probable development costs is based on system costs. Quantities have been estimated and scaled from plotted base maps and may not match exactly with field conditions. A base survey was not completed as part of this project. Quantities will need to be verified in the field by contractors. As concepts are refined, the costs will need to be refined as well.

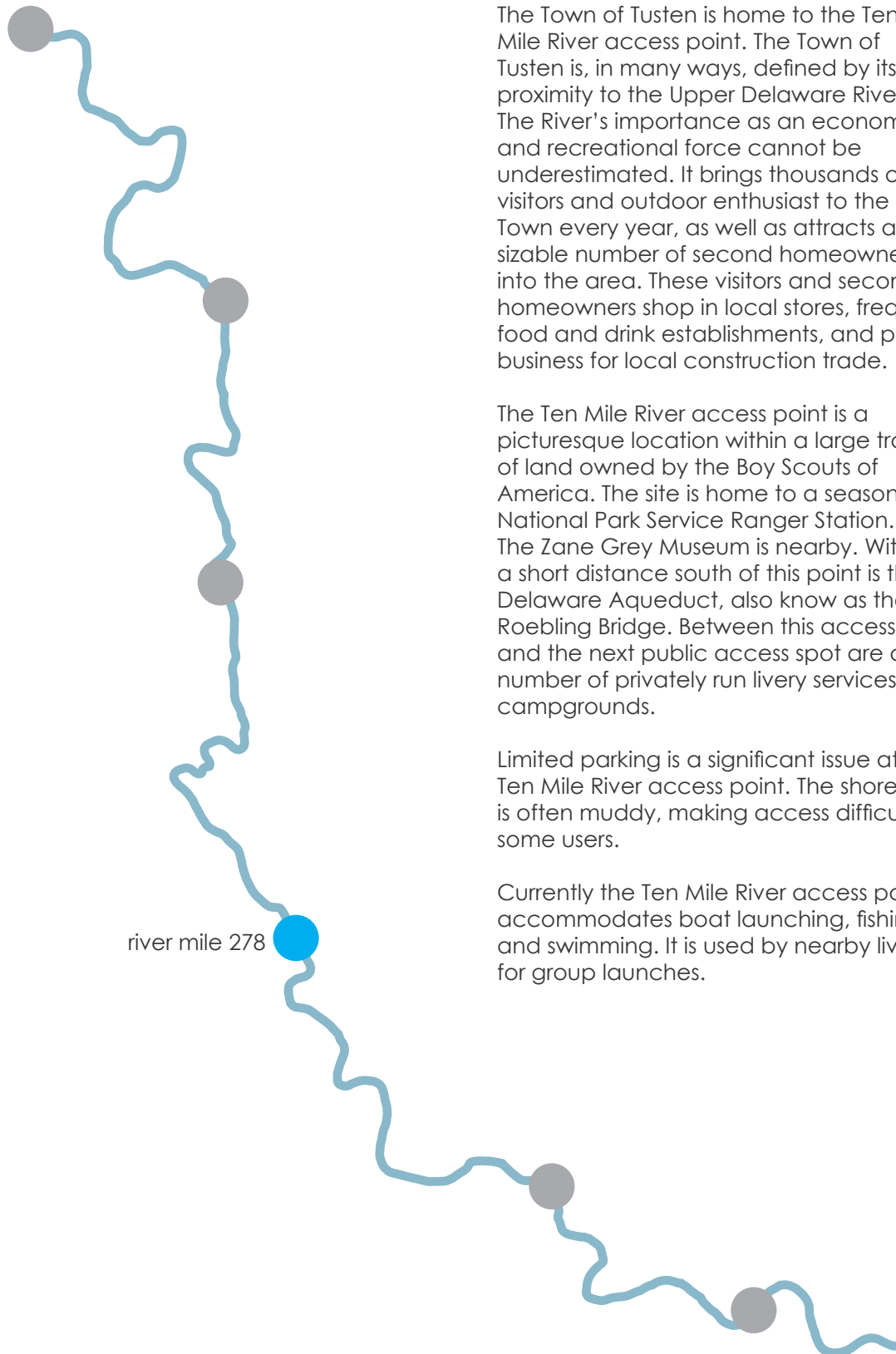
### Skidders Falls Opinion of Probable Development Costs

Site Improvement	Qty	Unit	Unit Cost	Total Cost
1 Site preparation; includes clearing, grubbing and earthwork	2	Acres	\$5,000	\$10,000
2 Storm water/erosion controls	1	Lump Sum	\$5,000	\$5,000
3 Asphalt access and drive aisles	9,000	SF	\$6.00	\$54,000
4 Compacted gravel parking area	50,000	SF	\$4.00	\$200,000
5 Parking wheel stops	70	Each	\$100	\$7,000
6 Asphalt ADA parking spaces and loading zones	3	Each	\$2,000	\$6,000
7 Comfort (restroom and picnic) Pavilion; includes structure, sanitary composter, picnic tables, etc.	1	Each	\$250,000	\$250,000
8 ADA access transfer launch; includes concrete walkway and gabion support	1	Each	\$20,000	\$20,000
9 River landing/launch; includes temporary coffer dams, reinforcing, sub-base, base and surface finish; assumes stamped colored concrete to achieve a bluestone "look"	1	Each	\$100,000	\$100,000
10 River rock boulders (ice scour and debris deflectors; includes concrete foundations, anchors and grout	1	Each	\$10,000	\$10,000
11 Native riverine landscaping	2,500	SF	\$1.50	\$3,750
12 Native grassland restoration	17,250	SF	\$1.00	\$17,250
13 Woodland restoration	0	SF	\$1.50	\$0
14 Crushed limestone trail (from launch to Arch Bridge); 6' wide	2,025	SF	\$3	\$6,075
15 Asphalt path (from parking area to launch); 6' wide	480	SF	\$6	\$2,880
16 Dumpster enclosure	1	Each	\$5,000	\$5,000
17 Cellular/WIFI hub/router (assumes solar power)	1	Each	\$7,500	\$7,500
18 Dumpster; bear-resistant	1	Each	\$2,000	\$2,000
19 Septic System/Holding Tank	1	Lump Sum	\$30,000	\$30,000
20 Site signage	1	Lump Sum	\$30,000.00	\$30,000
21 Design and Engineering Fee				\$137,962
			Subtotal Site Improvements	\$904,417
			Contingency (20%)	\$180,883
			<b>Total</b>	<b>\$1,085,300</b>

Note that there are alternative options for #7. For example, a prefabricated concrete restroom facility could be manufactured and installed for about \$70,000.



## Ten Mile River



The Town of Tusten is home to the Ten Mile River access point. The Town of Tusten is, in many ways, defined by its proximity to the Upper Delaware River. The River's importance as an economic and recreational force cannot be underestimated. It brings thousands of visitors and outdoor enthusiasts to the Town every year, as well as attracts a sizable number of second homeowners into the area. These visitors and second homeowners shop in local stores, frequent food and drink establishments, and provide business for local construction trade.

The Ten Mile River access point is a picturesque location within a large tract of land owned by the Boy Scouts of America. The site is home to a seasonal National Park Service Ranger Station. The Zane Grey Museum is nearby. Within a short distance south of this point is the Delaware Aqueduct, also known as the Roebling Bridge. Between this access area and the next public access spot are a number of privately run livery services and campgrounds.

Limited parking is a significant issue at the Ten Mile River access point. The shoreline is often muddy, making access difficult for some users.

Currently the Ten Mile River access point accommodates boat launching, fishing and swimming. It is used by nearby liveries for group launches.

## Existing Conditions

### Existing/Popular Uses

- Livery launch via school bus
- Seasonal NPS ranger station

### Site Access and Parking

- Very few parking spaces available because of extensive "No Parking" signage; spillover parking in areas signed "No Parking"

### Site Character and River Character

- Muddy shoreline can make access difficult
- Shallow water downstream from site
- Landing area within floodway

### Adjacent Site/Uses

- Landers campground
- Boy Scout property

### Additional Elements/Points

- Picturesque site
- Scenic walking trails in adjacent Boy Scout property and stone bridge

### Signage

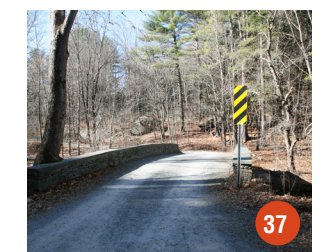
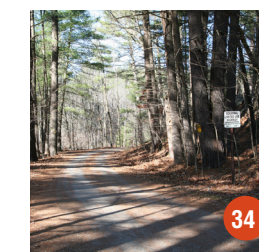
- NPS informational and directional signage
- "No Parking" and access signage

## Potential Program

### Site needs to primarily accommodate livery drop-off and local recreation users

- Additional car parking
- Trash cans, picnic tables, and seasonal portable toilets
- Accommodate potential relocation of existing mobile ranger station
- Introduce hard surface paving areas to improve river ingress/egress within the mud flat
- ADA/handicapped accessibility

## Ten Mile River Existing Conditions Analysis



### Ten Mile Existing Signage





## Existing Signage

### Directional

- NPS: Ten Mile River with Directional Arrow; brown with white reflective lettering on metal 36" x 20" – Both directions

### Rules

- "No Parking"; quantity 5, brown on white direct to clayboard 12" x 12"
- "No Parking"; quantity 3, brown on white direct to clayboard 3" x 4"
- "Water Access (Canoe)"; quantity 2, brown on white direct to clayboard 12" x 12"

### Information

- NPS: "Tusten Mountain Trail"; brown metal paneled stanchion, inset 36" x 48" (6' high) with box
- NPS: "River Access – Upper Delaware Scenic and Recreational River"; Green and gray paint with reflective white letters, logo sticker brown digital print on reflective white, adhered to 1/4" metal panels sandwiched to a 2" metal panel, 48" x 25"
- NPS: Upper Delaware Scenic and Recreational River;  
Three brown metal paneled stanchions with box, inset 24" x 48" (6' high)
  - o Respect the River
  - o Information: Life Jackets, Didymo algae, River Heights, River Access, Fishing Licenses, Poison Ivy, Pack it in Pack it out!, No Glass, Emergency Assistance
  - o Upper Delaware



### Site Concept Plan

Working closely with the National Park Service (NPS) and other stakeholders, it was determined that enhanced amenities were needed based on the popularity of the Ten Mile access point. A ranger station will provide a point of contact for NPS personnel while a picnic and pavilion area is anticipated to be popular with the many visitors who use the space for day-long swimming and sunbathing.

Along with the Skinners Falls site, Ten Mile is planned to have enhanced ADA access. These sites were chosen for enhanced access because of their more extensive amenities and the fact that they are representative of the natural beauty and quality of the Upper Delaware River corridor.

### Site Concept Plan

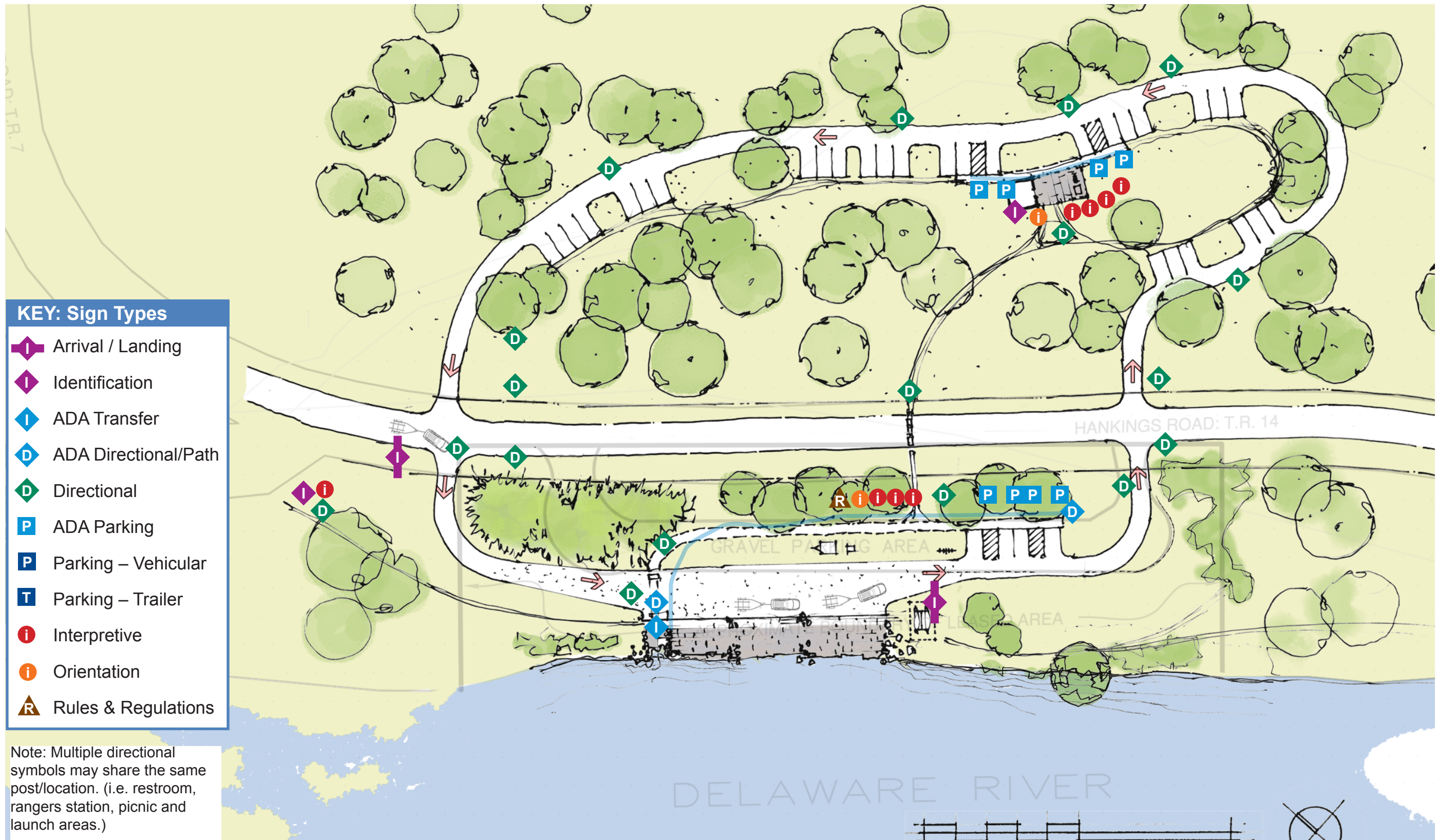
The existing NPS lease with the Boy Scouts of America encompasses the existing parking and river access area. As implementation of site improvements moves forward, the NPS lease area should be expanded to include the overflow parking area and the surrounding woodland area so that the entire site can be managed through the lease.



Ten Mile Site Concept Plan






Ten Mile Signage Plan



## Ten Mile Proposed Sign Typology

### Qty: Sign Description

#### Identification

1	Gateway double-sided (on Rt. 97)
1	Entrance double-sided (at point of site entrance) 
1	River Landing 
1	ADA Transfer / Launch icon location 
1	Canoe icon at location
2	Restrooms icon at location

#### Directional

2	Rt 97 DOT Symbols w/ arrow & millage (on approach to site) – Canoe and/or Launch Symbol
7	Canoe icon with arrow
9	Picnic Area icon with arrow
7	Restrooms icon with arrow
7	Ranger Station icon with arrow
3	One-Way Traffic (road along river)
5	Trail icon with arrow (parking lot and existing trail Interpretive sign)
2	ADA Path

#### Parking

0	No Parking
0	No Trailer Parking
2	ADA Parking 
0	Angler Parking (0 currently)

#### Interpretive

1	Existing NPS Trail Interpretive sign – near road leading to trailhead
3	Existing NPS Interpretive signs – Launch Area (Life jackets, Didymo algae, River Heights, River Access, Fishing Licenses, Poison Ivy, Pack in Pack it out, No glass, Emergency Assist.)
3	Additional Interpretive signs at – Picnic Area

#### Orientation

2	Landing Map / Interpretive: all access along the river (indicate ADA)
---	---

#### Rules & Regulations

1	NPS Warning: Never Try to Swim Across the River
1	General Rules & Regulations of the River New Interpretive signs could provide more space for: warning on rocks, high water, turbulent waters, dogs on leashes, etc.

## Opinion of Probable Development Costs

All costs is based on system costs. Quantities have been estimated and scaled from plotted base maps and may not match exactly with field conditions. A base survey was not completed as part of this project. Quantities will need to be verified in the field by contractors. As concepts are refined, the costs will need to be refined as well.

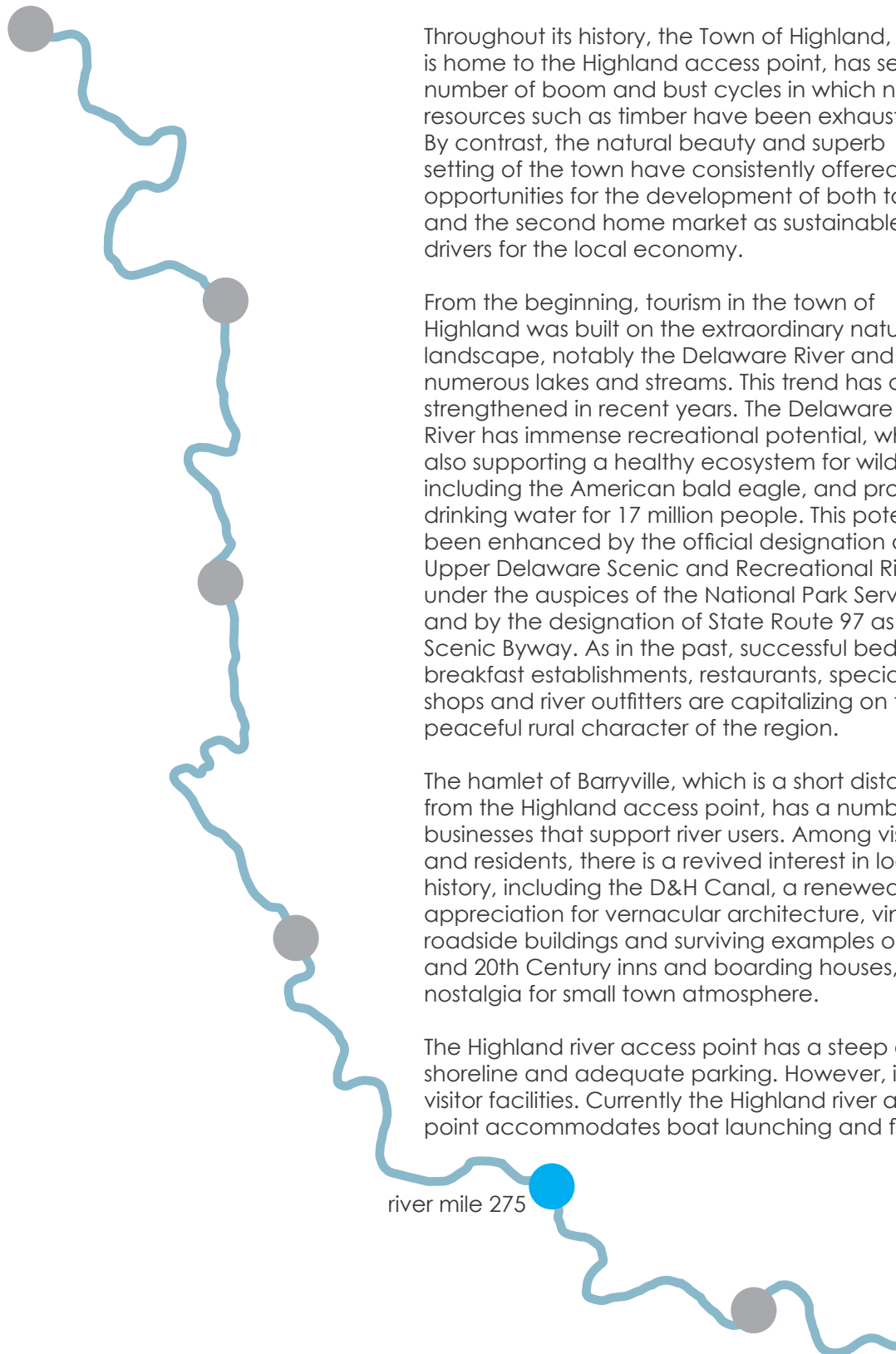
### Ten Mile Opinion of Probable Development Costs

Site Improvement	Qty	Unit	Unit Cost	Total Cost
1 Site preparation; includes clearing, grubbing and earthwork	2	Acres	\$5,000.00	\$10,000
2 Storm water/erosion controls	1	Each	\$5,000.00	\$5,000
3 Concrete Ranger station pad	1	Each	\$5,000.00	\$5,000
4 New compacted gravel access drive	8,000	SF	\$4.00	\$32,000
5 Compacted gravel parking area	6,000	SF	\$4.00	\$24,000
6 Resurface existing gravel access and parking area	16,000	SF	\$1.00	\$16,000
7 Parking wheel stops	33	Each	\$100.00	\$3,300
8 Asphalt ADA parking spaces and loading	2	Each	\$2,000.00	\$4,000
9 Comfort (restroom and picnic) Pavilion; includes structure, sanitary composter, picnic tables, etc.	1	Each	\$250,000.00	\$250,000
10 ADA access transfer launch; includes concrete walkway and gabion support	1	Each	\$20,000.00	\$20,000
11 River landing/launch; includes temporary coffer dams, reinforcing, sub-base, base and surface finish; assumes stamped colored concrete to achieve a bluestone "look"	1	Each	\$80,000.00	\$80,000
12 River rock boulders (ice scour and debris deflectors; includes concrete foundations, anchors and grout	1	Lump Sum	\$10,000.00	\$10,000
13 Native riverine landscaping	15,000	SF	\$1.50	\$22,500
14 Woodland restoration	8,125	SF	\$1.50	\$12,188
15 Crushed limestone trail (from launch to Arch Bridge); 6' wide	6,000	SF	\$3.00	\$18,000
16 Asphalt path (from parking area to launch); 6' wide	1,440	SF	\$6.00	\$8,640
17 Dumpster enclosure	1	Each	\$5,000.00	\$5,000
18 Cellular/WIFI hub/router (assumes solar power)	1	Each	\$7,500.00	\$7,500
19 Dumpster; bear-resistant	1	Each	\$2,000.00	\$2,000
20 Septic System/Holding Tank	1	Lump Sum	\$30,000.00	\$30,000
21 Site signage	1	Lump Sum	\$34,000.00	\$34,000
22 Design and Engineering Fee				\$107,843
			Subtotal Site Improvements	\$706,970
			Contingency (20%)	\$141,394
			<b>Total</b>	<b>\$848,365</b>

Note that there are alternative options for #9. For example, a prefabricated concrete restroom facility could be manufactured and installed for about \$70,000.



# Highland



Throughout its history, the Town of Highland, which is home to the Highland access point, has seen a number of boom and bust cycles in which natural resources such as timber have been exhausted. By contrast, the natural beauty and superb setting of the town have consistently offered opportunities for the development of both tourism and the second home market as sustainable drivers for the local economy.

From the beginning, tourism in the town of Highland was built on the extraordinary natural landscape, notably the Delaware River and the numerous lakes and streams. This trend has only strengthened in recent years. The Delaware River has immense recreational potential, while also supporting a healthy ecosystem for wildlife, including the American bald eagle, and providing drinking water for 17 million people. This potential has been enhanced by the official designation of the Upper Delaware Scenic and Recreational River under the auspices of the National Park Service, and by the designation of State Route 97 as a Scenic Byway. As in the past, successful bed and breakfast establishments, restaurants, specialty shops and river outfitters are capitalizing on the peaceful rural character of the region.

The hamlet of Barryville, which is a short distance from the Highland access point, has a number of businesses that support river users. Among visitors and residents, there is a revived interest in local history, including the D&H Canal, a renewed appreciation for vernacular architecture, vintage roadside buildings and surviving examples of 19th and 20th Century inns and boarding houses, and nostalgia for small town atmosphere.

The Highland river access point has a steep dry shoreline and adequate parking. However, it lacks visitor facilities. Currently the Highland river access point accommodates boat launching and fishing.

river mile 275



## Existing Conditions

### Existing/Popular Uses

- Launch site for non-motorized boats
- Fishing

### Site Access and Parking

- Adequate parking areas
- Steep access path

### Site Character and River Character

- Steep drop off along shoreline

### Adjacent Site/Uses

- Vacant property/highway right-of-way

### Additional Elements/Points

- Two miles upstream of Barryville

### Signage

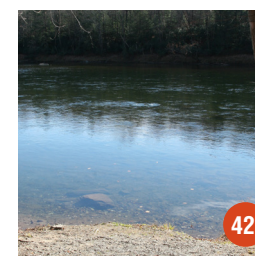
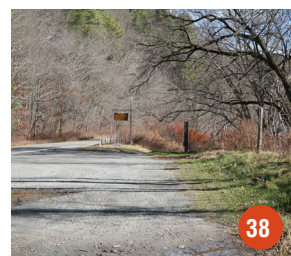
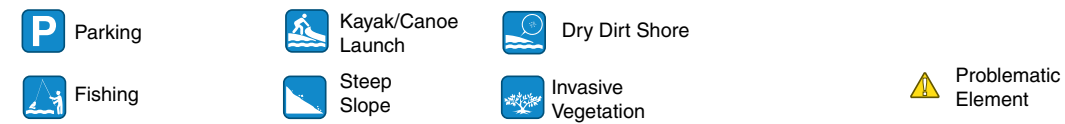
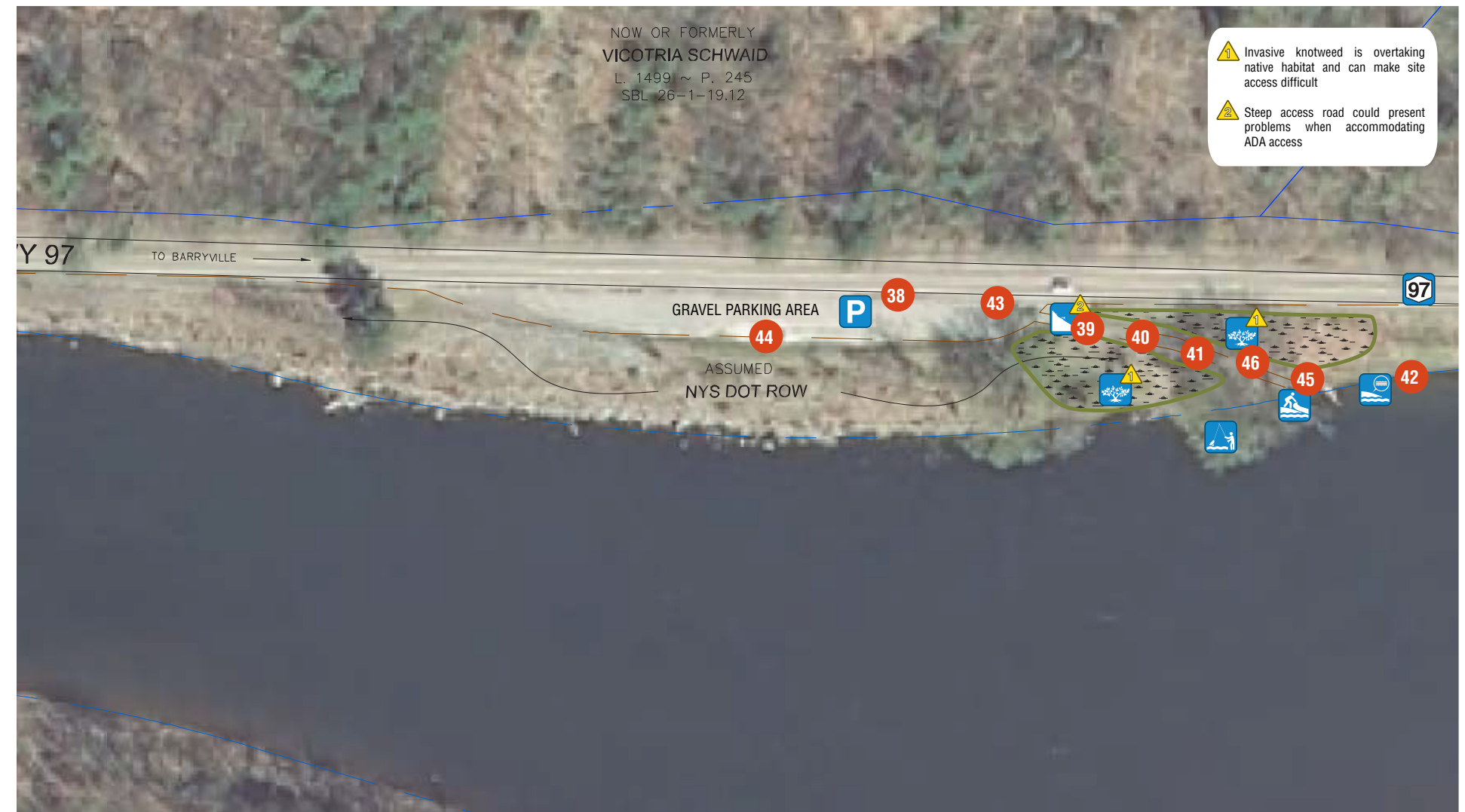
- NPS informational and directional signage

## Potential Program

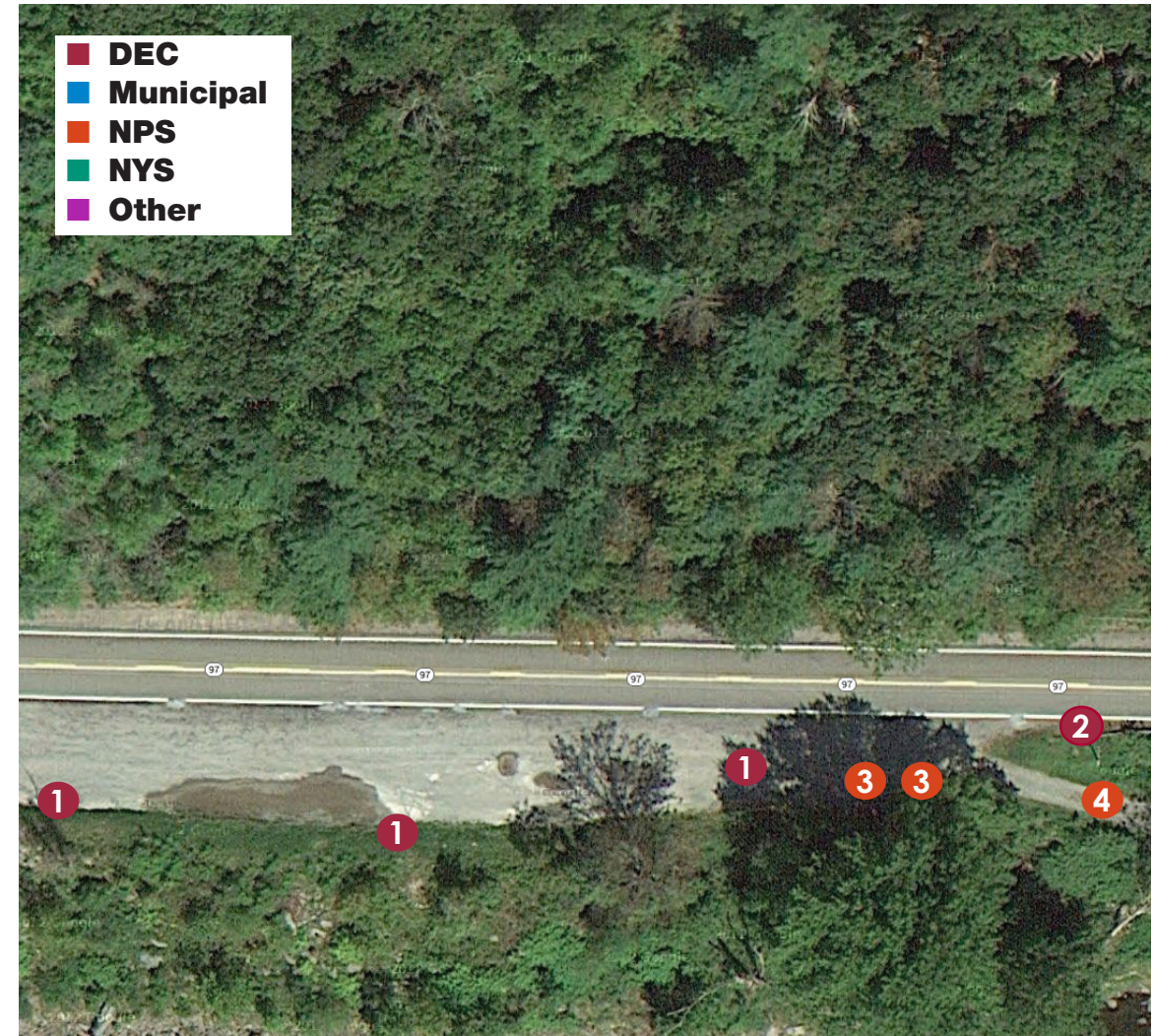
### Site needs to primarily accommodate local recreation users

- Trash cans, picnic tables, and seasonal portable toilets
- Introduce hard surface paving areas to improve river ingress/egress at the shoreline
- ADA/handicapped accessibility will be difficult to achieve and could require retaining walls and railings

## Highland Existing Conditions Analysis



## Highland Existing Signage



## Existing Signage

### Information

- DEC: "Highland Fishing Access Site State of New York Dept. of Environmental Conservation"; yellow paint and logo stickers on brown painted wood 48" x 26"
- NPS: Upper Delaware Scenic and Recreational River; Three brown metal paneled stanchions with box, inset 24" x 48" (6' high)
- Respect the River
- Information: Life Jackets, Didymo algae, River Heights, River Access, Fishing Licenses, Poison Ivy, Pack it in Pack it out!, No Glass, Emergency Assistance
- Upper Delaware

### Rules

- DEC: "Anglers Park Here"; quantity: 3, yellow paint on brown painted wood 18" x 12" includes "Rules and Regulations. NYS DEC Division of Fish and Wildlife." Paper laminated and mounted to a wooden structure.
- NPS: "Never Try To Swim Across River," warnings in English and Spanish  
Quantity 3, white reflective material on metal, translucent red, opaque black letters, yellow and black opaque graphics.



## Site Concept Plan

Just outside of Barryville, the Highland river access point serves as an access point for boating and fishing. It is highly visible with parking directly along Route 97.

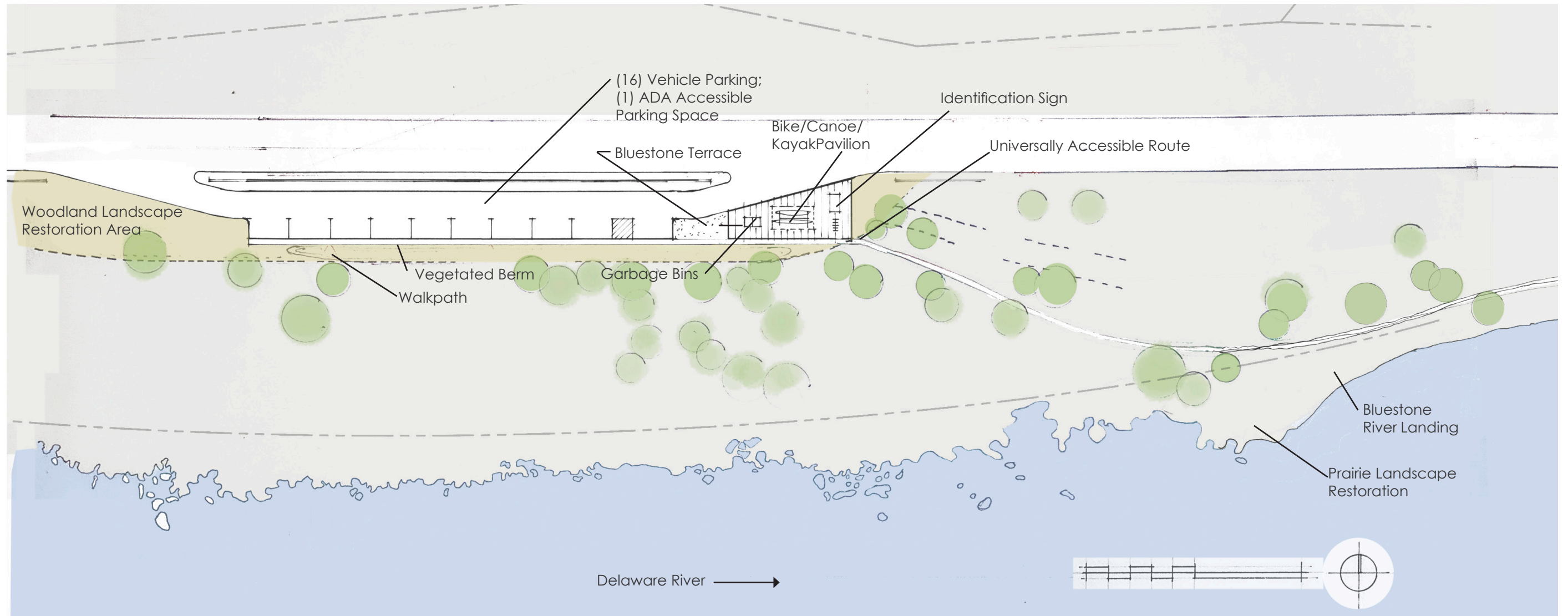
The existing park and pathway to the river landing create a framework for the updated access point. The large parking area can be modified to accommodate a pathway without impacting the mound that protects river-users from viewing Route 97. By removing a few parking

spaces, the trail to the river can be modified to accommodate ADA/universal accessibility without harming the site's usability. Minimal site work will allow the existing access path to be regraded to accommodate universal accessibility.

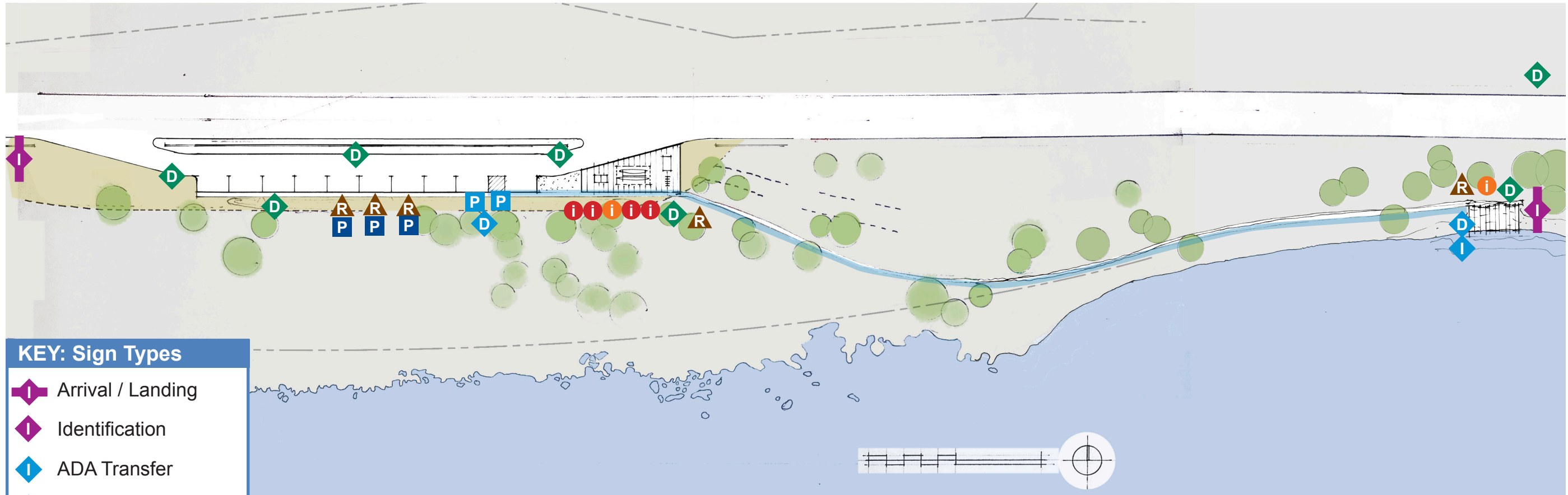
Because of the high quality of the existing shoreline, the natural landing will be retained.



# Highland Site Concept Plan



# Highland Signage Plan



**KEY: Sign Types**





	Arrival / Landing
	Identification
	ADA Transfer
	ADA Directional/Path
	Directional
	ADA Parking
	Parking – Vehicular
	Parking – Trailer
	Interpretive
	Orientation
	Rules & Regulations

Note: Multiple directional symbols may share the same post/location. (i.e. restroom, rangers station, picnic and launch areas.)


## Highland Proposed Sign Typology

### Qty: Sign Description


#### Identification

- |   |   |
|---|---|
| 1 | Gateway double-sided (on Rt. 97)                     |
| 2 | Entrance double-sided (at points of site entrance)  |
| 1 | River Landing                                        |
| 1 | ADA Transfer / Launch icon location                  |

#### Directional

- |   |  |
|---|--|
| 2 | Rt 97 DOT Symbols w/ arrow & millage (on approach to site) – Canoe and/or Launch Symbol    |
| 2 | Canoe icon with arrow  |
| 2 | ADA Path  |

#### Parking

- |   |   |
|---|---|
| 2 | ADA Parking  |
| 3 | Angler Parking (Currently 3 DEC spots.)   |
| 1 | No Trailer Parking  |

#### Interpretive

- |   |   |
|---|---|
| 3 | Existing NPS Interpretive signs – Launch Area<br><small>(Life jackets, Didymo algae, River Heights, River Access, Fishing Licenses, Poison Ivy, Pack in Pack it out, No glass, Emergency Assist.)</small> |
| 3 | Additional Interpretive signs at – Picnic Area  |

#### Orientation

- |   |   |
|---|---|
| 1 | Landing Map / Interpretive: all access along the river (indicate ADA) |
|---|---|

#### Rules & Regulations

- |   |   |
|---|---|
| 3 | DEC Rules & Regulations (currently 3)   |
| 1 | Warning: Never Try to Swim Across the River   |
| 1 | General Rules & Regulations of the River<br><small>New Interpretive signs could provide more space for: warning on rocks, high water, turbulent waters, dogs on leashes, etc.</small> |

## Opinion of Probable Development Costs

This ballpark opinion of probable development costs is based on system costs. Quantities have been estimated and scaled from plotted base maps and may not match exactly with field conditions. A base survey was not completed as part of this project. Quantities will need to be verified in the field by contractors. As concepts are refined, the costs will need to be refined as well.

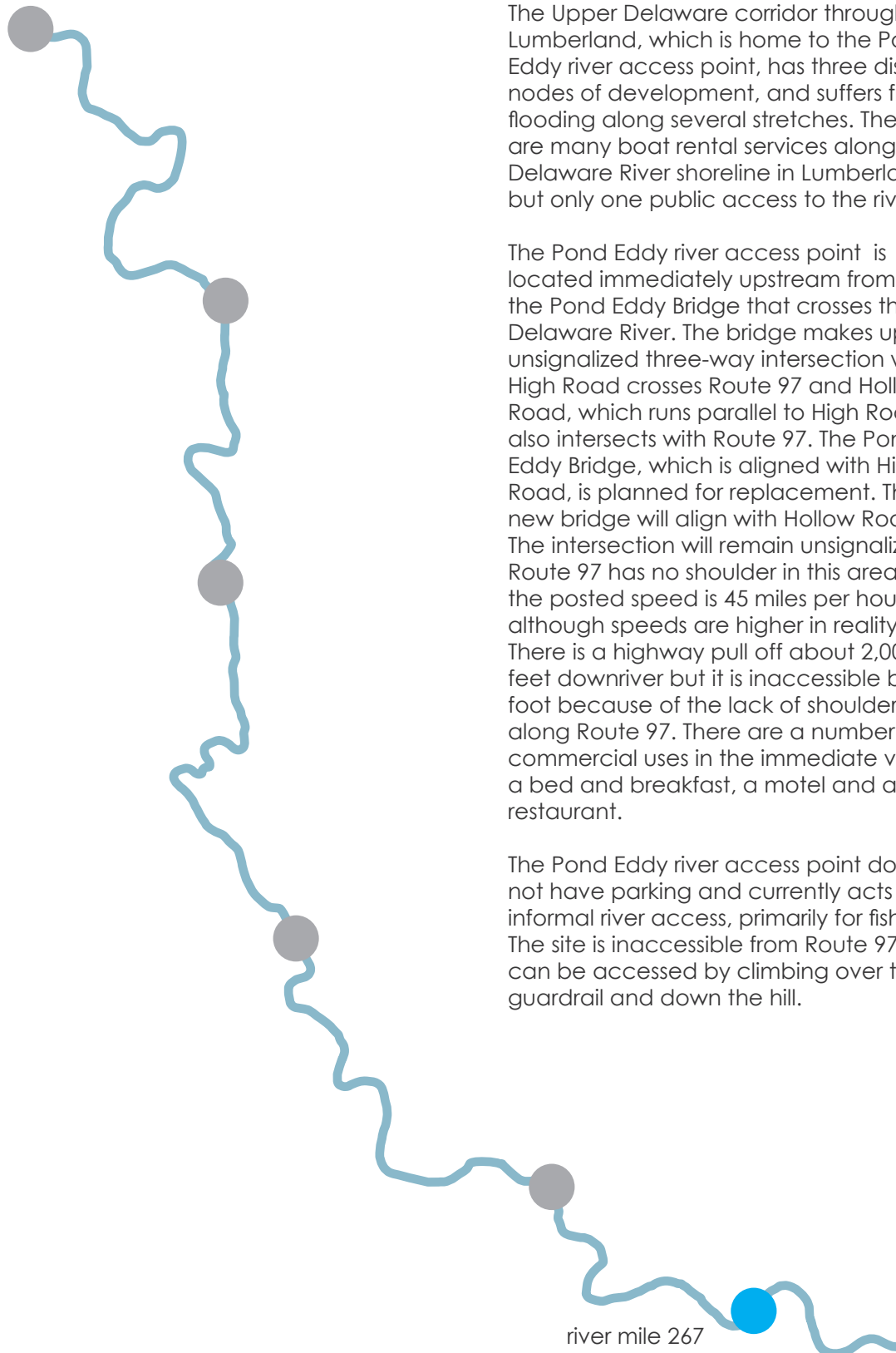
## Highland Opinion of Probable Development Costs

Site Improvement	Qty	Unit	Unit Cost	Total Cost
1 Site preparation; includes clearing, grubbing and earthwork	1	Acres	\$10,000.00	\$8,000
2 Demolition of existing asphalt/gravel parking area	5,000	SF	\$2.00	\$10,000
3 Storm water/erosion controls	1	LS	\$5,000.00	\$5,000
4 Compacted gravel parking area	5,000	SF	\$4.00	\$20,000
5 Asphalt ADA parking spaces and loading zones	2	Each	\$2,000.00	\$4,000
6 Guiderail; assumes cor-ten "w" section and wood post construction	400	LF	\$120.00	\$48,000
7 stamped colored concrete to achieve a bluestone "look"	2,100	SF	\$16.00	\$33,600
8 Stripping of existing parking area	1	LS	\$2,500.00	\$2,500
9 Parking wheel stops	16	Each	\$100.00	\$1,600
10 River landing/launch; includes temporary coffer dams, reinforcing, sub-base, base and surface finish; assumes stamped colored concrete to achieve a bluestone "look"	1	Each	\$10,000.00	\$10,000
11 Roadside/parking area landscaping	2,500	SF	\$6.00	\$15,000
12 Native riverine landscaping	2,500	SF	\$1.50	\$3,750
13 Cellular/WIFI hub/router (assumes solar power)	1	Each	\$7,500.00	\$7,500
14 Site signage	1	Lump Sum	\$30,000.00	\$30,000
15 Design and Engineering Fee				\$32,031
			Subtotal Site Improvements	\$230,981
			Contingency (20%)	\$46,196
			<b>Total</b>	<b>\$277,177</b>





## Pond Eddy



The Upper Delaware corridor through Lumberland, which is home to the Pond Eddy river access point, has three distinct nodes of development, and suffers from flooding along several stretches. There are many boat rental services along the Delaware River shoreline in Lumberland, but only one public access to the river.

The Pond Eddy river access point is located immediately upstream from the Pond Eddy Bridge that crosses the Delaware River. The bridge makes up an unsignalized three-way intersection where High Road crosses Route 97 and Hollow Road, which runs parallel to High Road, also intersects with Route 97. The Pond Eddy Bridge, which is aligned with High Road, is planned for replacement. The new bridge will align with Hollow Road. The intersection will remain unsignalized. Route 97 has no shoulder in this area and the posted speed is 45 miles per hour although speeds are higher in reality. There is a highway pull off about 2,000 feet downriver but it is inaccessible by foot because of the lack of shoulder along Route 97. There are a number of commercial uses in the immediate vicinity: a bed and breakfast, a motel and a restaurant.

The Pond Eddy river access point does not have parking and currently acts as an informal river access, primarily for fishing. The site is inaccessible from Route 97, but can be accessed by climbing over the guardrail and down the hill.

## Existing Conditions

### Existing/Popular Uses

- Fishing

### Site Access and Parking

- Uncontrolled/undefined access from Route 97 can create conflicts

### Site Character and River Character

- Moderate to steep slopes make access to the river difficult

### Adjacent Site/Uses

- Residential inn across Route 97
- Existing single lane bridge/planned future bridge upstream from existing bridge
- Steep slopes to river east and west of the site and Route 97 to the north

### Additional Elements/Points

- Possibility of retaining existing bridge abutment or other infrastructure during demolition
- Bridge construction access road must be removed upon completion of new bridge (based on existing project permits)
- Historic lock walls

### Signage

- Town/DOT identification sign

## Potential Program

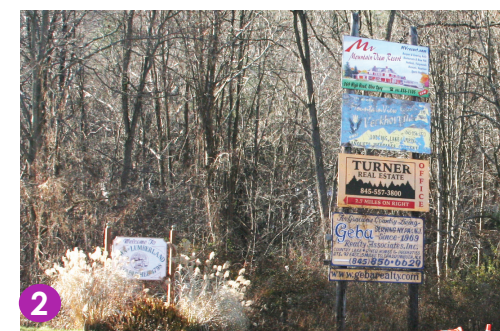
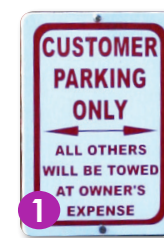
### Site needs to primarily accommodate fishing from the shoreline

- River rest stop using the salvaged bridge abutment
- Accommodate informal fishing access via the construction road (to remain after bridge construction)
- Informal dirt trail system can extend downstream to a pull-off parking area on the river side of Route 97
- Interpretation based on canal wall
- Sidewalk location not yet determined on new bridge design

## Pond Eddy Existing Conditions Analysis



Pond Eddy Existing Signage



## Existing Signage

### Directional

- Town/DOT: Pond Eddy; green with white reflective lettering on metal 24" x 24"

### Rules

- Near Access Site
  - Private: "Customer Parking Only. All Others Will Be Towed at Owners Expense"  
Red letter on white plastic, mounted to wood on a metal stake.

### Information

- Private: Various Business Advertisements



## Site Concept Plan

The existing Pond Eddy site is an informal (and unauthorized in the minds of many people) river access point that involves climbing over a guardrail on the side of Route 97. However, the bridge across the Delaware River is being replaced and there is an opportunity to retain the abutment from the existing bridge and repurpose it as part of the access point.

The overlook that will be created will accommodate several parking spaces and create a unique amenity in the Upper Delaware corridor.

## Overlook

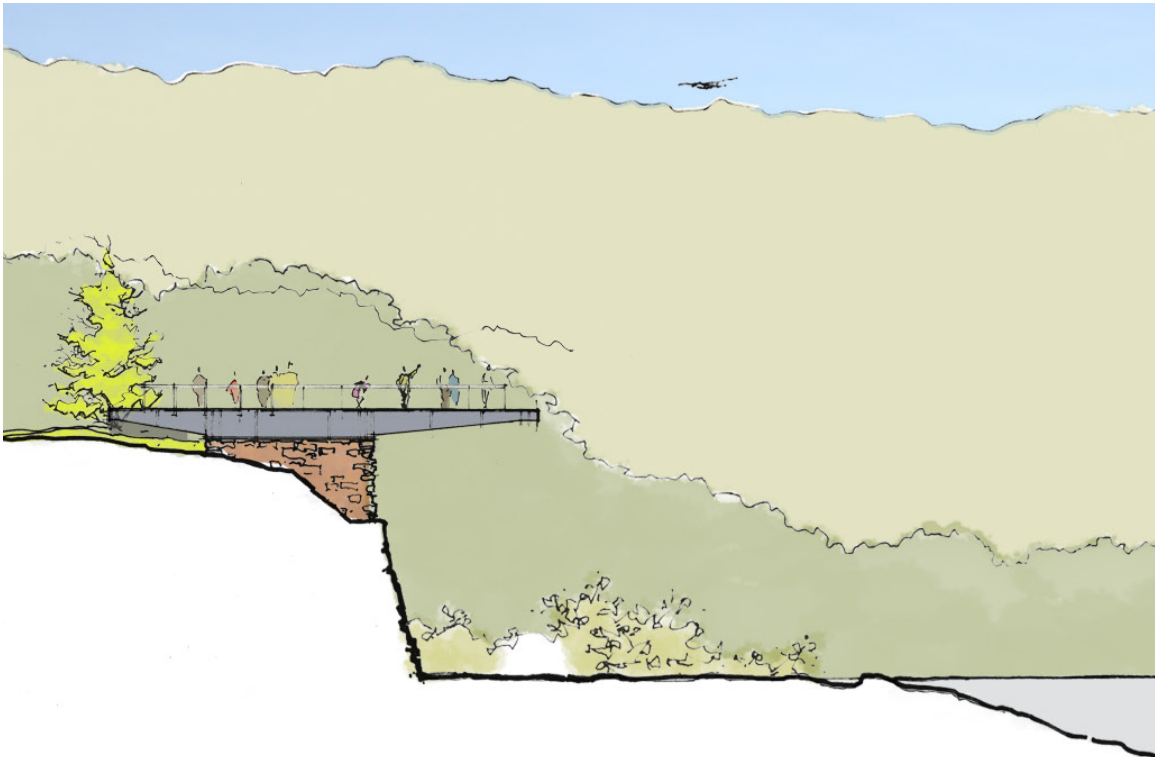
The New York State Department of Transportation approached Sullivan County about saving the bridge pier. The concept plan was developed to take advantage of that opportunity.

The plan shows four parking spaces near the overlook. The reason that the parking is located in that area is for the safety of the overlook users. Rather than walking across Route 97, users can park and access the overlook without crossing traffic. The parking area is near the intersection of Route 97, High Road and Hollow Road. Traffic naturally slows near this unsignalized intersection.

In order for this parking plan to work, a retaining wall will be needed along the river side of the site. The design of the wall should be complimentary to the historic pier.

A first step in implementing the Pond Eddy concept plan is to gain a better understanding of whether the NYS DOT would allow parking in this area. If parking cannot be developed in this area, the wall will not be needed and construction costs will be significantly reduced.

## Pond Eddy Overlook Elevation



## River Rest Stop

At the river level, a river rest stop will be developed as outlined by the Upper Delaware Management Plan. The river rest stop serves as an area for where river users (who are tubing, rafting, canoeing and kayaking) can pull over but it does not, generally, provide access to the shore from the land side. An articulated concrete mattress will define the ground surface of the river rest stop, acting as a solid surface for landings and serving as a long-lasting functional improvement that will provide a simple pull-off area for boaters.

## Trails

In the long term, there may be an opportunity to develop a trail from the proposed overlook to an existing parking area about 2,000 feet downriver. This could be used primarily by fishermen who want to park downstream at the pull off area and walk to the bridge to fish.

Pedestrian circulation within this riparian buffer/flood zone should be limited to areas needed for river access. Based upon cursory field reconnaissance, existing grades appear to have the potential for use by pedestrians of all ages and abilities if a trail is extended from the proposed overlook to the downstream parking area. Suitable surface stabilization techniques

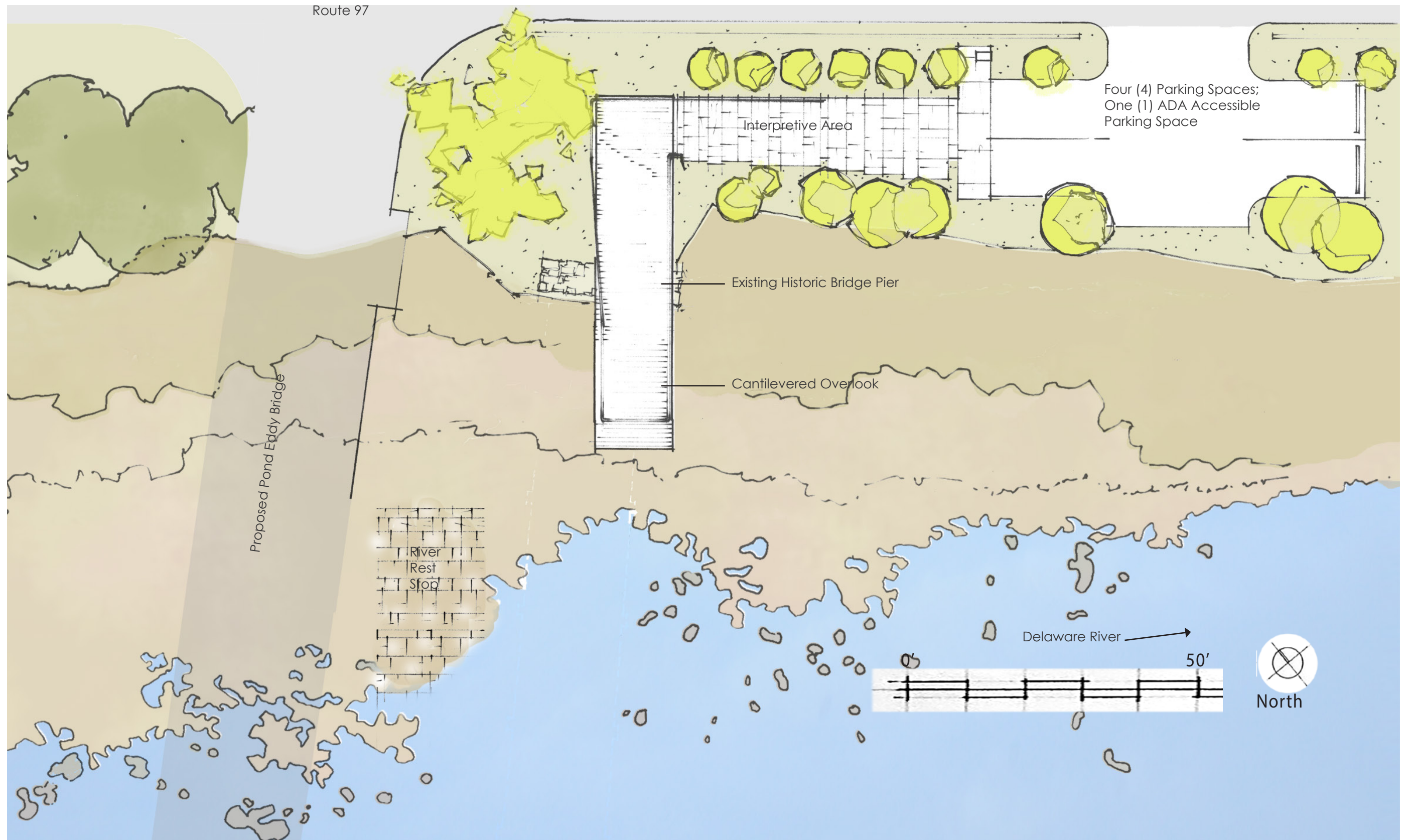
as needed to insure conformance with accessibility standards and to minimize unwanted erosion should be used. With the exception of designated river access areas, pedestrian activities should be confined, to the trail itself.

Trail blazes should be strategically placed to indicate trail use and change of direction where necessary. Blazes should indicate shared use where it may exist, and hence to be alert/sensitive to the different use requirements. Blazes at trail intersections should indicate appropriate orientation/directional information and safety issues as they may exist.

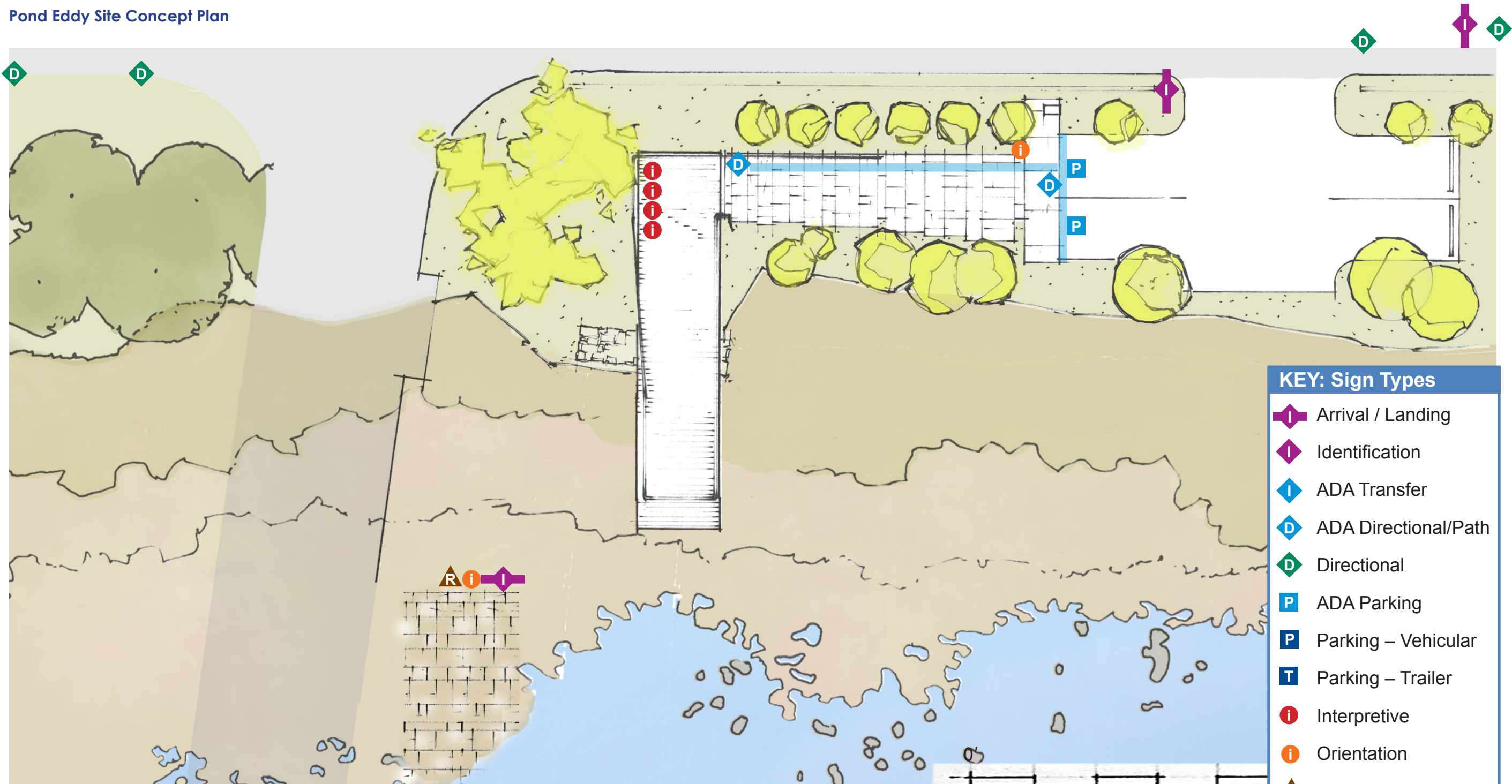




Pond Eddy Site Concept Plan



Pond Eddy Site Concept Plan



**KEY: Sign Types**




- Arrival / Landing
- Identification
- ADA Transfer
- ADA Directional/Path
- Directional
- ADA Parking
- Parking - Vehicular
- Parking - Trailer
- Interpretive
- Orientation
- Rules & Regulations

Note: Multiple directional symbols may share the same post/location. (i.e. restroom, rangers station, picnic and launch areas.)


## Pond Eddy Proposed Sign Typology

### Qty: Sign Description


#### Identification

- |   |   |
|---|---|
| 1 | Gateway double-sided (on Rt. 97)                   |
| 1 | Entrance double-sided (at point of site entrance)  |
| 1 | River Landing                                      |

#### Directional

- |   |  |
|---|--|
| 2 | Rt 97 DOT Symbol w/ arrow & millage (on approach to site) – Overlook Symbol                |
| 2 | RT 97 DOT – Slow for Pedestrians (should exist already)                                    |
| 2 | ADA Path  |

#### Parking

- |   |   |
|---|---|
| 2 | ADA Parking  |
| 0 | No Parking  |
| 0 | Pull-off  |

#### Interpretive

- |   |   |
|---|---|
| 3 | New NPS Interpretive signs – Launch Area<br>(Life jackets, Didymo algae, River Heights, River Access, Fishing Licenses, Poison Ivy, Pack in Pack it out, No glass, Emergency Assist.) |
|---|---|

#### Orientation

- |   |   |
|---|---|
| 2 | You are Here Map / Interpretive: all access along the river (indicate ADA) – Overlook & River |
|---|---|

#### Rules & Regulations

- |     |   |
|-----|---|
| 1vv | Warning: Never Try to Swim Across the River |
|-----|---|

## Opinion of Probable Development Costs

This ballpark opinion of probable development costs is based on system costs. Quantities have been estimated and scaled from plotted base maps and may not match exactly with field conditions. A base survey was not completed as part of this project. Quantities will need to be verified in the field by contractors. As concepts are refined, the costs will need to be refined as well.

## Pond Eddy Opinion of Probable Development Costs

Site Improvement	Qty	Unit	Unit Cost	Total Cost
1 Site preparation; includes clearing, grubbing and earthwork	2	Acres	\$5,000.00	\$10,000
2 Storm water/erosion controls	1	LS	\$5,000.00	\$5,000
3 Asphalt parking area	2,400	SF	\$6.00	\$14,400
4 Parking wheel stops	4	Each	\$100.00	\$400
5 Concrete walkways/drop-off	1	Lump Sum	\$20,000.00	\$20,000
6 Bridge pier stabilization/restoration	1	Lump Sum	\$10,000.00	\$10,000
7 Cantilevered overlook steel structure	1	Lump Sum	\$200,000.00	\$200,000
8 Concrete bridge pier overlook paving	1	Lump Sum	\$75,000.00	\$75,000
9 Retrofit and renovate railing from existing bridge	200	LF	\$150.00	\$30,000
10 River stop; includes temporary coffer dams, reinforcing, sub-base, base and surface finish; assumes stamped colored concrete to achieve a bluestone "look"	1	Lump Sum	\$25,000.00	\$25,000
11 Fisherman's Path				\$0
12 Native riverine landscaping	3,125	SF	\$1.50	\$4,688
13 Cellular/WIFI hub/router (assumes solar power)	1	Each	\$7,500.00	\$7,500
14 Bollards	2	Each	\$1,000.00	\$2,000
15 Versa-lok style wall	2,400	SF	\$60.00	\$144,000
16 Site signage	1	Lump Sum	\$24,000.00	\$24,000
17 Design and Engineering Fee				\$102,958
			Subtotal Site Improvements	\$674,945
			Contingency (20%)	\$134,989
			<b>Total</b>	<b>\$809,934</b>





## Overall Recommendations

While concept plans have been developed for each of the six sites, there are several other issues that are present on all sites and overall considerations that are important for the success of the overall corridor and the sites when considered as a system of river access points. The following is a summary of other recommendations that could be implemented to address the issues that challenge all sites. This set of recommendations is more generalized. Consequently, when these recommendations are being implemented on a specific sites, the overall concept will need to be fine-tuned to the specifics of the place.



### **Eradicate Invasive Plant Species**

Develop a comprehensive plan to address and prioritize invasive species control. Controlling invasive species throughout the corridor is of vital importance in order to improve its present and future natural habitat quality. Priorities for implementing a plan, methods for controlling and funding opportunities to eradicate invasive species should be guided by existing conditions including 1) the level of threat posed to species of special concern and existing natural habitats and 2) the location of threatened areas within the site concept plan.

As part of developing this approach, invasive species types, severity and locations (e.g. adjacency/or inclusion within natural habitat type such as riparian buffer, vegetated floodplain, forest, open areas of herbaceous and woody successional species etc.) should be identified and mapped. Recommended eradication methods should then be defined. Eradication efforts in relationship to conservation and restoration activities should then be prioritized to minimize invasive plant re-growth and to maximize their long-term control in the corridor.

Visitors should be educated on the threats and seriousness of invasive species to the corridor's overall health. Based upon the proposed relationship of access and opportunities for activities, one of the most effective and unobtrusive ways to share this information is through signage. Related messages should be erected both at trailheads and at key points along designated trails.

### **Restore Native Plant Species**

Introduce appropriate native species to supplement existing landscape areas. Within identified areas as part of the corridor's overall concept for restoration, customized planting palettes should be defined which include species most appropriate to supplement each of the site's existing plant communities.

Coordination between the planting of species and the eradication of invasive plants is a key component of this effort's success.

Also, areas for prioritized planting should be identified recognizing that the species' contribute to the site's overall habitat quality in relationship to:

Protection of drainage ways and critical groundwater recharge areas;  
Expansion of core high quality plant communities; and  
Increased habitat connectivity.

Refined techniques for plantings should be made as necessary based upon specific site conditions.

### **Encourage Woody Landscape Succession**

Where appropriate, initiate succession through woody species cultivation. The introduction of native pioneer woody species, in concert with warm-season grass planting efforts, is recommended. The specific method(s) to promote diverse habitat areas will need to be determined in context of site management strategies and the existing conditions of the particular area in which restoration will occur. A sample concept for site restoration sequence as related to recommendations is as follows:

- Conduct site assessment and write plan (Year 0): existing cover, invasive plants at and adjacent to site, soil conditions (soil test, tile drains, gully problems, etc.)
  - Assess present landcover
  - Determine soil characteristics and preparation needs: subsoil tilling, drainage issues, nutrient application (avoid unless a roadblock to growth)
  - Determine any obstacles/challenges
  - Design project using phased site mapping
- Establish warm-season grasses (Year 1)
  - Determine approach to invasive species and if herbicides can be avoided
  - Note: Non-herbicide approaches are of course preferred, but no successful



- ones are known, i.e. buckwheat cover crop; additional experimentation is encouraged. The issue is that warm-season grasses require low competition during Year 1, and often some invasive control in Year 2 (and possibly Year 3).
- o Determine seed mix (panic-grass, mixed grasses, grasses and forbs, etc.) and density (lbs/ac/species)
- o If patches of hydric soils are present, additional palustrine species might be established, e.g. *Scripus* sp.
- o Herbicide application, or experimental cover crop application
- Woody plants
  - o Collect local seed and grow in nursery in Year 0 or Year 1
  - o Begin to install in late in Year 2, or beginning in Year 3
  - o Timing depends upon invasive plant control issues, etc.
- Biomass – coarse woody debris and other structure
  - o Placement of logs on site in piles and linear avenues from adjacent forest
  - o Wood chip or leaf mulch piles, etc., after review of potential to introduce/encourage invasive plants
  - o Install wooden posts as perches
  - o Install artificial wooden shelters and nesting sites: boxes, cover-boards, etc.
- Year 2 invasive plant treatment
  - o Spot treatment – manual and /or herbicide application
- Year 3 – continue to establish woody species (optional)
  - o Species native to area typically operating as invaders and soil builders: black locust, aspen, sumacs, native alders, dogwood (shrubs), willow (wet spots)
  - o Stock grown in local project nursery
  - o Seeding via local sources, e.g. collection of aspen seeds and applied directly to small areas of prepared soil
  - o Evergreen planting using native white pine and Virginia pine
  - o Establish American chestnut (if appropriate)
  - o Option: Where forest restoration site is bordered by existing forest, fell occasional forest edge trees perpendicularly into field. Note: This option might make it harder to control certain invasive species, e.g. via mowing or spraying via unit mounted on vehicle.

- Beginning monitoring in Year 1
  - o Invasive plants
  - o Soil erosion
  - o Assess success of establishment of planted species
  - o Optional tracking of species naturally utilizing site
- Conduct management actions in response to information provided by monitoring

### Establish Protocols

Prepare management and maintenance protocols for individual activities. As part of establishing a modern model for conservation, activities on each site will require some specialized management and maintenance protocols. Recognizing that activities will all fall under the guise of the agency managing each site, a sampling of these protocols includes the following:

- Defining acceptable standards to address invasive species and other maintenance needs
- Prepare standards related to snow removal in public access areas

### Utilize Sustainable Local Materials

Utilize materials which are sustainable and obtained regionally. As part of enhancing each site to one that exemplifies a balanced approach to restoration, education and appreciation, materials used on site should those that can be categorized as sustainable and/or obtained directly from the region. Examples of applicable materials are those used for:

- Road/Access construction
- Trail construction
- Bridge construction
- Active Recreation construction
- Signage

### Develop Best Management Practices

Require special improvements that incorporate best management practices. As site improvements are made, best management practices should be utilized to protect the existing resources and conservation values.



Develop sustainable pathway/trail construction standards. Pathways/trails should be designed with specific intentions and in context with their proximity to sensitive habitats. Consequently, a formal set of standards should be developed which address:

- Permitted Users
- Grading
- Materials
- Dimensions
- Evaluation of trail in proximity to sensitive habitats

### **Use Signage Standards**

Adopting signage standards will help to create a unified corridor, provide clear and easily recognized way-finding points and will convey how sustainable policies are at the core of the experience at each site. The signage typologies, materials and locations included in this plan should be the basis for the overall corridor's signage standards. Standards should address permitted sign types (such as monument or directional sign), sign size and sign materials. Signage is addressed in the Introduction chapter and in each site chapter.

### **Use Design Guidelines**

Design guidelines related to site improvements should be based on the conceptual site plans and the materials and amenities identified within this document. Design guidelines are a set of identified patterns and policies that shape continuity of improvements and identify a desired level of quality for the physical environment. As part of providing a cohesive and integrated system, Design Guidelines should be created to address standards for public access areas, pathway/trail construction and signage.

### **Soften Existing Parking Areas**

Parking areas within the each site should be more than just areas used for vehicle parking. Parking areas, after access roads, are the second piece of the overall experience associated with each site and the overall corridor. Parking area design should convey to visitors that conserving

the natural environment is a top priority. Because visitors leave, but nature does not, parking areas should be designed so that parking clearly appears secondary to conservation/restoration. This can be accomplished by addressing landscaping, parking islands, and paving material standards.

Promote stormwater infiltration in parking areas. General standards for parking lot and road design should be maintained throughout the site to include the following:

- Optimal use of pervious surfacing.
- Elimination of unnecessary impermeable surfaces to enhance stormwater absorption and groundwater recharge;
- Use of natural drainage systems to capture and clean stormwater to protect the waters of Delaware River and the underlying aquifers.

### **Accommodate/Promote Seasonal Access**

Construct vehicular access areas with materials to enable 3-season access. In combination with each site's and the corridor's overall stormwater infiltration plan, it is recommended that main access roads, parking area cartways (center aisles) and ADA accessible parking spaces be constructed of materials which enable 3-season access. It is anticipated that the public will come to the site throughout the spring, summer and fall, so safety and design precautions to minimize disturbances to soils, plantings, etc. are important considerations.

### **Monitor Implementation**

Sullivan County has taken the lead in the preparation and coordination of the conceptual site designs for the six river access points. The county should monitor and champion the implementation of these designs. As part of those activities, the county should prepare an annual report to the Upper Delaware Council that outlines the state of each site's implementation as well as the overall recommendations outlined in this chapter.

An implementation committee should also be created to advocate and plan for the implementation of the conceptual site plans. The committee should be independent and meet quarterly or biannually based on how the projects are moving forward. The independent committee should include the following representatives:

- NPS
- DEC
- NYS DOT
- One representative per Town
- UDC
- Sullivan County
- Property owners such as NYC
- Liveries

### **Adopt the Plans**

As key stakeholders in the planning and design of the six river access points, the Towns play a crucial role in the implementation of the conceptual site plans and other recommendations. Each Town should consider adopting this report by resolution to formalize the intent to improve the identified existing access point as outlined by the conceptual site plan.

The adoption of this report could be used as evidence of support for the project in grant applications.





## Materials and Additional Elements

A key element of this project was focused on developing a consistent theme and character for the overall Delaware River corridor in Sullivan County. There are variations based on the diversity of sites, users and locations. A palette of elements that fit in the overall character of the corridor has been developed for use where appropriate. The scale and proportion of the site amenities is consistent with the region's historic construction practices. They contribute a unifying character. Forms and materials are reflective of the regional vernacular and are designed for the reality of the riverside location. Individual elements can be moved or are designed to allow maximum flow of water to pass through--reducing problems during periods of high water.



## Site Elements

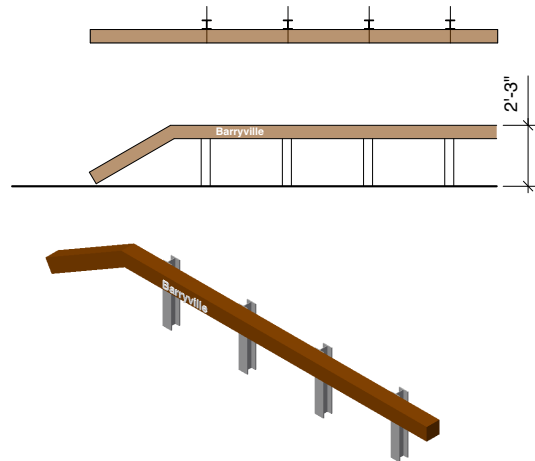
Site elements are primarily made of weathered steel (Cor-ten) or a “forest brown” powder coat painted finish on steel and rest atop blue stone pavers and a frost-protected concrete foundation.

### Guardrails

Designed to comply with New York State DOT, each guardrail has wide flange steel posts with a hot dipped galvanized finish with a HSS Cor-ten guardrail. Stainless steel water jet cut letters are applied to the guard rail at each river landing location.

Guardrail cost \$75.00 per linear foot.

### Guardrails

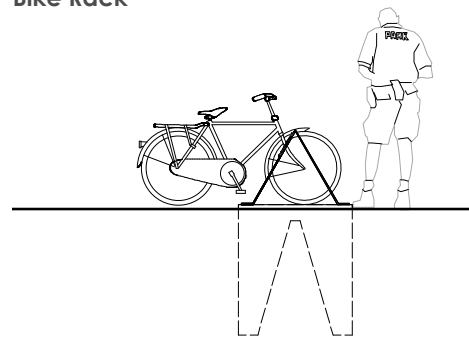


### Bike Rack

Made of Cor-ten plate, each bike rack is made to be durable and tamper-proof. Each location will have one rack with waterjet cut letters describing each river landing location.

Bike Rack costs \$800.00 per bike installed. Bluestone and foundation costs \$350.00 per linear foot.

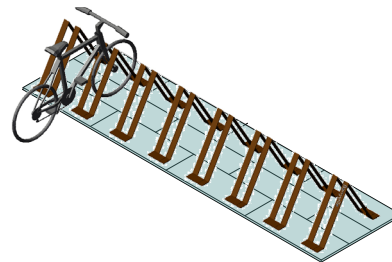
### Bike Rack



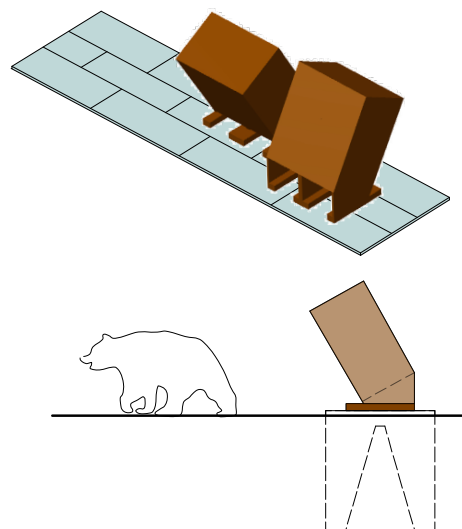
### Garbage Receptacles

These durable animal-resistant receptacles are steel with a “forest brown” powder coat finish and contain trash and recycling enclosures. Serviced from one side, the bags are suspended within the enclosure. When the bag is full it can be removed laterally to avoid back injuries.

Garbage Receptacles cost \$2,500.00 each installed. Bluestone and foundation costs \$350.00 per linear foot.



### Garbage Receptacles



### Water Jet Cut Letter



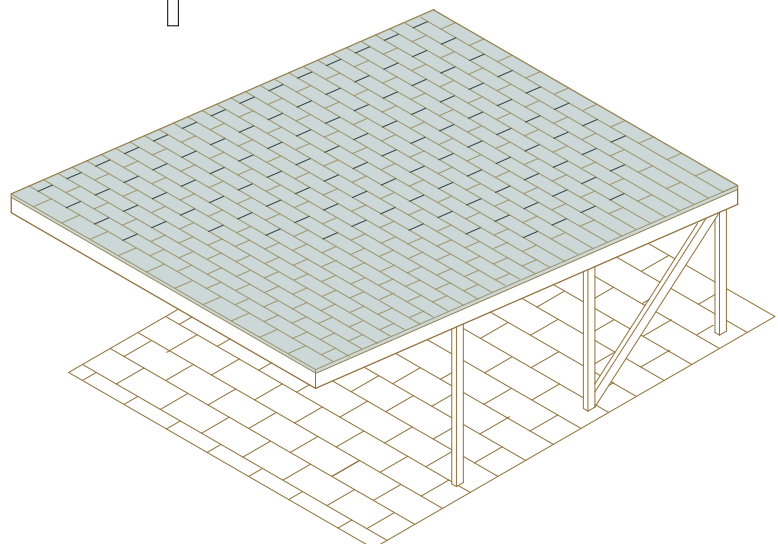
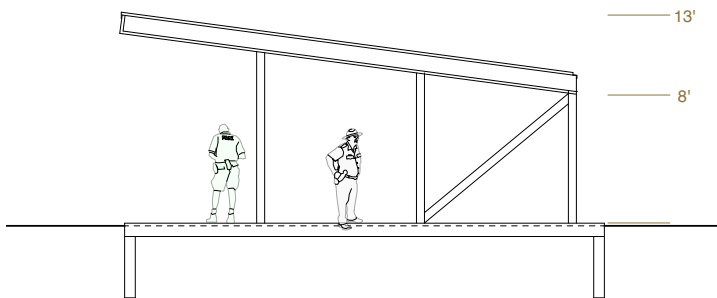
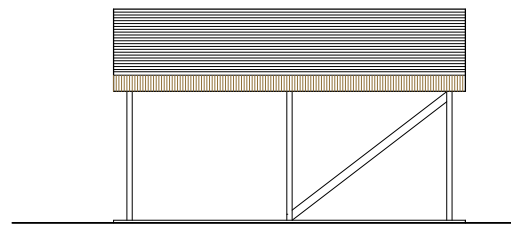
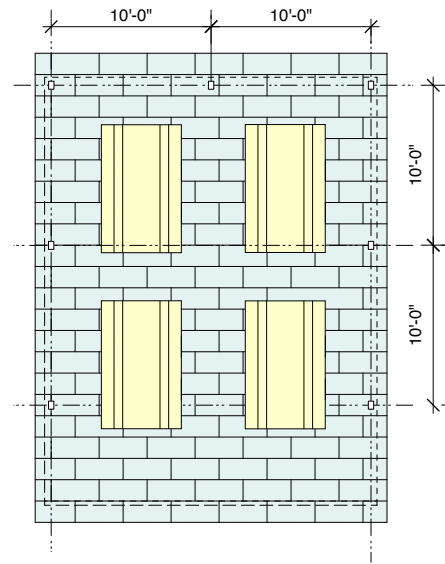
### River Structures

The river structures are each designed as simple but striking forms using Cor-ten steel and local materials such as slate and blue stone. While not modular they do work within consistent proportions and this combined with their material pallet establishes an architectural identity for the various landing stations.

### Picnic Pavilion

The largest of the five structures has a generous single sloped roof clad in slate with a ceiling surface of wood paneling. The supporting structure is made of tubular HSS Cor-ten steel components. The structure is a braced frame reducing the structural costs. The pavilion is minimal in detailing and its clad roof and tubular structure eliminate habitat for insects and critters simplifying maintenance.

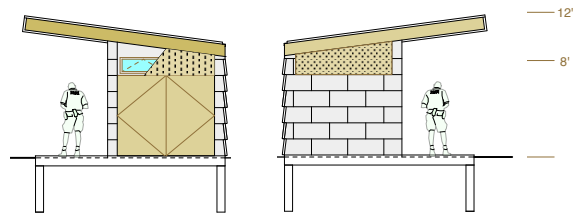
### Picnic Pavilion



**Toilet Pavilion**

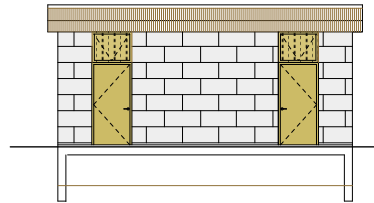
The simple stone clad building combines day-lighting and cross ventilation. The toilet structure includes an overhanging roof that protects the entry doors. Hand sanitizers will be used instead of sinks. The toilets will be ADA accessible

**Toilet Pavilion**



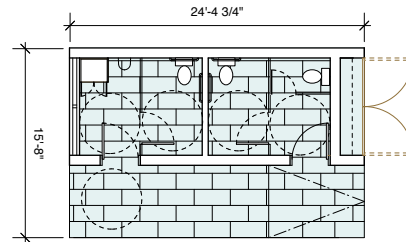
**Kayak Pavilion**

The kayak pavilion is also a simple shed roof structure large enough to overhang the kayaks and users during storage and preparations for launching. The kayak pavilion is also a braced structure reducing structural costs.



**Changing Pavilion**

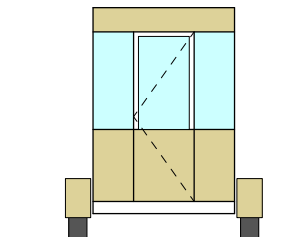
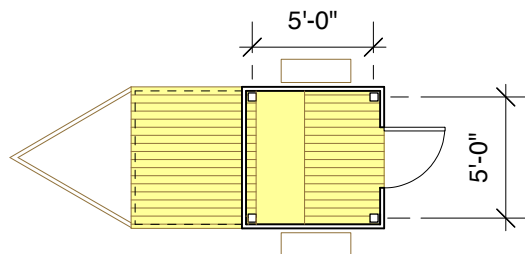
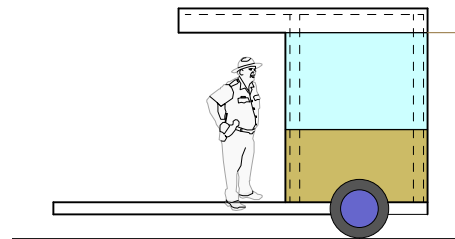
The pavilion takes its cue from classic beach changing booths that work without doors creating privacy using "spirit walls". It is an open structure without a roof and with opaque cor-ten walls that stop 12 inches above the stone floor. This combination of opacity and openness creates privacy but avoids completely screening off the interior making the structure more secure and easier to maintain.



**Mobile Ranger Pavilion**

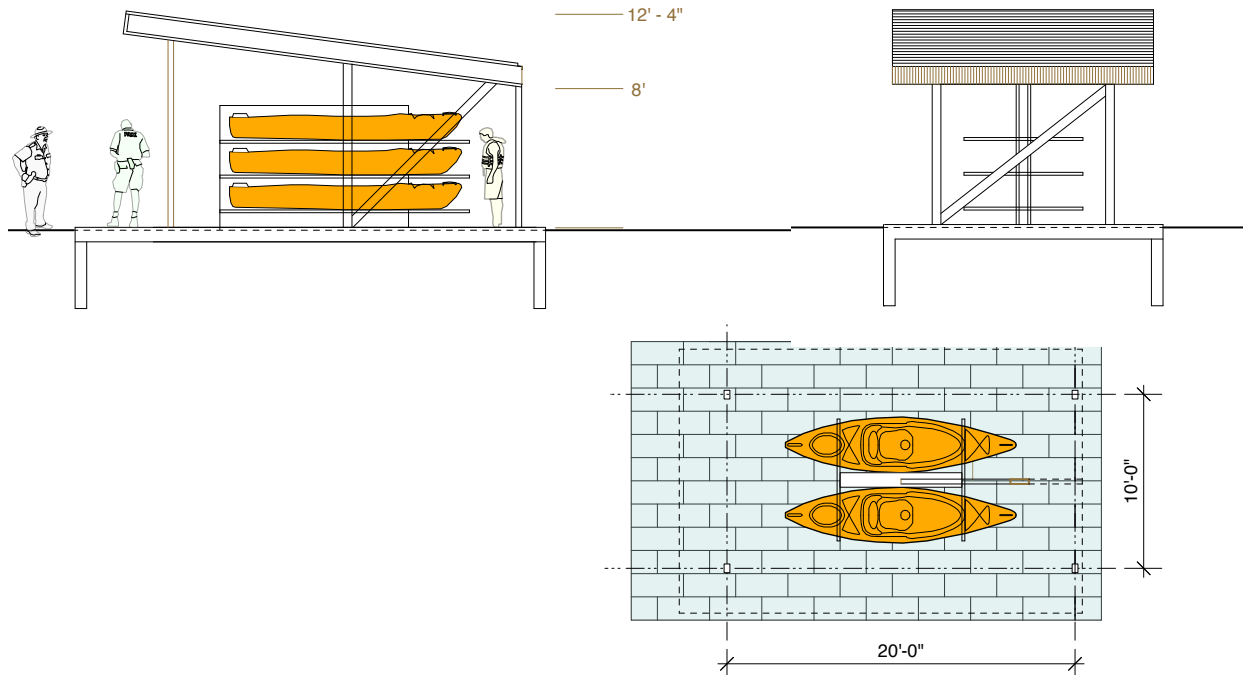
This is a deployable structure that can operate directly off a wheeled trailer or be sited on a small concrete and bluestone floor slab. The pavilion provides a 360 degree glass enclosed view as well as a sheltered outdoor sitting area. The structure is tubular cor-ten steel clad in cor-ten panels. The pavilion will have an operable window.

**Ranger Pavilion**

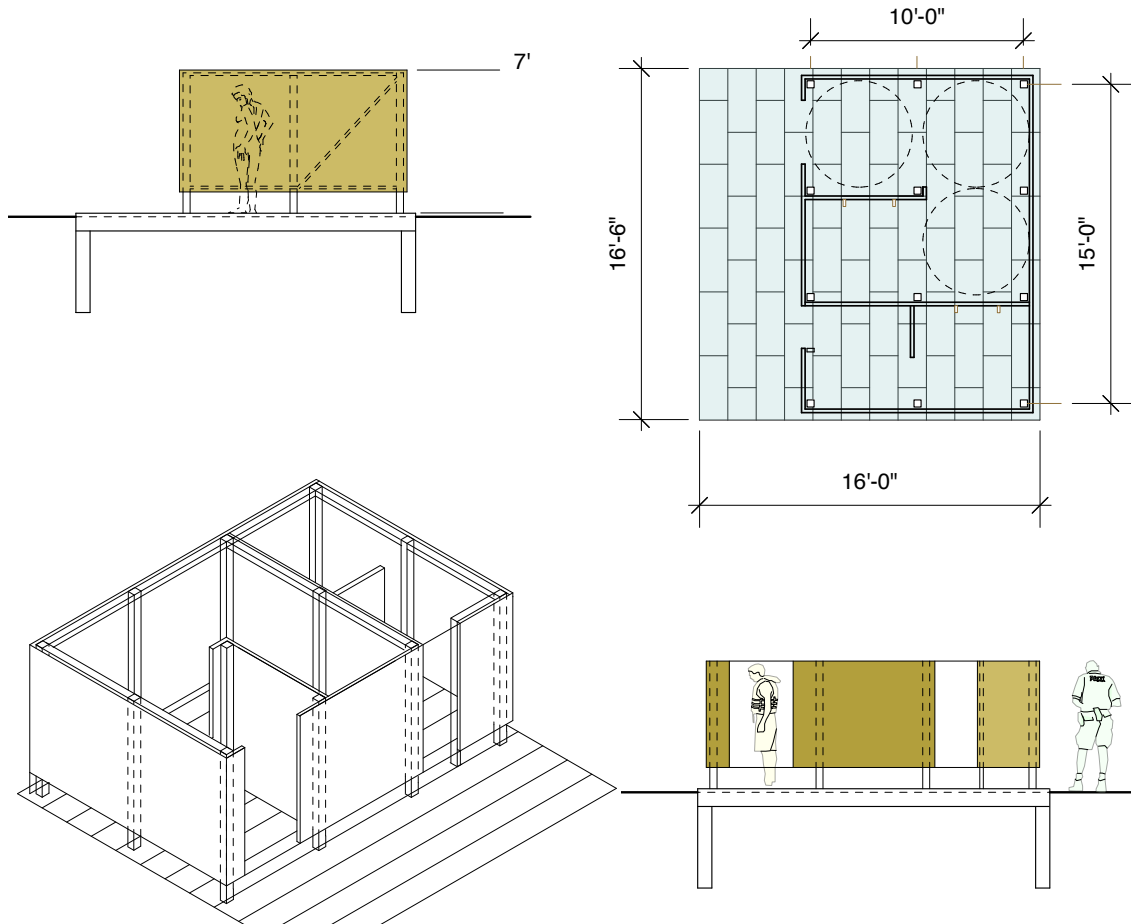




### Kayak Pavilion



### Changing Pavilion





# Implementation and Funding

The long term cost of operating and managing a network of river access points exceeds acquisition, design, and development costs. Therefore, establishing an effective management plan framework will help maximize limited human and financial resources, and generate public and private support.



## Implementation Committee

As previously mentioned, an implementation committee should be created to advocate and plan for the implementation of the conceptual site plans. The committee should be independent and meet quarterly or biannually based on how the projects are moving forward. The independent committee should include the following representatives:

- NPS
- DEC
- NYS DOT
- One representative per Town
- UDC
- Sullivan County
- Property owners such as NYC
- Liveries

The implementation committee will act as a point of contact and management for the implementation of a unified river corridor plan that includes signage and site design. While entities such as townships, towns and Sullivan County may undertake tasks and responsibilities related to an individual site or the overall corridor, the implementation committee should be the “clearinghouse” for river corridor management.

## UDC

UDC will be an important voice on the implementation committee and a valuable resource for plan implementation. As noted in the 1986 Final River Management Plan, a key provision is “retaining local control of the river corridor through the establishment of an Upper Delaware Council; the Council will have primary responsibility for coordinating and overseeing the plan.” Further, the Delaware Scenic and Recreational River Design Handbook produced by the Upper Delaware Council (UDC) in 1990 outlines the following role for the UDC:

“Under the RMP, the Conference of Upper Delaware Townships was reborn as the Upper Delaware Council. The Council is the vehicle through which cooperative river

protection is accomplished, as originally envisioned by Congress. Members of the Council include the State of New York through the Department of Environmental Conservation, the Commonwealth of Pennsylvania through the Department of Environmental Resources, the Delaware River Basin Commission as an advisory member without a vote, and up to fifteen river towns and townships. The National Park Service is a cooperating agency. The Citizens Advisory Council is an ex-officio member without a vote.

The Upper Delaware Council oversees the implementation of the RMP. It is the driving force behind the Plan, and is the primary mechanism through which local, state and federal agencies agree upon joint actions affecting the river corridor.”

## Sullivan County

By spearheading the creation of the conceptual site plans for the six river access points, Sullivan County has expressed willingness to provide technical support and guidance related to investment efforts on the access points in the river corridor. Working with the implementation committee, the county can continue to provide technical support for the implementation of river access point improvements. The county can act as a facilitator for projects and partnerships, assist with writing grants and as a clearing house for information related to the river corridor.

## NPS

The role of NPS was clearly outlined in the 1986 River Management Plan. NPS should continue to spearhead programming, operations and maintenance efforts at the river access sites in cooperation with the Towns, UDC and other entities and organizations.

## **Funding**

Achieving the vision that is defined within this Plan will require an innovative approach to funding. Since the overall corridor needs to be managed as a whole and as a series of individual sites, stable and recurring sources of funding for specific projects and for each site is needed. Based on the current economic conditions and the limitations of existing funding sources, multiple funding sources will most likely be needed to achieve the goals of this plan, as no single source of funding will meet the goals and objectives defined for the conservation and recreational use of the Upper Delaware River corridor. Instead, the partners through UDC will need to work cooperatively with each other and with many other governmental, public and private partners to generate funds sufficient to implement the program. Additional information related to funding can be found in the Appendix.



Organization	Grant Program		
	Name	Range	Description
<b>Trout Unlimited</b>	No specific program	n/a	Projects include protection of intact habitat and restoration of compromised habitat
<b>USDA Community and Economic Development</b>	Community Economic Development	Varies	USDA has a number of grants and loans available for rural communities as well as technical assistance for economic development
<b>Delaware Highlands Conservancy</b>	Partnerships and Special Initiatives	Varies	The Conservancy is involved in partnerships and initiatives that help connect people to each other and the land. Initiatives include projects like the Common Waters Fund that helps forest landowners in the Upper Delaware River Watershed improve the management of and conserve their private forest lands.
<b>Sullivan Renaissance</b>	Community Beautification Grants	Varies	The central activity of Sullivan Renaissance is a two-phase community beautification grant program that runs from March through August in Sullivan County, NY. Early admission is available only for the community beautification and maintenance support programs. Other grant programs include: Environmental Initiative Grants; Technical Assistance Grants; Community Development Grants; Façade Improvement Grants

Organization	Grant Program		
	Name	Range	Description
<p><b>New York Department of Environmental Conservation</b></p>			<p>Competitive grants for environmental protection and improvement are available for municipalities, community organizations, not-for-profit organizations and others. Grant types include: Solid and Hazardous Waste Grants; Water Protection Grants; Environmental Cleanup Grants; Wildlife Protection Grant Programs; Land and Forest Protection Grants</p>
<p><b>US Fish and Wildlife Service</b></p>			<p>The Fish and Wildlife Service administers a variety of programs that award grants and cooperative agreements to commercial organizations, foreign entities, Indian tribal governments, individuals, institutions of higher education, non-profit organizations and state and local governments. Programs included on the following Fish and Wildlife Service financial assistance program websites: Coastal Wetlands Conservation Grant Program</p>
<p><b>Arbor Day.org</b></p>	<p>TD Green Streets</p>		<p>TD Green Streets Grant Information</p> <p>TD Green Streets supports innovative practices in community forestry. Through the program, municipalities are eligible to receive one of ten \$20,000 grants in support of local forestry projects in low- to moderate-</p>



Organization	Grant Program		
	Name	Range	Description
<b>LL Bean</b>			<ul style="list-style-type: none"> <li>• Grants are made only to qualified, federal tax-exempt 501(c)(3) organizations</li> <li>• Grants are only made within the parameters described in the four categories below. Conservation and Outdoor Recreation; Health and Human Services; Education; Culture and the Arts.</li> </ul>
<b>USDA Rural Development</b>	Rural Development Assistance Grant		<p>Rural Development Grant Assistance</p> <p>Program assistance is provided in many ways, including direct or guaranteed loans, grants, technical assistance, research and educational materials. Visit the following sites for information and/or assistance</p>
<b>Shimano</b>			<p>Charitable Guidelines</p> <p>Shimano American Corporation and its charitable foundation have established these primary focus areas:</p> <ul style="list-style-type: none"> <li>• Youth development</li> <li>• Environmental protection</li> </ul>
<b>Patagonia</b>			<p>Patagonia Environmental Grants Program</p> <p>We give at the grassroots level to innovative groups overlooked or rejected by other corporate donors. We fund activists who take radical and strategic steps to protect habitat, wilderness and biodiversity.</p>



Organization	Grant Program		
	Name	Range	Description
<b>FEMA</b>	Federal Grant Program		Agriculture Grants Art Grants Business and Commerce Grants Community Development Grants Consumer Protection Grants Disaster Prevention and Relief Grants Education Grants Employment, Labor and Training Grants Energy Grants Environment Grants Food and Nutrition Grants Health Grants Housing Grants Humanities Grants Income Security and Social Services Grants Information and Statistics Grants Law, Justice and Legal Services Grants Natural Resources Grants Regional Development Grants Science and Technology Grants Stimulus Grants Transportation Grants Other Federal Grants
<b>Treevitalize</b>	Treevitalize Watersheds Grant Program		Since 2005, TreeVitalize Watersheds has focused on planting trees along stream corridors, adjacent upland areas and “naturalized” stormwater basins in the five-county region of southeastern Pennsylvania. Through this program, dozens of watershed restoration projects are conducted throughout the region every year, resulting in thousands of trees planted in sensitive water protection zones.



Organization	Grant Program		
	Name	Range	Description
<b>National Park Service</b>			<p>Conservation + Recreation: We Can Help You Turn Ideas Into Actions Now Accepting Applications for 2015 Projects</p> <p>From remote communities in Alaska to the Bronx River in New York, the National Park Service is supporting communities. We're connecting youth with national parks in Alaska, planning a community trail system for mountain biking in Michigan, and getting people paddling on Texas rivers-and helping more than 350 other communities get their conservation and recreation projects off the ground this year.</p> <p>The National Park Service Rivers, Trails, and Conservation Assistance program helps community groups, not-for-profits, state and local governments, and tribes plan and establish trails and parks, conserve and improve access to rivers and natural areas, and create outdoor recreation opportunities.</p>

# Appendix



# Appendix

