

GREATER DES MOINES  
WATER TRAILS + GREENWAYS

# NORTH + MIDDLE RIVERS

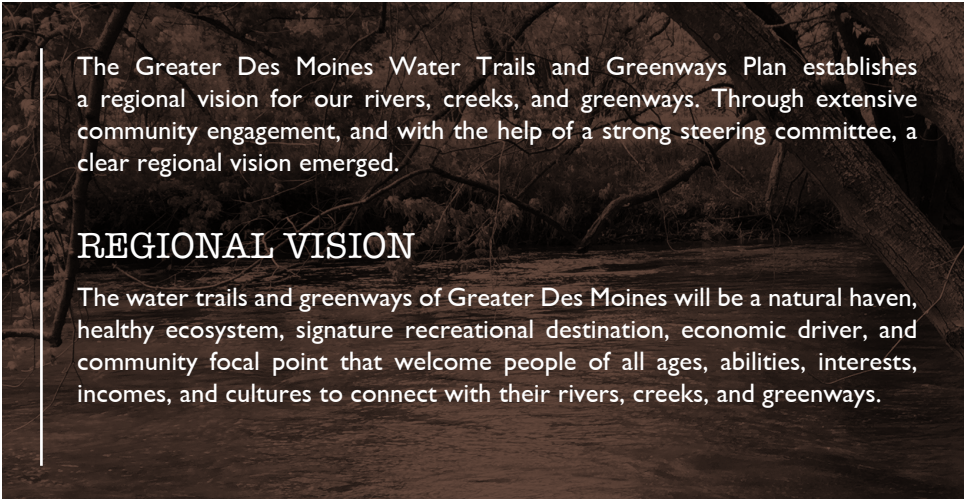
PHASE I - REGIONAL ENGINEERING STUDY





### ISG'S PURPOSE

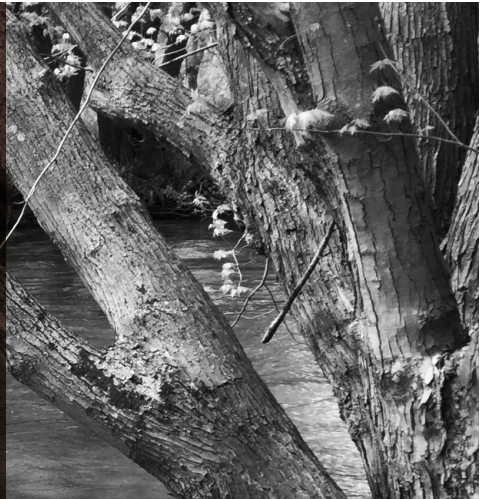
This Phase I Regional Engineering Study builds upon the Des Moines Area Metropolitan Planning Organization's Water Trails and Greenways Plan completed in 2016. Using the suggestions and recommendations included in the original Plan, ISG developed conceptual designs and opinion of probable cost for the improvements along the region's creeks and rivers. This study will assist municipalities and organizations in prioritizing projects, informing budget considerations, and building community support for implementation.



The Greater Des Moines Water Trails and Greenways Plan establishes a regional vision for our rivers, creeks, and greenways. Through extensive community engagement, and with the help of a strong steering committee, a clear regional vision emerged.

### REGIONAL VISION

The water trails and greenways of Greater Des Moines will be a natural haven, healthy ecosystem, signature recreational destination, economic driver, and community focal point that welcome people of all ages, abilities, interests, incomes, and cultures to connect with their rivers, creeks, and greenways.





## INTRODUCTION

The Des Moines Metro has been blessed with an abundance of natural resources. Rivers and creeks flow through our backyards and the hearts of our cities and towns. Healthy riparian corridors supply safe drinking water, protect communities from flooding, provide habitat for fish and other wildlife, support family-friendly recreation, and serve as local economic drivers. However, this value is often not recognized. The Greater Des Moines Water Trails and Greenways Plan seeks to change that by highlighting the significant opportunities provided by our rivers and creeks.

The following Phase I - Regional Engineering Study represents the next step in realizing the Plan's vision. With the goal of providing communities an implementation strategy for the outlined improvements, ISG field-verified all of the identified amenities and developed site plans, conceptual renderings, preliminary opinion of probable cost and construction schedules, and potential permitting requirements for each recommendation.

This report provides community leaders with the information necessary to move forward with implementation and the process of reconnecting to this vital natural resource, our water.



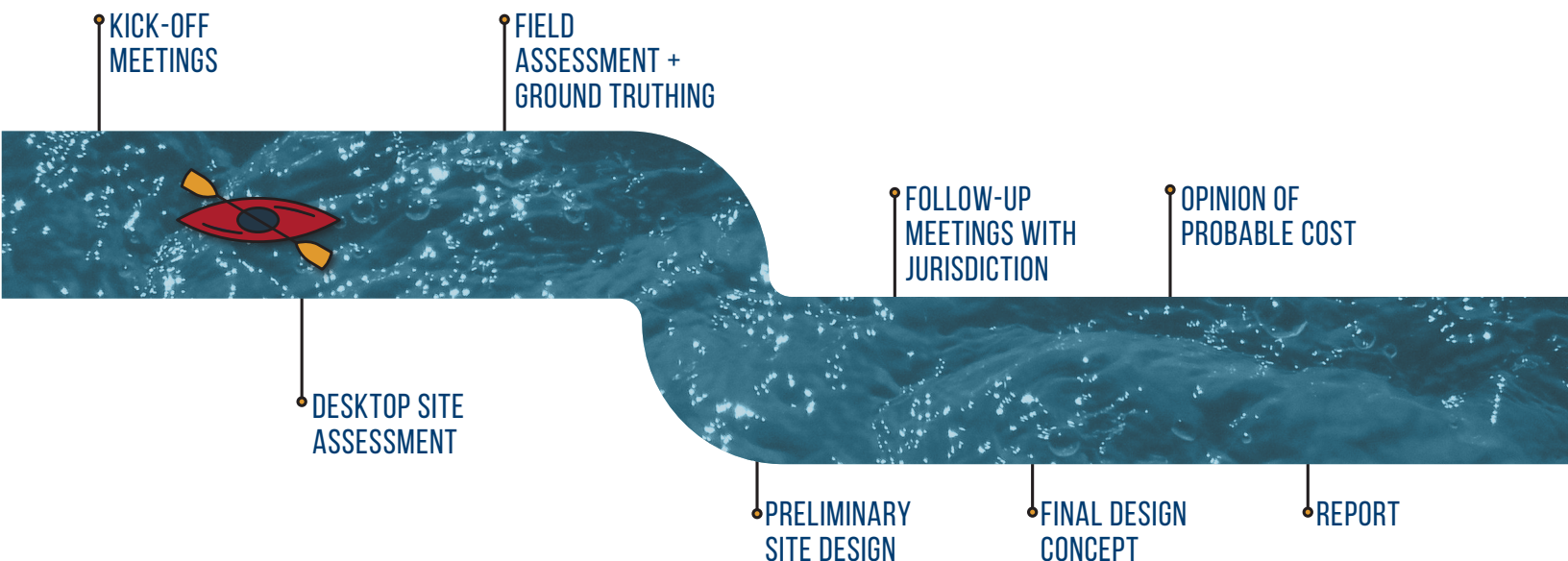
## MUSSEL SURVEYS AND PERMITS

At sites where there is a disturbance to the streambank or stream channel, a mussel survey will be completed, with few exceptions. This will be done with staff from IDNR and local stakeholders on a site specific basis, immediately preceding the start of construction. Optimal conditions for surveys are when water temperatures are above 50°F and during times of low flow. For sites with state listed species, coordination with IDNR will be done through environmental review as part of the joint application process and a letter of environmental review will be requested from the Director.

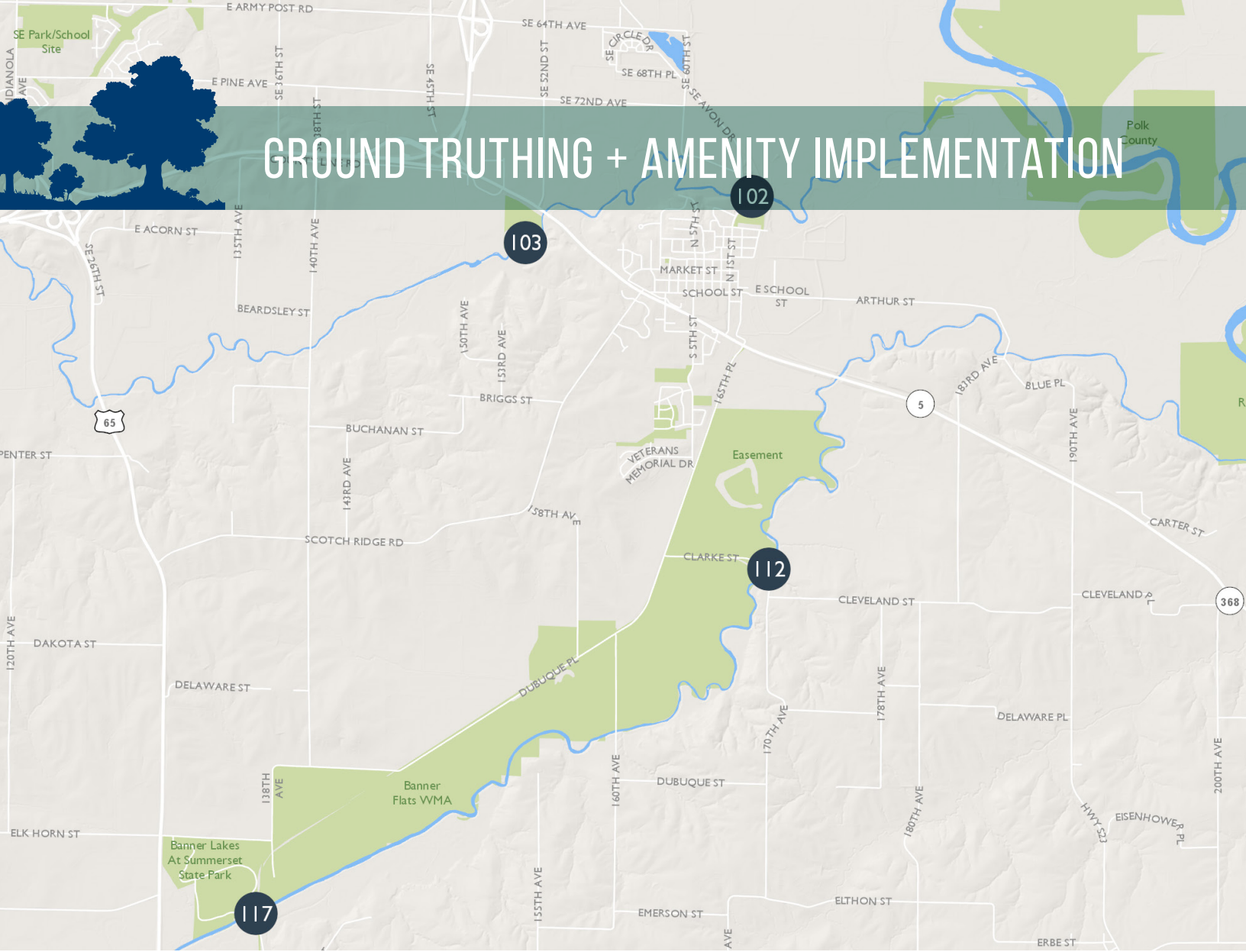
## IOWA OUTDOOR RECREATION GENERATES

\$8.7 BILLION IN ANNUAL CONSUMER SPENDING | 83,000 DIRECT JOBS  
\$2.7 BILLION WAGES + SALARIES | \$649 MILLION STATE + LOCAL TAX REVENUE

Source: [https://outdoorindustry.org/wp-content/uploads/2017/07/OIA\\_RecEcoState\\_IA.pdf](https://outdoorindustry.org/wp-content/uploads/2017/07/OIA_RecEcoState_IA.pdf)



# GROUND TRUTHING + AMENITY IMPLEMENTATION



## NORTH RIVER

ID	AMENITY	JURISDICTION
103	Fishing, Respite, Wading	City of Carlisle
102	Fishing, Respite, Wading	City of Carlisle

## MIDDLE RIVER

ID	AMENITY	JURISDICTION
117	Carry Down Access	Warren County
112	Carry Down Access	Warren County



# SITE 103: FISHING, RESPITE, WADING

## Permits Needed

- Iowa DNR Joint Application
- City of Carlisle Floodplain Development Permit

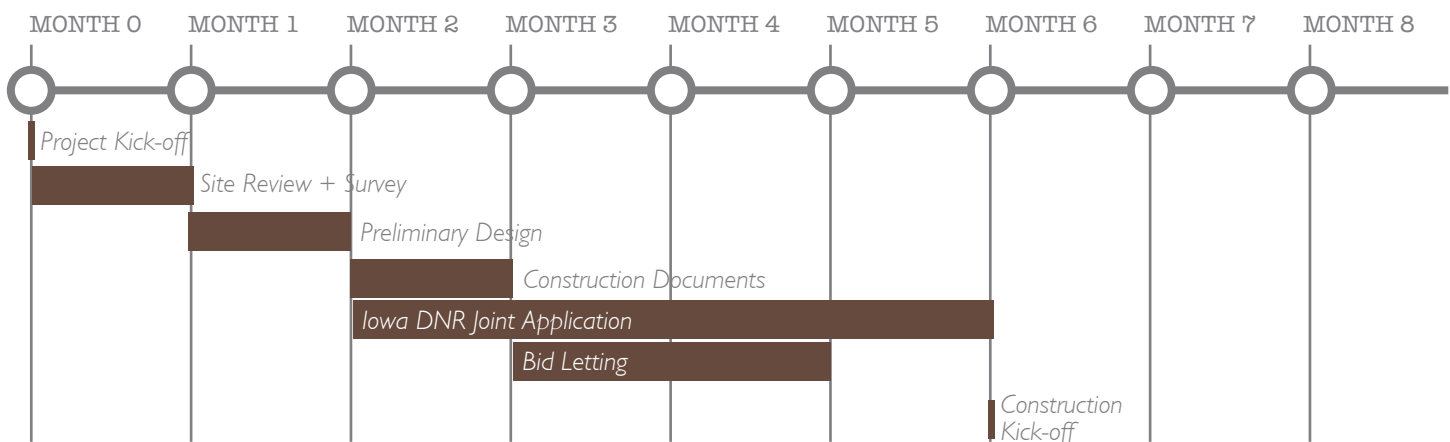
## OVERVIEW

This site is located within Scotch Ridge Nature Park, one of Carlisle’s signature public spaces. Park features include a paved multi-use trail connecting various city amenities to larger regional trail networks, a pedestrian bridge, and native habitat restoration, with plans for additional improvements underway, as outlined in the Scotch Ridge Park Master Plan. The proposed limestone stair access will utilize the park’s existing parking area and provide much needed access to the river, adjacent to trails and other infrastructure. The proposed improvements benefit numerous user groups including: paddlers, park visitors, waders, and anglers.

## OPINION OF PROBABLE COST

COST ITEM	TOTAL AMOUNT
Carry Down Access - Limestone Stairs	\$11,666.00
Erosion + Sediment Control	\$225.00
Sidewalk	\$2,029.00
Signage	\$2,490.00
<b>CONSTRUCTION COST</b>	<b>\$16,410.00</b>
Mobilization (5% Construction Costs)	\$820.50
20% Contingency	\$3,282.00
Non-Construction Costs (15% Construction Costs)	\$2,461.50
<b>TOTAL PROJECT COST</b>	<b>\$22,974.00</b>

## PROJECT SCHEDULE



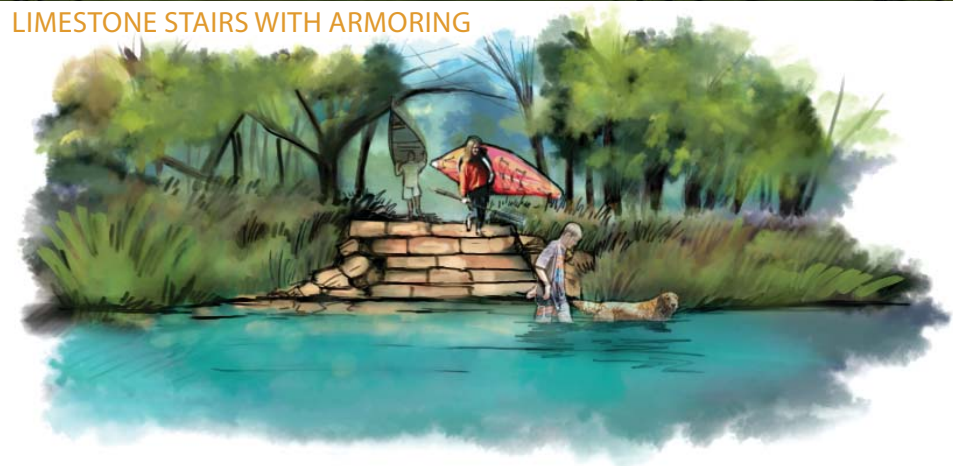
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SCOTCH RIDGE  
NATURE PARK

- SUMMERSET TRAIL
- INTERPRETIVE SIGNAGE
- 6' CONCRETE TRAIL
- LIMESTONE STAIRS WITH ARMORING

LIMESTONE STAIRS WITH ARMORING



NORTH RIVER





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# SITE 102: FISHING, RESPITE, WADING

## Permits Needed

- Iowa DNR Floodplain Development Permit
- City of Carlisle Floodplain Development Permit

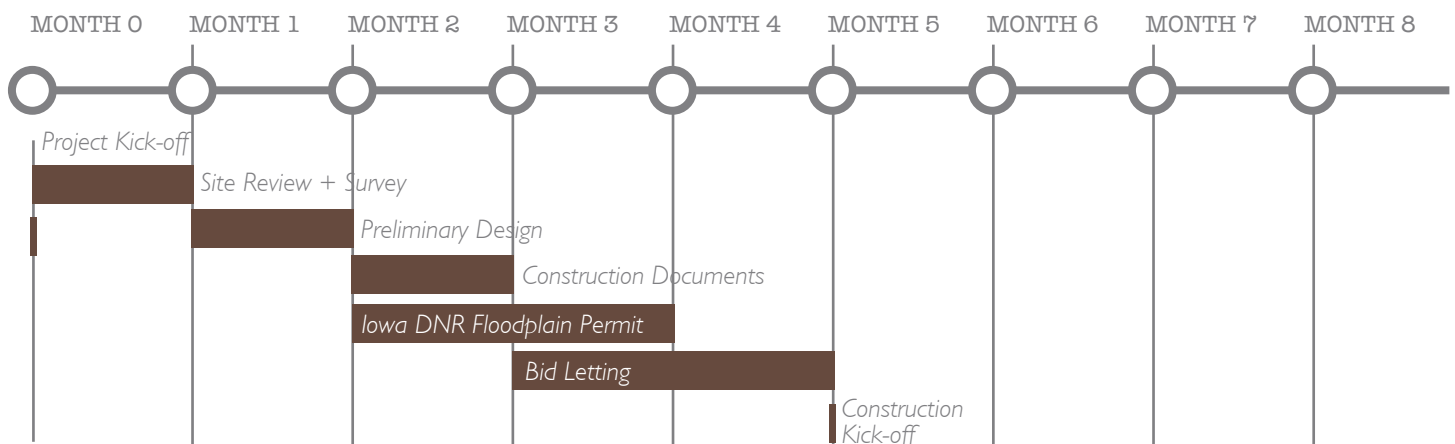
## OVERVIEW

This site is located within Carlisle City Park, which includes picnic shelters, a playground, restrooms, ball fields, and trails. The proposed improvements complement existing park programming and provide opportunities for interacting with the river by improving existing soft trails and incorporating interpretive signage and a limestone stair access. The proposed improvements benefit numerous user groups including: park visitors, waders, anglers, birders, paddlers, and trail users.

## OPINION OF PROBABLE COST

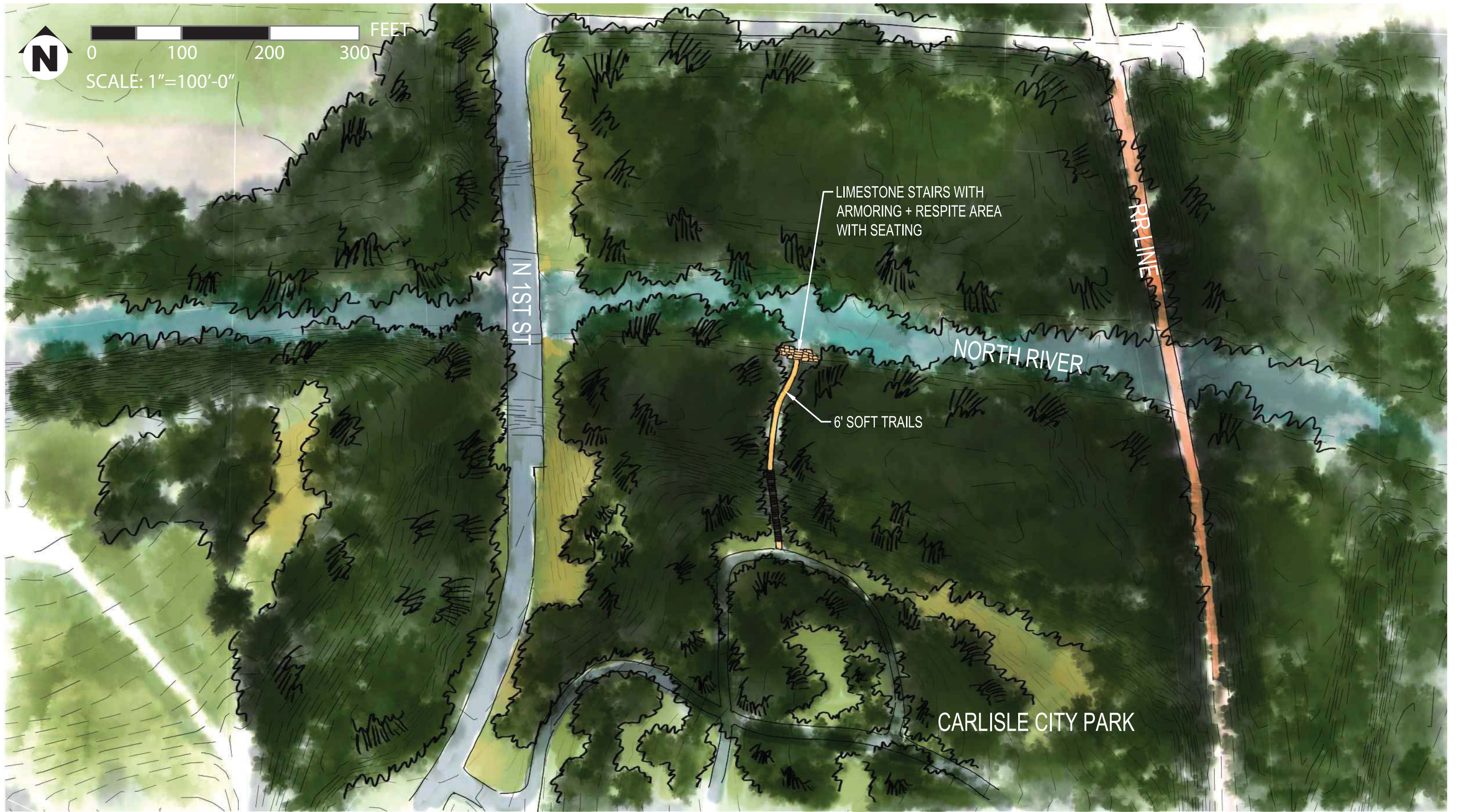
COST ITEM	TOTAL AMOUNT
Carry Down Access - Limestone Stairs	\$11,666.00
Erosion + Sediment Control	\$225.00
Signage	\$1,680.00
Trail - Soft	\$2,000.00
Additional Amenities	\$15,000.00
<b>CONSTRUCTION COST</b>	<b>\$30,571.00</b>
Mobilization (5% Construction Costs)	\$1,528.55
20% Contingency	\$6,114.20
Non-Construction Costs (15% Construction Costs)	\$4,585.65
<b>TOTAL PROJECT COST</b>	<b>\$42,779.40</b>

## PROJECT SCHEDULE



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SITE 102 CONCEPT SKETCH



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# SITE 117: CARRY DOWN ACCESS

## Permits Needed

- Iowa DNR Floodplain Permit
- Warren County Floodplain Development Permit

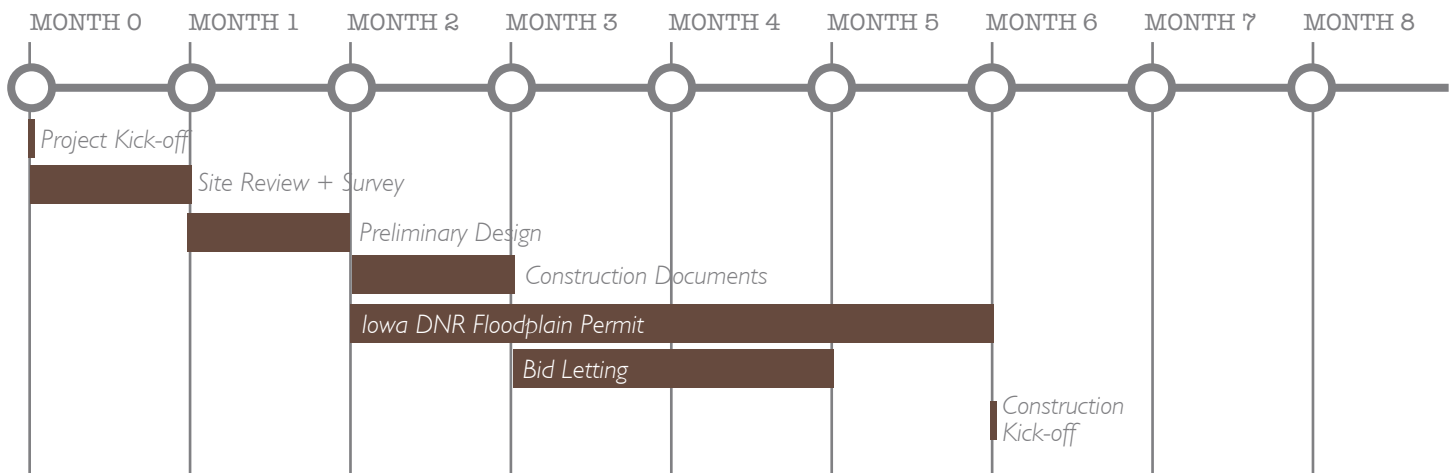
## OVERVIEW

This site is located within the Banner Lakes at Summerset State Park, which includes in-park access to the chain of lakes, and is located near restrooms, trails, parking, and a nearby shooting range and public hunting lands. However, there is currently minimal connection to the river. The outlined improvements provide much needed river access, with the inclusion of a cast-in-place canoe and kayak launch and paved trail linking existing park features with the proposed amenities. The proposed improvements benefit numerous user groups including: park visitors, waders, anglers, and paddlers.

## OPINION OF PROBABLE COST

COST ITEM	TOTAL AMOUNT
Carry Down Access - Cast-in-place	\$21,084.00
Erosion + Sediment Control	\$2,615.00
Signage	790.00
Trail - Hard	\$19,032.00
<b>CONSTRUCTION COST</b>	<b>\$43,521.00</b>
Mobilization (5% Construction Costs)	\$2,176.05
20% Contingency	\$8,704.20
Non-Construction Costs (15% Construction Costs)	\$6,528.15
<b>TOTAL PROJECT COST</b>	<b>\$60,929.40</b>

## PROJECT SCHEDULE



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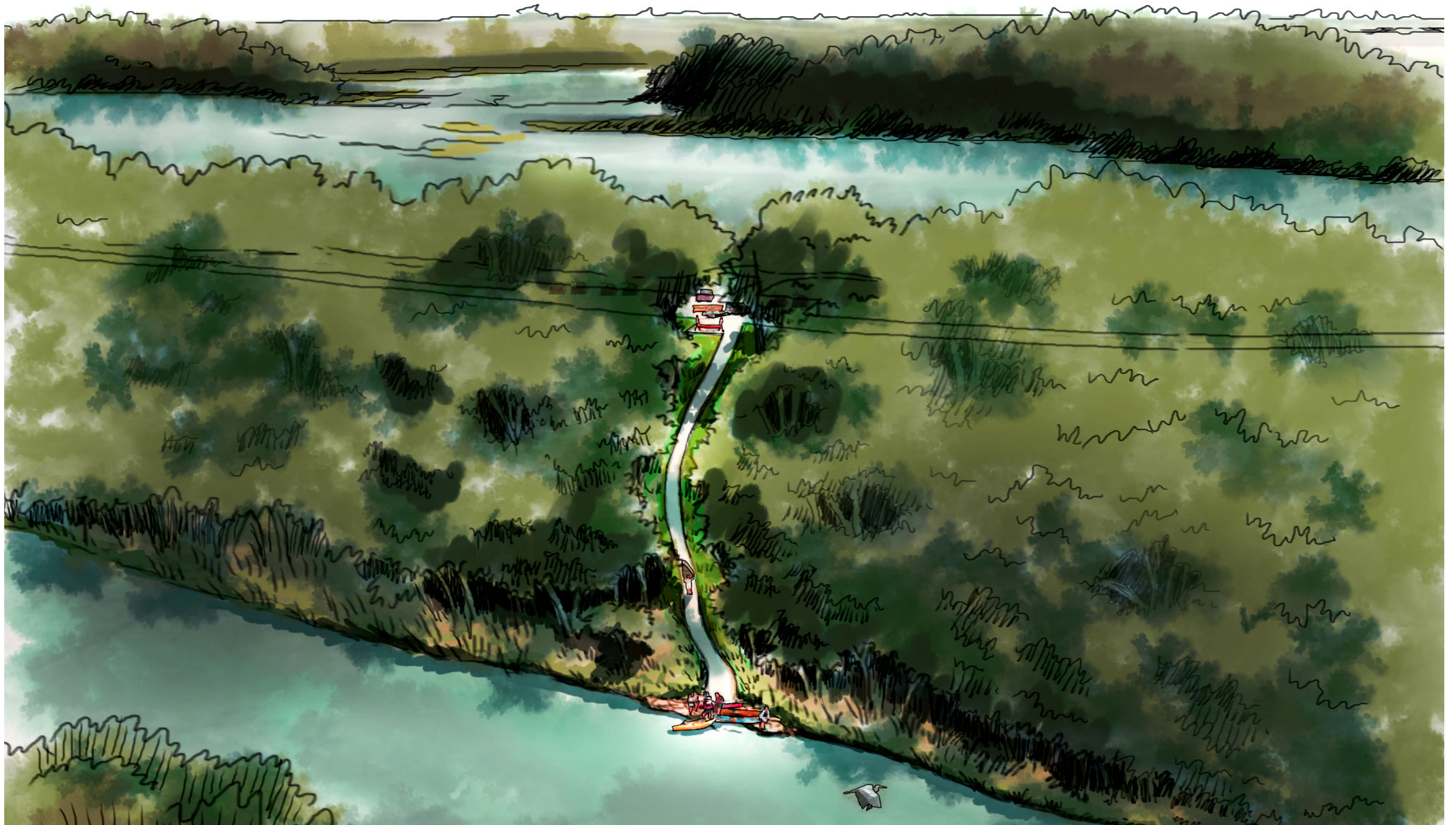


SITE 117 CONCEPT PLAN



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SITE 117 CONCEPT SKETCH



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# SITE 112: CARRY DOWN ACCESS

## Permits Needed

- Iowa DNR Joint Application
- Warren County Floodplain Development Permit

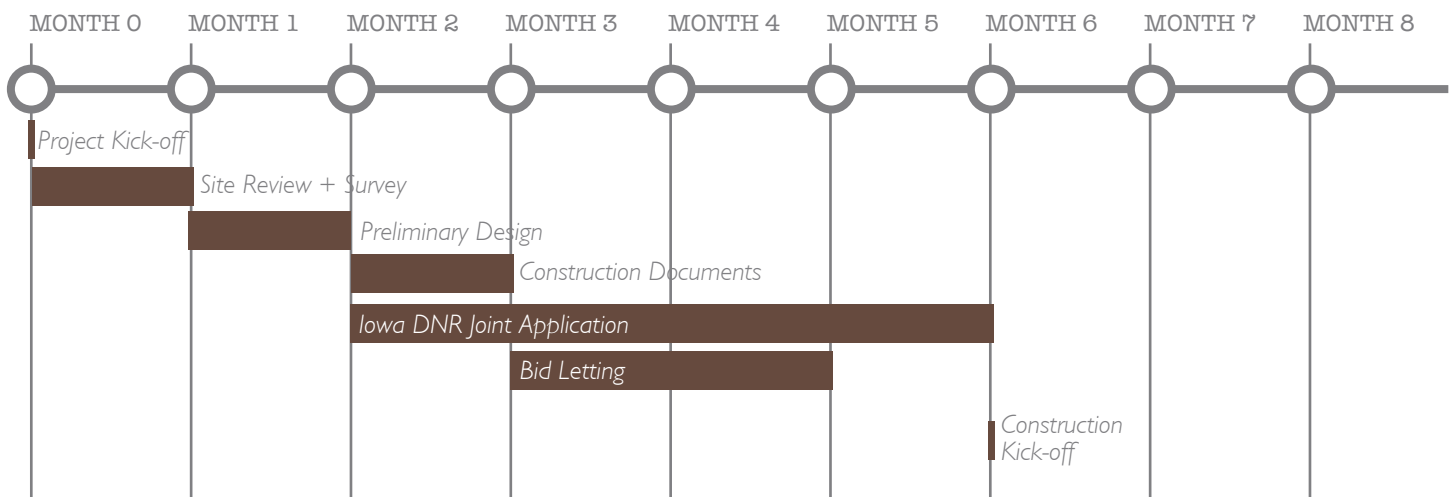
## OVERVIEW

This site is located within the Banner Flats Wildlife Management Area, an Iowa Department of Natural Resources tract used primarily as public hunting lands. Proposed improvements for this location include a cast-in-place launch, parking area, and directional and interpretive signage. This site will serve as the primary downstream access before its confluence with the Des Moines River, providing an approximately 3-mile trip from the proposed access at Banner Lakes at Summerset State Park. The proposed improvements benefit numerous user groups including paddlers and anglers.

## OPINION OF PROBABLE COST

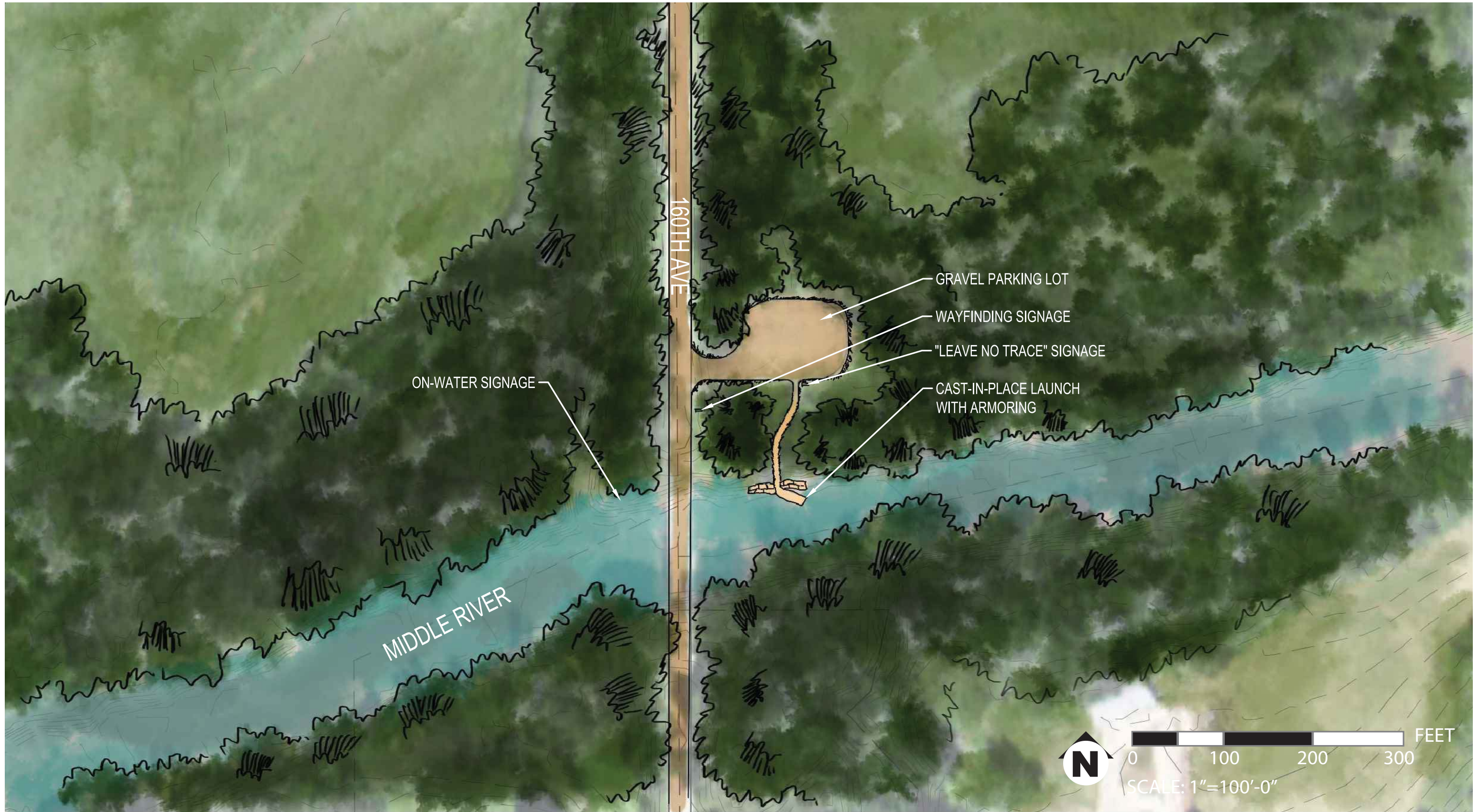
COST ITEM	TOTAL AMOUNT
Carry Down Access - Cast-in-place	\$42,688.00
Erosion + Sediment Control	\$2,615.00
Parking Lot	\$4,430.00
Signage	\$790.00
<b>CONSTRUCTION COST</b>	<b>\$50,523.00</b>
Mobilization (5% Construction Costs)	\$2,526.15
20% Contingency	\$10,104.60
Non-Construction Costs (15% Construction Costs)	\$7,578.45
<b>TOTAL PROJECT COST</b>	<b>\$70,732.20</b>

## PROJECT SCHEDULE





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SITE 112 CONCEPT PLAN



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SITE 112 CONCEPT SKETCH



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# COMMUNITY COST

## OPINION OF PROBABLE COSTS

The following table shows the total opinion of probable cost to the impacted jurisdictions for the conceptual projects included in this Phase I Engineering Study for North and Middle Rivers.

AMENITY OR PROJECT	OPINION OF PROBABLE COST
<b>CITY OF CARLISLE</b>	
Site 102: Fishing, Respite, Wading	\$42,779.40
Site 103: Fishing, Respite, Wading	\$22,974.00
<b>JURISDICTION TOTAL</b>	<b>\$65,753.40</b>

AMENITY OR PROJECT	OPINION OF PROBABLE COST
<b>WARREN COUNTY</b>	
Site 112: Carry Down	\$70,732.20
Site 117: Carry Down	\$60,929.40
<b>JURISDICTION TOTAL</b>	<b>\$131,661.60</b>





# WATER QUALITY



## CURRENT AND FUTURE WATER QUALITY

Iowa's water quality challenges have received much attention in recent years. From beach closings due to cyanobacteria to high nitrate levels in drinking water, addressing these challenges will take a collaborative approach amongst both urban and rural communities, a comprehensive long-term monitoring program, and dedicated funding. While progress is being made, the Greater Des Moines Water Trails and Greenways Plan proposes to increase recreation on our waterways, highlighting the need for more detailed study on the relationship between public health and water quality. Specific focus should be given to biological factors, such as bacteria, which are an issue of primary concern for urban rivers.

Currently in Polk County, there is a robust effort to monitor water quality conditions in regards to ecological, physical, and chemical properties, such as stream coverage, clarity, nitrate levels, and more. This is done through a network of 58 testing sites managed by Polk County Conservation's Water Quality Monitoring Program, with staff and volunteers collecting data throughout the year and publishing it in an annual report. While there are a number of takeaways from this effort that we can learn from and build upon in developing more efficient testing for biological indicators, there are components that make this more complicated, and potentially groundbreaking, including:

1. Results are delayed due to the need for lab testing of biological assays. Real-time data is key to understanding trends occurring in our waterways.
2. Testing is a tricky thing to get right. Small deviations, such as location, can skew the results. For example, if water tested is stagnant or located near wildlife this can lead to results that are not consistent with the rest of the waterbody. The dynamic, and ever-changing, nature of riverine systems makes accurate testing more difficult, especially when coupled with delays in reporting for biological pollutants.
3. Currently, streams and rivers in Iowa are not being regularly tested for biological harms.

To overcome these barriers and provide accurate information for water trail users, a system of real-time bacteria monitoring for rivers and streams should be considered, done in collaboration with diverse stakeholders and across varying areas of expertise. Once a clear strategy is outlined, significant consideration should also be given to the housing and dissemination of this information, with public health as the main focus.

*NOTE: A group of local stakeholders and technical experts have begun to look at this issue more comprehensively, with conversations ongoing as an implementation and funding strategy for area water trails is formalized.*





# GET INVOLVED + SUPPORT

## NEXT STEPS

As stated in the introduction, the Phase I Engineering Study further develops concepts introduced by the MPO Water Trails and Greenways Plan. The information contained in this document will assist municipalities in formulating implementation strategies, provide stakeholder groups with conceptual designs to further planning efforts, and allow communities to generate excitement and momentum around the multiple benefits inherent in a regional water trails plan.

Each site has been assessed and designed to maximize the Des Moines metro area’s reconnection to the wondrous, yet often neglected, natural resources - our rivers and creeks. It is time we all “Rediscover our Rivers.”

### FOR MORE INFORMATION

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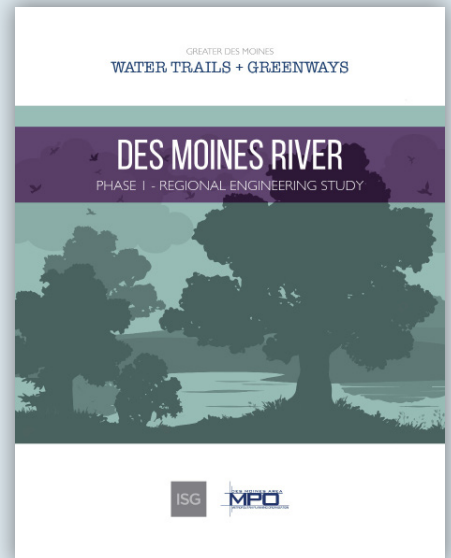
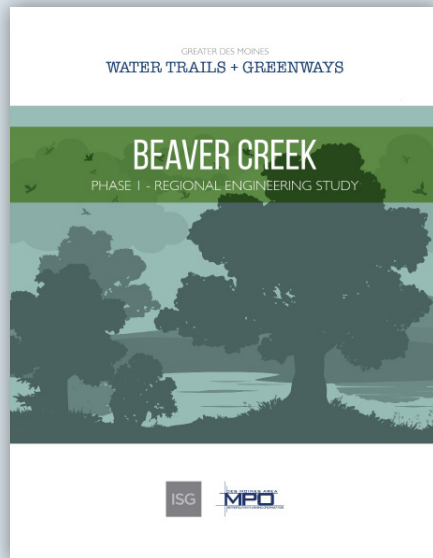
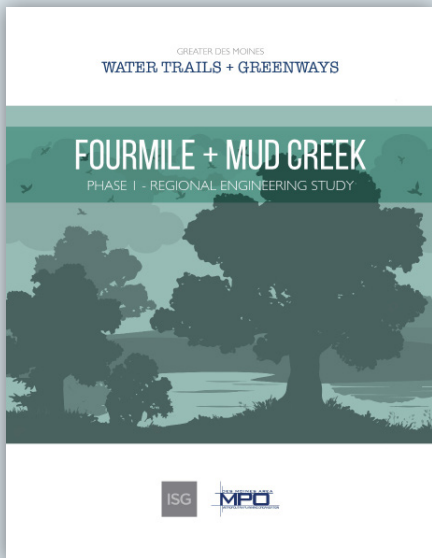
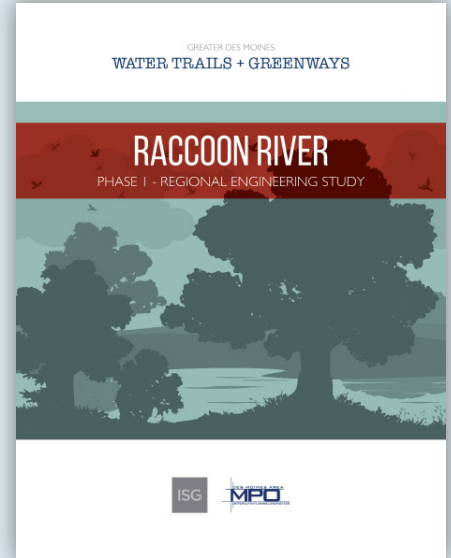
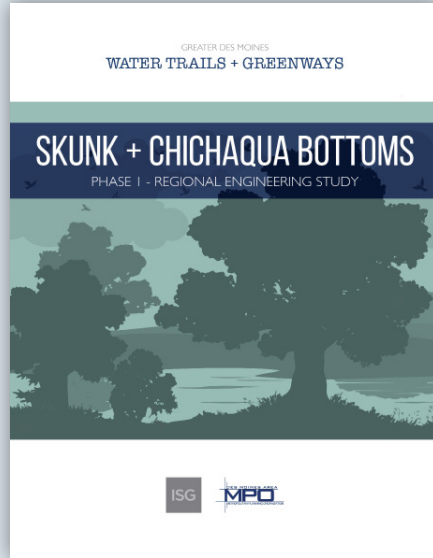
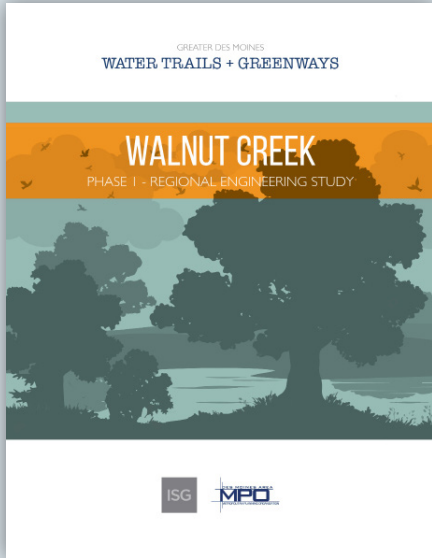
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# OTHER REPORTS









GREATER DES MOINES

# WATER TRAILS + GREENWAYS

NORTH + MIDDLE RIVERS