

Draft

# TOWN OF ZEBULON Little River Park

## Master Plan





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Town of Zebulon Parks and  
Recreation Department  
1003 N Arendell Ave  
Zebulon, NC 27597

[www.townofzebulon.org/](http://www.townofzebulon.org/)



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# PROJECT PROCESS AND PURPOSE



## PROJECT PURPOSE

Little River Park is one of the most unique parks in the Zebulon Parks and Recreation System. Situated on both banks of the Little River, this park provides the best opportunity for water access and natural area experiences within a Zebulon Park. Due to this park's differentiating features, as well as its historical context, it is recognized by the public as an important community asset.

The purpose of this project is to develop a site-specific master plan for Little River Park based on recommendations from the 2021 Play Zebulon Parks and Recreation Master Plan. These recommendations are built upon previous planning efforts for this site, and help carry forward those ideas, as well as the overall Vision established during the Play Zebulon Process.

In order to ensure that the recommendations from this previous planning effort is carried forward, this master plan process is intended to guide the development of Little River Park through a systematic method of research, site analysis and stakeholder input. Because of this Park's importance to the community, this approach extends beyond the specific property lines of the park in an effort to develop a cohesive plan that connects the Park to the surrounding areas. Improvements to Little River Park are a result of the Town's diligence and commitment to its community's priorities, and this process will help ensure that this important asset continues to provide a quality nature-based recreation experience for future generations to come.



Little River Park Engagement Board



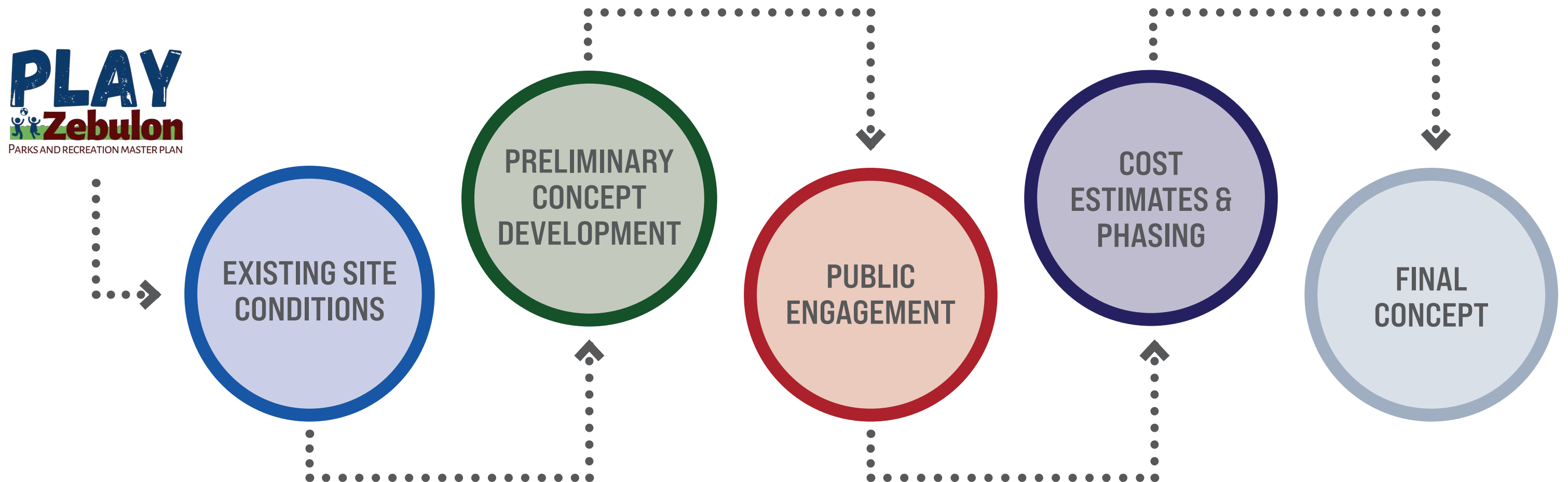
## PROJECT PROCESS

The project process is a continuation of the efforts undertaken by the Town in the previous few years, particularly the public input and programming ideas that grew out of the Play Zebulon Parks and Recreation Master Plan. Considering the planning and assessments conducted by the Town at this site in recent years, initial tasks included a review of previous planning documents, site planimetric data and research studies. The project team also conducted a physical inventory of existing conditions of the Park and surrounding area. Research for potential programming also included the analysis of facility and program precedents that were consistent with stakeholder input.

The next step involved a synthesis of information to develop a preliminary concept for the Park and surrounding area. Elements in this concept improved circulation and access, the restoration of the river bed, and programming needs to activate the park. This concept, along with precedent images, were presented through a series of public engagement opportunities, in order to validate the concept and programming elements.

After receiving input from the public through a variety of in-person opportunities as well as virtual engagement, the project team updated the final concept to reflect input received from the community. The final step in the process is the preparation of a Final Park Master Plan, which included updated cost estimates and phasing for proposed improvements. This consolidated document was then presented to the Town Commission for final adoption.

## PROJECT PROCESS DIAGRAM





# SITE CONTEXT AND COMMUNITY CONNECTIONS



## SITE CONTEXT

**ADDRESS:** 1800 W Gannon Ave, Zebulon, NC 27597

**AREA:** 23.09 ACRES

### Site Context

Little River Park is a Town of Zebulon park located along W Gannon Ave/NC 97 on the western edge of the Town boundary. The park site is approximately three miles east of the Town center. The existing 23.09-acres of the park are primarily accessed from W. Gannon Ave and Water Plant Rd. Little River Park is one of Zebulon's oldest parks known for its natural flowing water and nature based recreation. Users come to the park to enjoy fishing, sandy beach, informal trails, passive recreation, and exploring old artifacts.

The existing park property surrounds residential parcels adjacent to Little River Park along Currin Perry Rd and north of Little River. These residential properties are separated by the River or share a large amount of wooded areas.

### Park Connectivity

The Vision Chapter of the Play Zebulon Parks and Recreation Master plan highlighted the strategic location of Little River Park site and the role the park can play as a major anchor and trailhead in the larger Wake County greenway and trail system.

In addition to serving as the northern anchor for the corridor connecting to the Zebulon/Wendell open space, Little River Park also has the potential to serve as a major trailhead in a regional greenway system. Wake County currently has approximately 3,700 acres of land along the Little River that currently exists as the future Little River Reservoir. The large size and linear nature of this property presents the opportunity for a significant amount of greenway trails that provide connections to northeastern Wake County, and potentially towards Rolesville and on to Wake Forest.

Wake County began the process of planning and developing concepts for the Little River Reservoir in the spring of 2022, with the goal of increasing access to these natural lands and improving connectivity to the surrounding municipalities. This effort represents a major step in the expansion of the regional greenway system in the eastern part of the County, providing the foundation for further expansion and connection to existing trails

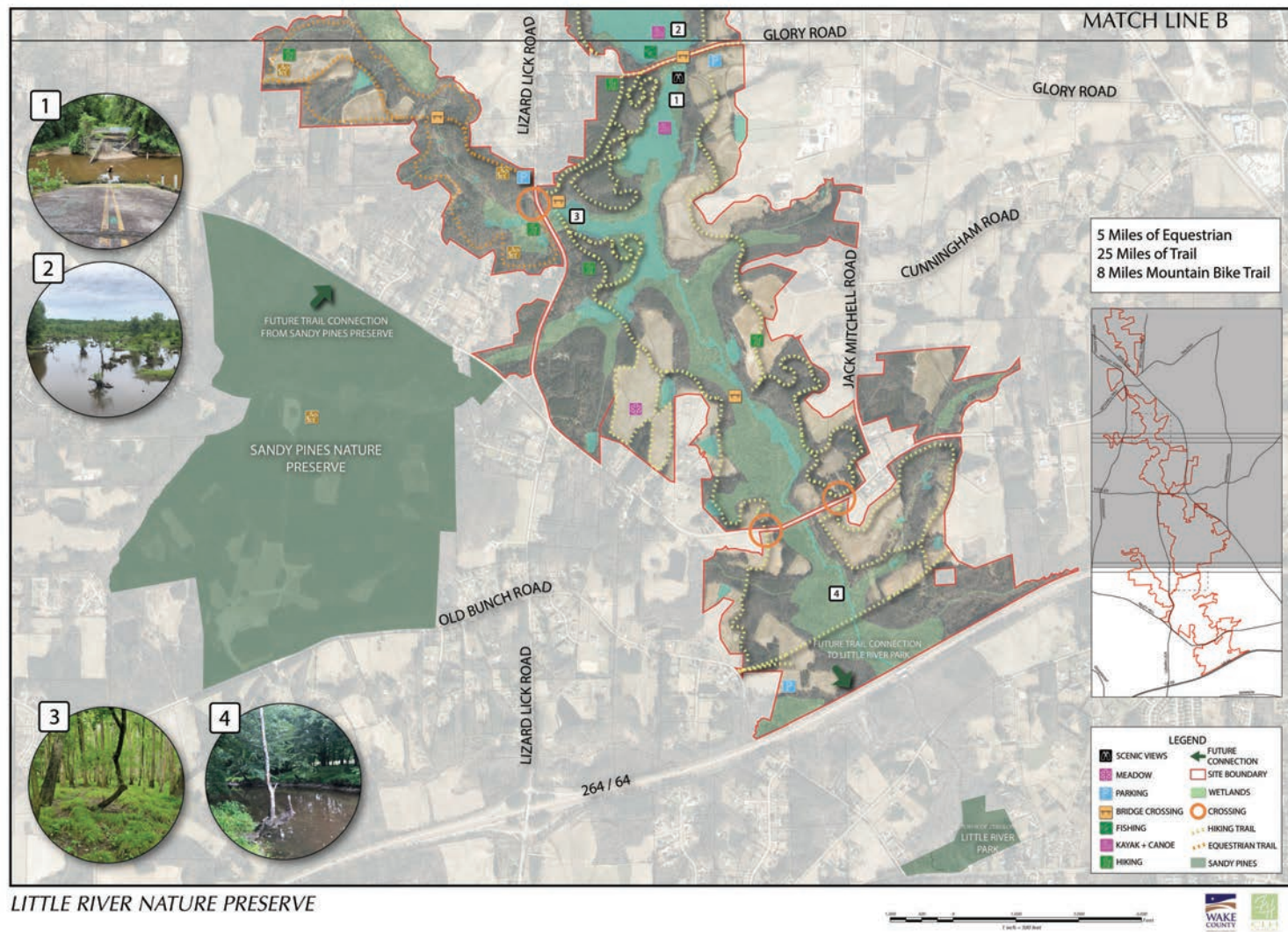


*Little River Park Recreational Spaces*

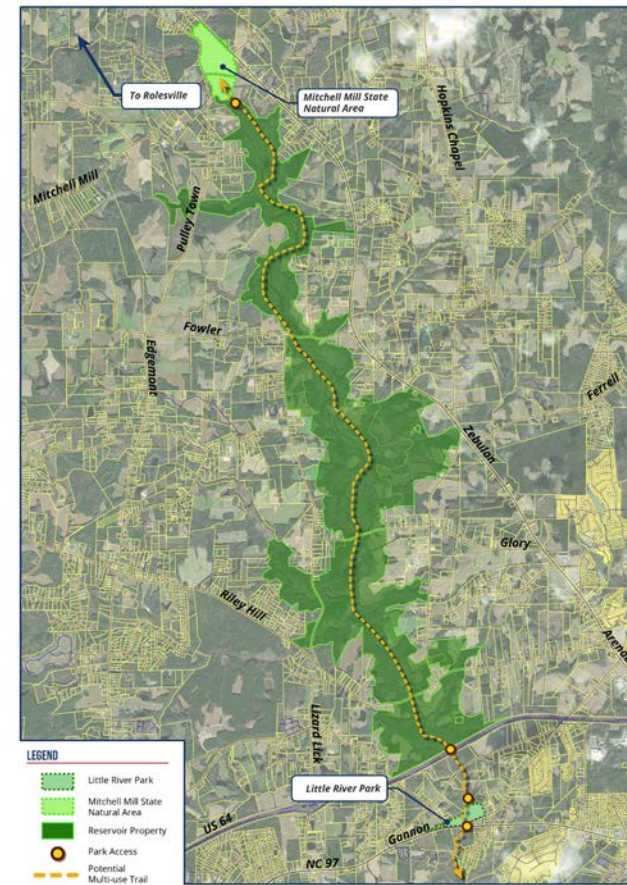


and greenways. Activating this area with activities such as walking and mountain bike trails will also touch 100+ acres of the Mitchell Mill State Natural Area near Rolesville.

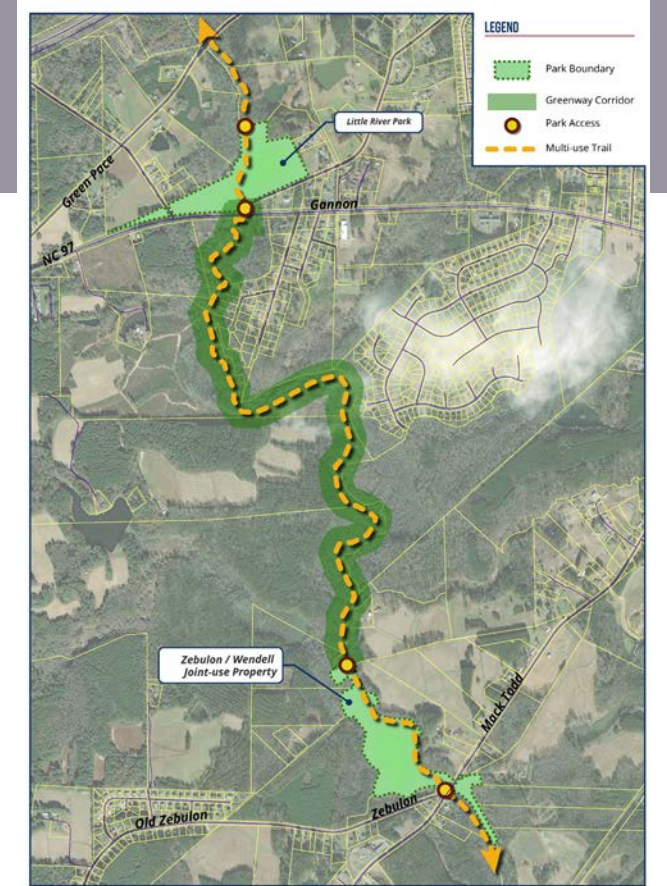
In addition to the connections to areas north of Little River Park, there are also opportunities to provide trail access to the south along the Little River. The Town jointly owns a 26.3-acre property with the town of Wendell approximately 1.5 miles south of Little River. Promoting a connection to this site will promote further regional connectivity in the area, and increase access to natural areas for park users.



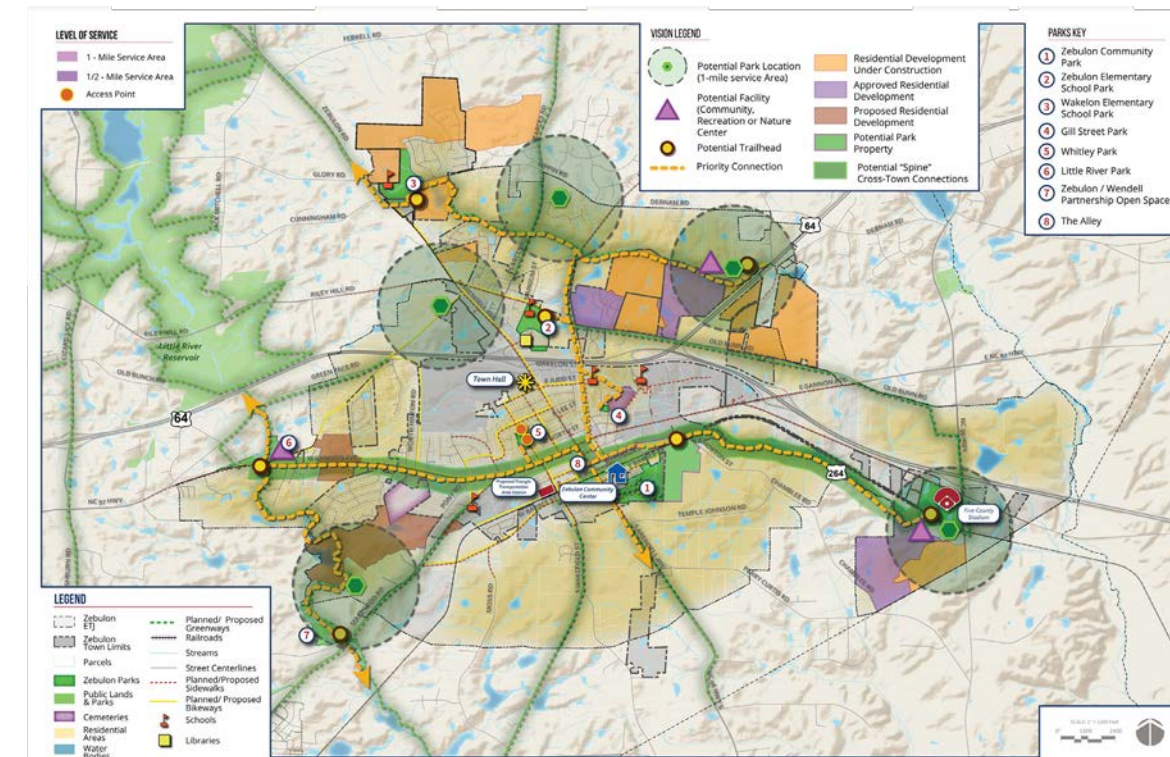
Little River Nature Preserve Concept



Potential Connection to Little River Park Reservoir



Potential Connection to Zebulon/Wendell Property



Comprehensive Vision Plan (Play Zebulon)



# EXISTING SITE CONDITIONS



## EXISTING CONDITIONS

Little River Park's unique history incorporates the remains of the historic Moore's Mill Complex which is located within the park site with the dam straddled across Little River. Little River divides the park site into two (2) sections - eastern and western, with limited pedestrian access from one side of the park site to the other.

The site displays high topographic variation with the site sloping towards the river on either bank. The FEMA map shown on the adjacent page categorizes a large portion of the park adjacent to the river as 1% Annual Chance Flood Hazard zone. Past rain and hurricane events have caused several sections of the site to be flooded and park property damaged. Any new development of the park would need to take the topography of the site and associated flooding issues into consideration. The table on the right highlights existing structures, amenities, and utilities at Little River Park



*Flooding at Little River Park*

## Little River Park

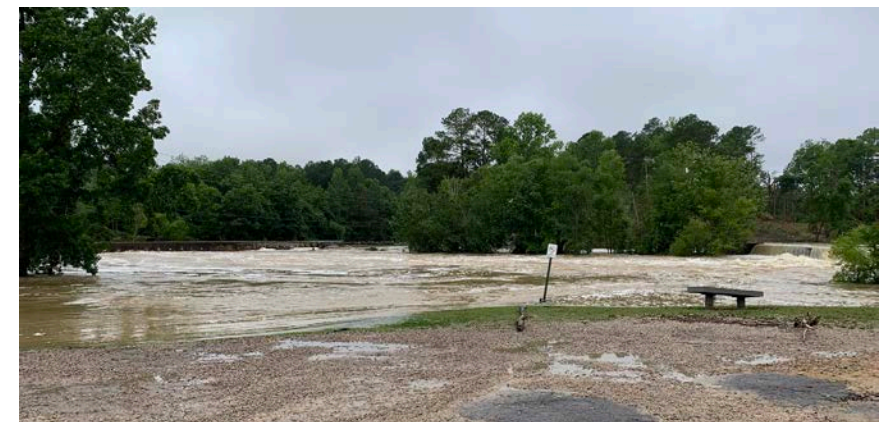
Acreage: 23.09 acres

### Existing Structures & Amenities:

- Moore's Mill dam partially destroyed
- Moore's Mill building foundation
- Two (2) gravel parking lots on either side of the Little River
- Water plant
- Old power substation
- Site is divided by Little River
- Various benches, picnic tables and trash receptacle
- Open play/passive recreation space
- Informal walking trails

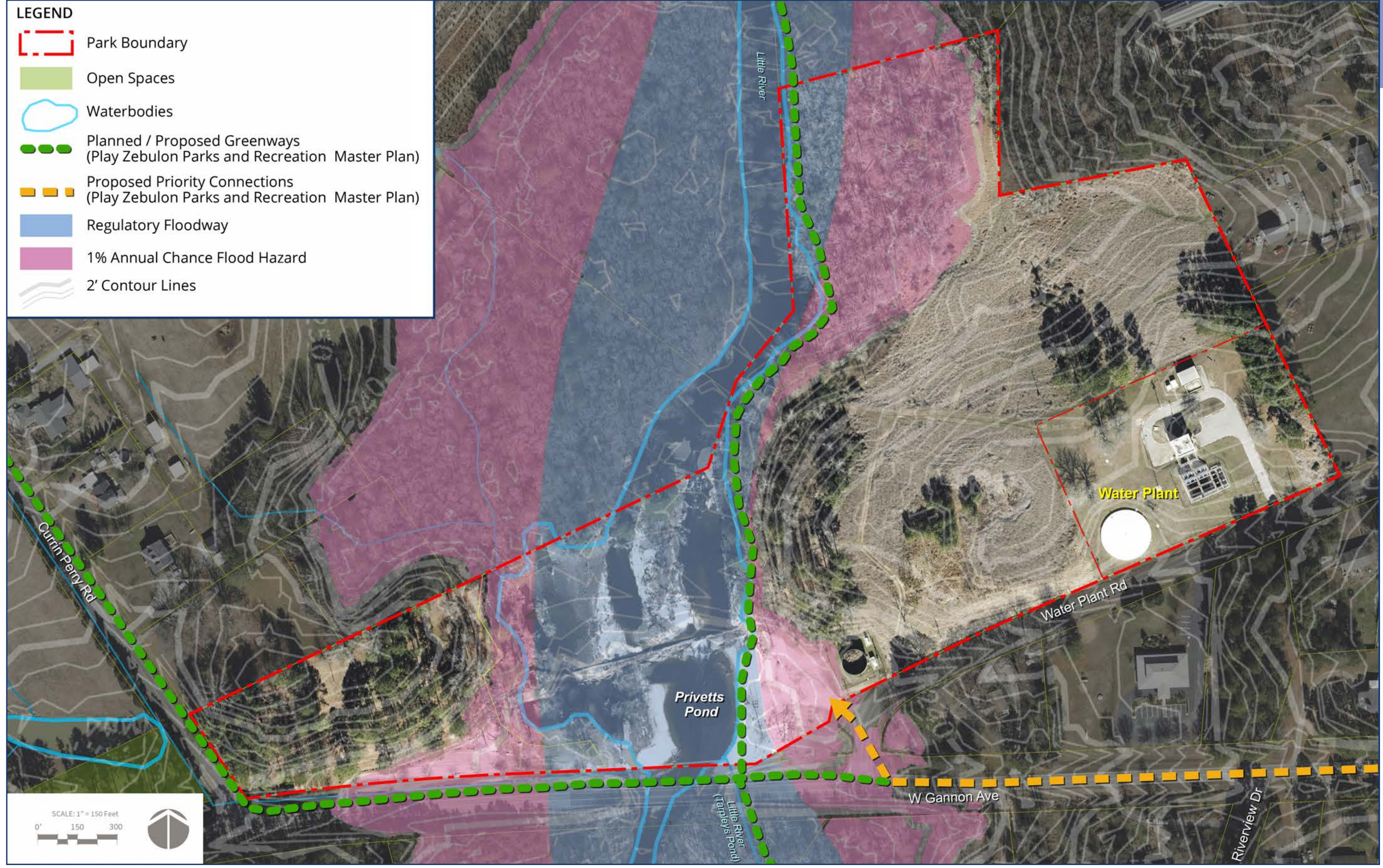
### Existing Utilities:

- Fresh water access
- Sanitary sewer
- Overhead power lines





# EXISTING SITE CONDITIONS





## SITE OBSERVATIONS

Little River Park is a nature-based park set between W Gannon Ave/ NC 97, Water Plant Rd, Currin Perry Rd which offers the Town residents reprieve from a more urban-context with flexible programmatic elements surrounding the site. Currently, there are two (2) entrances to the park that allow you to access either the east or west side. The undulating landform and thriving mature trees provide appealing views into the site from either side of the park. The site slopes considerably toward the river from both the eastern and western sides of the park property. The stream bank is eroded considerably because of steep slopes. There are no sidewalks along the periphery or within the park property. The following is a description of the project team's observations developed through a preliminary analysis of available data as well as multiple site visits to Little River Park. The project team reviewed current planning efforts as well as survey and topographical data. Results from these analyses can be found in the sections following site observations..

## Eastern Side of Site

The eastern side of Little River Park is considerably larger, but also contains a significant amount of heavily wooded areas, and limited access. The gravel parking lot is accessed off of Water Plant Rd, and allows users to access the river or take a scenic walk along the river with dense vegetation along the bank. The trail along the river has various points of water access with flat rocks to picnic or interact with the flowing water. Further inland is an old pump station owned by the City of Raleigh with fencing to keep pedestrians out of the building. This facility is slated to be removed by the City of Raleigh. The most eastern side of the park has the highest topography. This area primarily consists of ground cover, shrubs, and mature canopies that surround the park boundaries. Due to the plant, kudzu, a sprawling invasive vine, this portion of the park is going through a management plan to maintain and eliminate the kudzu.

Much of the topography on the eastern side of the park has undulating landforms that slope towards Little River. To access this area, a grass road adjacent to the water plant along Water Plant Road leads to the top of the eastern portion of Little River Park to avoid the informal trail along the river.



*East Bank of River*



*Informal Trail along River with Dense Vegetation*



*Pedestrian Access to Water*



*Existing Pump Station*



*Path Leading to Pump Station*



*Undulating Topography*



*Upland Area on the East Side of the Park*



*Service Road (unpaved)*



## Western Side of Site

On the western side of the park, the site displays high topographic variation with the site sloping towards the river. The larger of the two gravel parking lots is accessed from W Gannon Ave/NC 97 with most of the amenities placed on the west side of the Little River Park. Beach access is between the Moore's Mill building foundation and the bridge along W Gannon Ave. Adjacent to the sandy beach there are signs of erosion from the destruction of the Moore's Mill dam over multiple flooding events along with the steep topography along the western boundary of the park.

Although the topography on this side is more steep resulting in erosion and flood damages, the high point offers reprieve in the established pine stand and pastoral grasses. Park users can find limited amenities such as benches and picnic tables to use while others might decide to use the grass for a picnic or open space play.

Photos of Little River Park on the western side are shown below.



*Typical Bench*



*Little River Under the W Gannon Ave/NC 97 Bridge*



*Daylighted Stormwater Channel*



*Sandy Beach*



*Upland Area on the Western Side of the Park*



*Moore's Mill Building Foundation along River*



*Rocky Area on the Western Side of the Park*



*Park Bench and Picnic Table*



*Open Play/ Passive Recreation Space*



*Mature Pine Stand*



## PREVIOUS STUDIES & REPORTS

Located within the park site is the historic Moore's Mill complex, which includes the foundation of the mill building and the remnants of the dam. The dam runs roughly adjacent to NC 97 as it crosses the Little River. The foundation blocks for the mill building remain on site.

### Architecture Survey

The 2019 City of Zebulon Historic Architecture Survey Report of Moore's Mill notes that the Mill was constructed during the heyday of gristmills in the United States, North Carolina, and Wake County. The date of construction for Moore's Mill is somewhat debatable. The mill is labeled "Moor's Mill" on the 1871 Map of Wake County. Locals would bring their corn and wheat to be ground at the mill for a fee or a portion of the cornmeal or flour.

Because much of the Moore's Mill complex has been destroyed or damaged, its historic architecture is difficult to discern. Based on an undated historic photographs, local resident accounts, and the remaining foundation blocks, it was likely a typical mid-nineteenth century mill of wood construction. Today, what remains of the former mill complex consists of the badly damaged dam with non-historic patchwork repairs and the foundation blocks of the mill building.

### Archaeological Survey

In 2020, the Town of Zebulon conducted an Archaeological Survey at the Little River Park site. Results from this survey indicate presence of multicomponent historic artifact scatter associated with a mill dam complex. The site also contains an ephemeral precontact component of unknown cultural affiliation. The historic artifacts collected from the site are broadly diagnostic of the nineteenth and twentieth centuries and are consistent with material expected at a mill dam site.

The survey conducted consisted of both visual and subsurface examinations including shovel testing, visual inspections, metal detection, and auger testing. Although the artifacts collected from the survey area are considered significant at the local level there is, however, currently not enough information to determine research potential of the site. Due to none of the intact deposits being within the limits of new development no further testing of the site will be required.

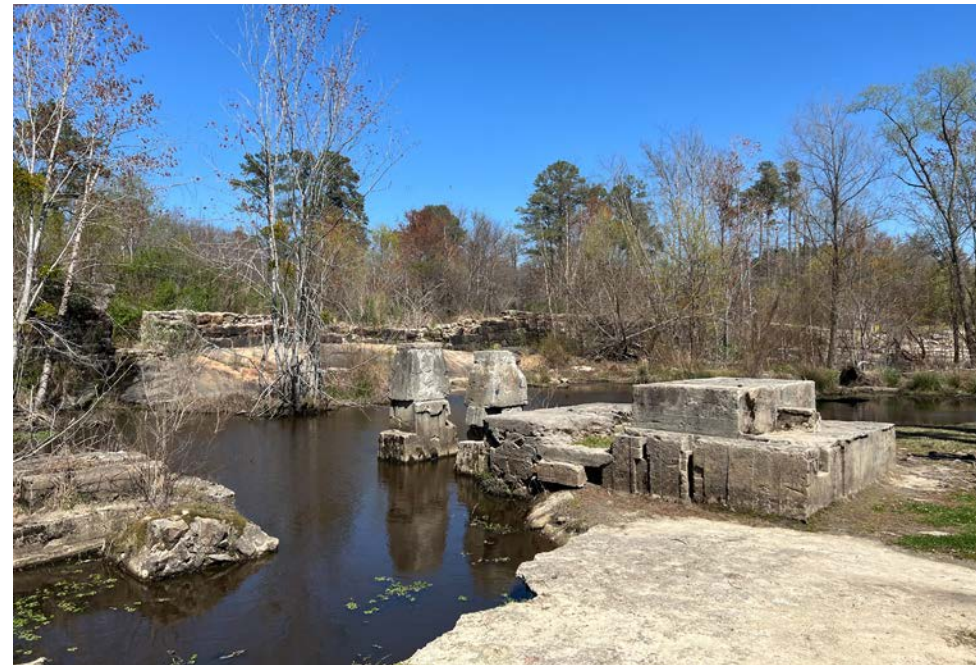
The dam has been damaged and repaired many times over its history. A flood in 1919 destroyed dam power facilities. Based on graffiti found on stones that would have been under the waterline at the time, there was another flood in 1928. Hurricanes in 1996, 1999, and most recently Hurricane Matthew in October 2016, have caused extensive flood damage.



*Western Portion of the Dam*



*Mill Dam Remnants*



*Support Structure Foundations and the Mill Wheel Holders*



*Dam Structure from the Eastern Side of the Park*



## Urban Forestry Plan

The Town of Zebulon contracted the North Carolina Forestry Service in 2019 to prepare a management plan for Little River Park. The plan provided information and management recommendations on various areas based on the existing park soils, trees, and ground cover. The Plan also provides detailed proposals on how to combat invasive species and how to establish a new desirable ground cover that will meet the needs of Little River Park. Since completion of the study, the Town is going through a process to eradicate significant amounts of Kudzu as recommended by the Forestry Service.

## 2017 Little River Park Visioning Study

In 2017 the Town conducted a public engagement initiative to gather public input on future development of Little River Park and the dam. Feedback during the visioning study found that there was a desire from some in the community to rebuild the dam. Overall, the visioning study found that there was a stronger desire from the community to activate the space for nature based recreation. Some of the key takeaways from this engagement were:

- Everyone within the community was excited about the future of Little River Park
- The community desires a nature-based park with opportunities to explore, walk, learn, and recreate
- Children's play, fishing, and relaxing/sightseeing are among the most popular uses for the past, present and future
- Preferred future amenities would include walking/hiking/nature trails and greenways
- The community preferred future uses can be accommodated with either a pond or a river
- There was a strong sentiment to recognize the dam and its cultural significance to the Town and community

In 2018, following the visioning study, the Zebulon Town Commission voted not to pursue rebuilding the dam and rather use FEMA funding for an alternative project for stream bank revitalization. This project would restore the river to its original state before the existence of the dam and would remove all existing dam structures. The Town has since been in regular contact with FEMA; however, the project remains in an appeal process.



*Moore's Mill Dam Before Current Damage*



*Existing Condition of Moore's Mill Dam*



*Combating Invasive Species to Establish New Groundcover*



*Remnants of Kudzu*



# PRELIMINARY CONCEPT DEVELOPMENT



## PRELIMINARY PROGRAM ELEMENTS

During the public engagement segment of the Zebulon Parks and Recreation Master Plan project, Little River Park was the most discussed individual park throughout the engagement process. The park received significant feedback through specific, site-focused questions in the online survey, statistically valid survey, and in-person workshops. Many community members felt that the park was an important community asset with unique historic and environmental value. Much of the input was strongly in favor of directing resources to develop this park - enhancing the existing natural features while providing additional amenities.

The information obtained through prior engagement, research, site visits and conversations with Town staff provided the project team with a comprehensive understanding of the existing conditions in Little River Park, and established a basis for identifying preliminary program elements for the park. These elements include:

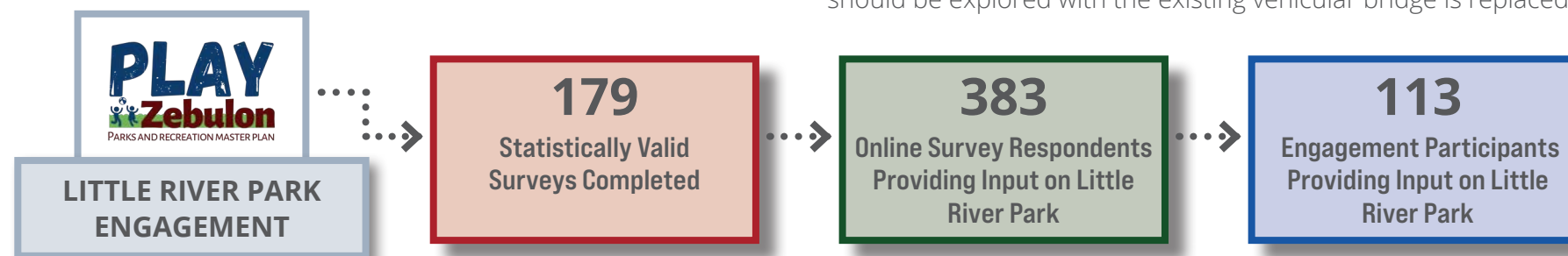
- Improve walking trails
- Enhance access to river
- Stormwater improvements
- ADA Accessibility
- Provide outdoor gathering space
- Enhance landscape features and plantings to accentuate existing topography and viewsheds
- Provide nature play elements
- Renovate or replace existing park facilities

## PRELIMINARY CONCEPT PLAN

As part of the Master Plan Process, the project team developed a concept diagram to show potential improvements at Little River Park. This concept demonstrates the potential for nature-based opportunities, outdoor recreation and education that can be incorporated into the park site. The River remains the central focus with a majority of the dam removed and the riverbed restored to its natural state. This will allow for easier water access for park users, and create a safer environment for water-based recreation. A historic education exhibit has been added on the west bank, which could likely feature remains of the dam along with educational signage to honor its history. The area on the west side of the river remains largely passive - with additional amenities such as picnic shelters, shaded picnic areas and walking paths added throughout the area.

The east side of the site features improved parking with an ADA accessible paved pathway leading into the heart of the park. This paved pathway leads to a nature play area and outdoor classroom utilized for environmental education opportunities. These amenities would be set amidst large swathes of native plant meadows with meandering pathways cutting through the meadow and along its edges. Educational signage placed at strategic locations along the pathways would provide additional educational opportunities. Several picnic shelters have been located along the walking paths.

The long-term intent is to have this park connect on both the north and south sides to a regional recreation trail that links this area with the rest of Eastern Wake County. By keeping access to natural areas and education as the focal points of Little River Park, the Town can ensure that residents have an invaluable resource for years to come. It is also anticipated that a connection between the eastern and western portions of the park would eventually be needed, and exploring a connection along W Gannon Avenue should be explored with the existing vehicular bridge is replaced.



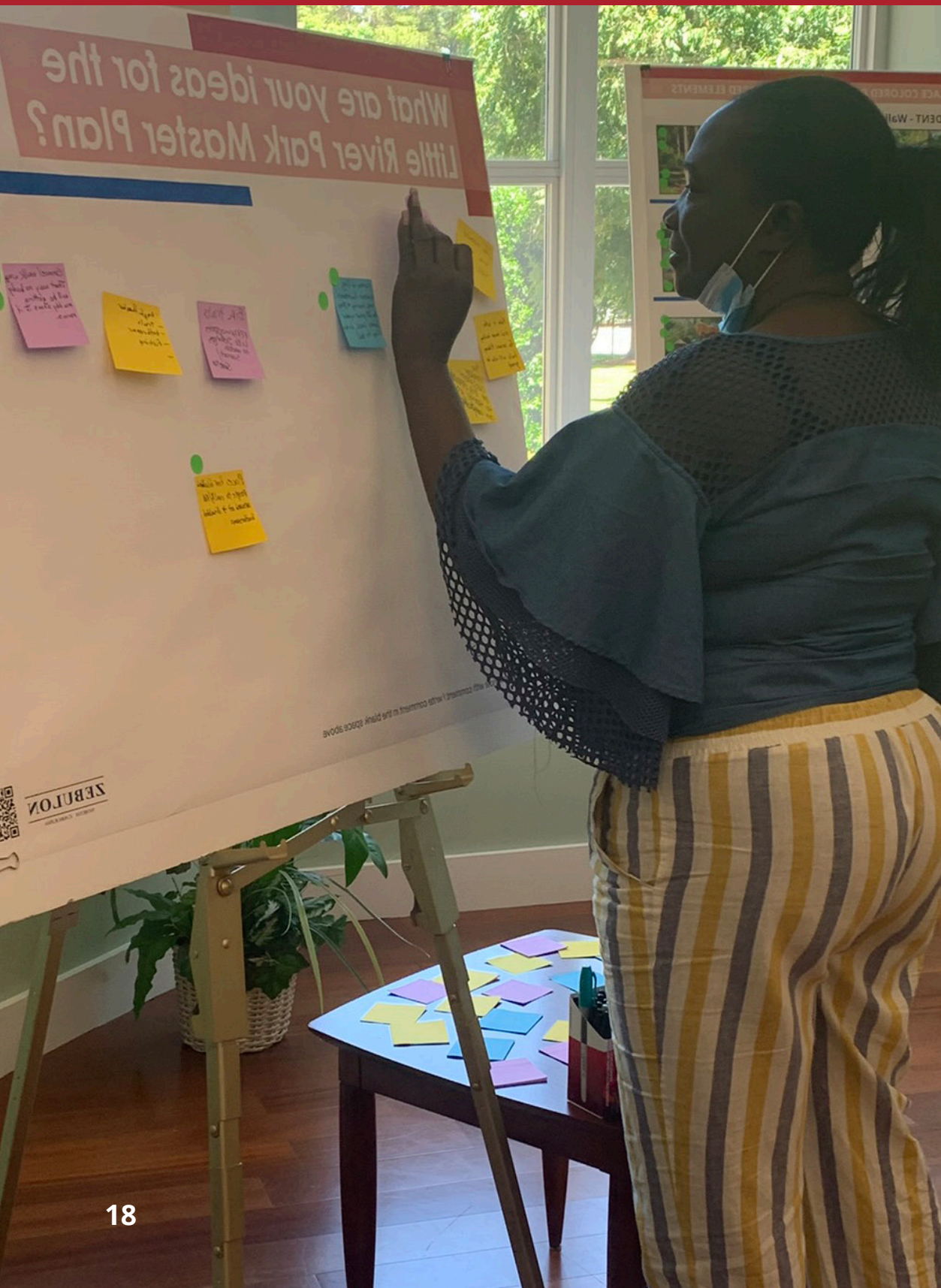


# PRELIMINARY CONCEPT PLAN





# PUBLIC ENGAGEMENT



## PUBLIC ENGAGEMENT

### Overview

Public engagement is the cornerstone of any successful planning effort, representing the qualitative side of the investigation and research upon which successful master plans are built. For the Little River Park Master Plan, a multi-faceted approach to public engagement was developed in order to obtain as much public input as possible. The primary goals of the plan's public participation were to raise awareness of the project, build support for the park enhancements, and obtain input from residents on ideas for park amenities and concepts.

The first element of the public engagement involved a pop-up workshop at the annual Spring Fest event to introduce the public to the project, obtain preliminary ideas for design, gather community comments on form and function concepts. This also provides the opportunity to distribute project information and links to the virtual open house and an online engagement. The next opportunity was a series of Town-directed public meetings that included the Parks and Recreation Advisory Board to obtain additional input on the materials presented at the Spring Fest Workshop. In addition to these public meetings, the Town also hosted a Virtual Open House through an online platform to provide on-demand access for the general public. The following are summaries of findings for each method.

## PUBLIC MEETINGS

### POP-UP WORKSHOP AT SPRING FEST

Due to the timing of the Master Plan effort, the Town was provided a unique opportunity to engage a substantial portion of the community in a special event setting. On May 14, 2022, the Town of Zebulon hosted their annual Spring Fest to kick off the spring season. The event, which drew hundreds of people, featured local vendors and live performances. This special event and the large number of attendees provided an ideal setting to engage with members of the community who may not have otherwise participated in the public involvement process. The project team provided information that included an overview of the project process, the existing conditions of the park site, and preliminary concept of the park. Event attendees were able to walk through

the displays as they made their way around the exhibit area and view the presented material, as well as participate in a visual preference exercise.

The project team was available to answer questions and encourage participants to provide comments. Over 150 people visited the boards during the Spring Fest workshop.

Common themes below were gathered from comment boards:

- Connections to a larger greenway system through Zebulon
- Native plants and habitats for local birds
- Large outdoor amphitheater with seating
- Picnic areas
- Playground
- Dog park
- Address the damaged dam structure
- Restrooms



*Pop-up Workshop at Spring Fest*



## TOWN-DIRECTED MEETINGS

In addition to the Spring Fest pop-up workshop, the Town held a series of meetings to boost community input on the Little River Park concept Master Plan. One of the public meetings was held directly before a Parks and Recreation Advisory Board Meeting in the Town Hall on May 16th, 2022 from 4:00 - 6:00 pm. Prior to the board meeting the public was invited to participate in an open house featuring similar materials that were presented at the first workshop. The Advisory Board also reviewed the materials and provided comments on the proposed improvements. The Town then left the materials in Town Hall the following week, and allowed visitors to view the materials and provide comments. The Town also held to additional pop-up meetings at the Zebulon Community Center on May 26th and June 7th, 2022. These meetings followed a similar format as the previous meeting.

Attendees at all meetings were encouraged to visit stations set up around the room to view existing conditions maps, site photos, a preliminary concept for Little River Park, and participate in the green dot preference exercise. Between the four in-person engagement opportunities it is estimated that approximately 40 additional community members participated or stopped. Most visitors expressed support for the park and its development. Comments below were gathered from comment boards and comment cards, and results from the Vision Preference Exercise can be found following the Virtual Engagement Summary.

The following is a summary of comments received during these Town-directed meetings:

- Publicly accessible pathways, restrooms, areas for play
- A multipurpose area for an outdoor classroom and amphitheater
- Incorporate more picnic areas
- Mountain bike trails
- Safer and more inviting for casual fishing; trails will also be great
- Build the outdoor classroom be big enough to serve as an amphitheater
- Human and dog water fountains along the trail to fill water bottles
- ADA spaces and facilities to increase access
- Bike trails. Relaxing spots like swings to watch sunset/ sunrise
- Amphitheater, trails, bathrooms, fishing
- Unpaved trails
- A picnic shelter that accommodates 30-40 people with parking

In addition to input from the public, the Parks and Recreation Advisory Board also provided comments and recommendations on the concept materials for Little River Park. The following is a summary of the Advisory Board input:

- Provide a mixture of play areas, seating and trails
- Addition of large and small pavilions throughout the park
- Paved walking trails through natural areas
- Opportunity for concessions during events
- Fishing piers along the river
- Outdoor classroom or amphitheater
- Incorporation of wildflower planing areas and shaded tree groves
- Educational and historic monument signage
- A variety of upgraded amenities with a focus on places to sit



Town-Directed Meeting at Town Hall



Town-Directed Meeting at Zebulon Community Center



Visual Preference Boards at Spring Fest



## VIRTUAL OPEN HOUSE

### Project Website

In order to provide on-demand access for all members of the public to the project materials, the Little River Park Master Plan utilized an online platform as a “one-stop-shop” for information about the plan. This platform was run through PublicInput.com and utilized the URL, [www.publicinput.com/LittleRiverParkMP](http://www.publicinput.com/LittleRiverParkMP) as the landing page for all online engagement. The platform served as the access point for project information and updates, as well as the Virtual Open House. The landing page also included information intended to help the public understand why their feedback is important, and how the results of this plan can impact the future of their parks and recreation services. Extensive outreach was conducted to encourage access to this platform, as well as provide input opportunities for those who may have difficulty attending in-person engagement workshops.

### Virtual Open House

Feedback from Town of Zebulon Residents is integral to the Little River Master Planning process. Community members were invited to visit a Virtual Open House and provide feedback on the needs and priorities for parks and recreation facilities and services for the nature-based park. Once in the Virtual Open House, participants could view information boards, and participate in a series of engagement exercises to provide input. The Virtual Open House remained accessible at any time online from May 13th through June 30th, to provide an opportunity for the community to provide input about the Master Plan priorities.

### Comments on the Little River Park Concept

The following is a summary of the comments provided on the preliminary Little River Park Concept Plan

- Water access, rock hopping and natural enjoyment
- Green space that doesn't look either too manicured nor too wild - balance between the two
- Please include lots of walking trails and water fountains and dog-friendly facilities
- Outdoor classroom and educational area
- Pedestrian bridge across the river
- Dog park
- Greenway connectivity
- Outdoor amphitheater for events
- Historic exhibits and hiking trails
- Canoe/kayak launch facilities
- Additional gathering/event shelters
- Facilities that support fishing and water access.

**Little River Park Master Plan**

**Little River Park**

ZEBULON  
NORTH CAROLINA

Little River Park is in undergoing a site-specific plan based on recommendations from the 2021 Zebulon Parks and Recreation Master Plan. This conceptual Master Plan builds on extensive community engagement and seeks to further this process by refining the improvements to respond to the needs and priorities of Zebulon's residents. Little River Park aims to provide a wide range of recreation experiences in a natural setting and enhance regional connectivity to meet the needs of current and future residents. Visitors are encouraged to learn about the project process, review findings and recommendations, and view components of the preliminary concept for Little River Park.

**COMPLETE** Preliminary Concept  
Little River Park Master Plan Concept based on input from the Play Zebulon Master Plan and recent site developments.

**COMPLETE** Open House Workshops - May 14th & May 16th  
In-person workshops to provide input and ideas for the Little River Park Master Plan Concept. Opportunities include a pop-up event at Spring Fest on May 14th, and a public open house at Town Hall on May 16th. Both events are from 4pm - 6pm.

**TOWN OF ZEBULON**  
**Little River Park Master Plan**  
**Public Engagement Opportunities!**

**Two In-Person Opportunities!**

**Pop-up Workshop at Spring Fest**  
Saturday, May 14, 2022 — Downtown Zebulon  
Pop-up Workshop will be available from 4 PM to 6 PM

**Open House Workshop**  
Monday, May 16, 2022 — Zebulon Town Hall  
4 PM to 6 PM

**Virtual Workshop**  
The Virtual Workshop will be available from Friday, May 13th until June 10th, 2022, and can be accessed on-demand at any time through a computer or mobile device.

Visit the Virtual Workshop and participate in the engagement exercises! <https://publicinput.com/LittleRiverParkMP>

Project Website Landing Page



# Little River Park Master Plan Virtual Open House

The Town of Zebulon Parks and Recreation Department would like to invite you to view a series of pages highlighting the Little River Park Master Plan.

Step 1 > Project Background > Existing Conditions > **Preliminary Concept** > Precedent Images > Precedent Images

The preliminary concept plan for Little River Park builds on the ideas established through the 2021 Zebulon Parks and Recreation System Master Plan, as well as environmental and archeological studies conducted at the site. The concept plan seeks to create a more sustainable and resilient park site by restoring the river bed and improving water flow, as well as upgrading stormwater infrastructure along W Gannon Avenue. The concept plan also provides additional walking trails and the opportunity for future connectivity, enhanced passive open spaces, an outdoor education area, a nature-themed playground, improved vehicular access, and a historic exhibit highlighting the former mill and dam structures. Please view the concept below, and feel free to leave a comment with your thoughts or ideas for the proposed improvements.



Please provide any comments or ideas you have on the preliminary concept for Little River Park!

Closed for Comments

Continue

## General Comments on the Little River Park Master Plan

Participants were also provided an additional opportunity to provide general comments about the project. The following is a summary of the general comments provided.

- Looking forward to seeing the plan move forward and enjoying the park
- Creating fun outdoor spaces for kids
- Bike trails
- Spread amenities throughout the park to activate more areas
- Outdoor workout and fitness equipment for adults
- Native plants that will help pollinators
- Maximizing the amount of trails and greenway, as well as connectivity for future greenways
- Asking the North Carolina Museum of Natural Sciences (NCMNS) for help with this project Outdoor classroom or amphitheater
- Providing adequate amenities while keeping the park as natural as possible
- Provide connections across the river for pedestrians
- Include a public restroom and place to get fresh water
- Provide a supporting environment for local fauna

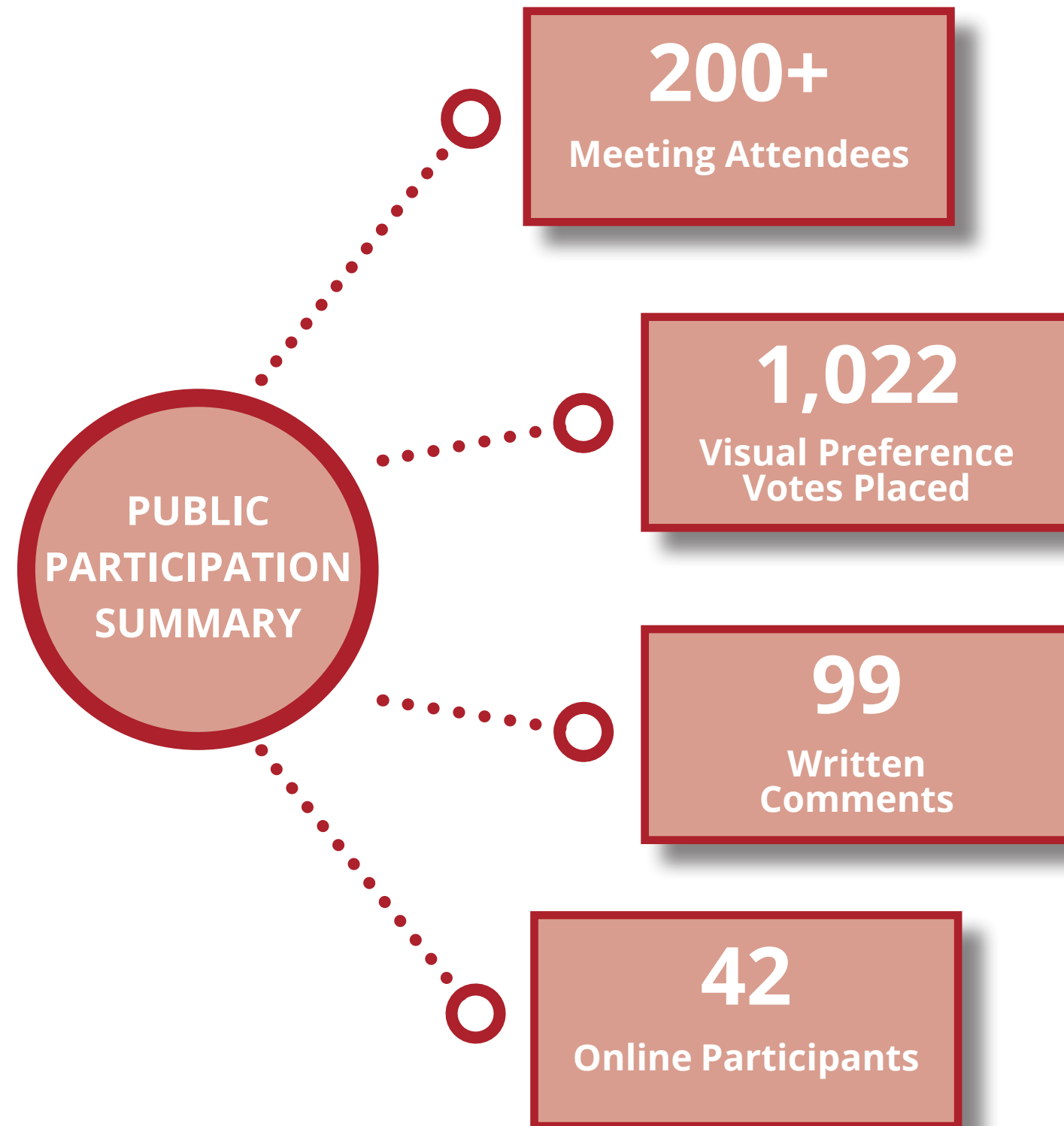
## Precedent Image Ranking Exercise

In addition to opportunities to provide open ended comments, participants in the Virtual Open House were also able to view the same series of precedent images included in the in-person meetings. In lieu of a green dot exercise, participants were asked to rank the images in each category. A summary of these results is included in the summary on the next page.

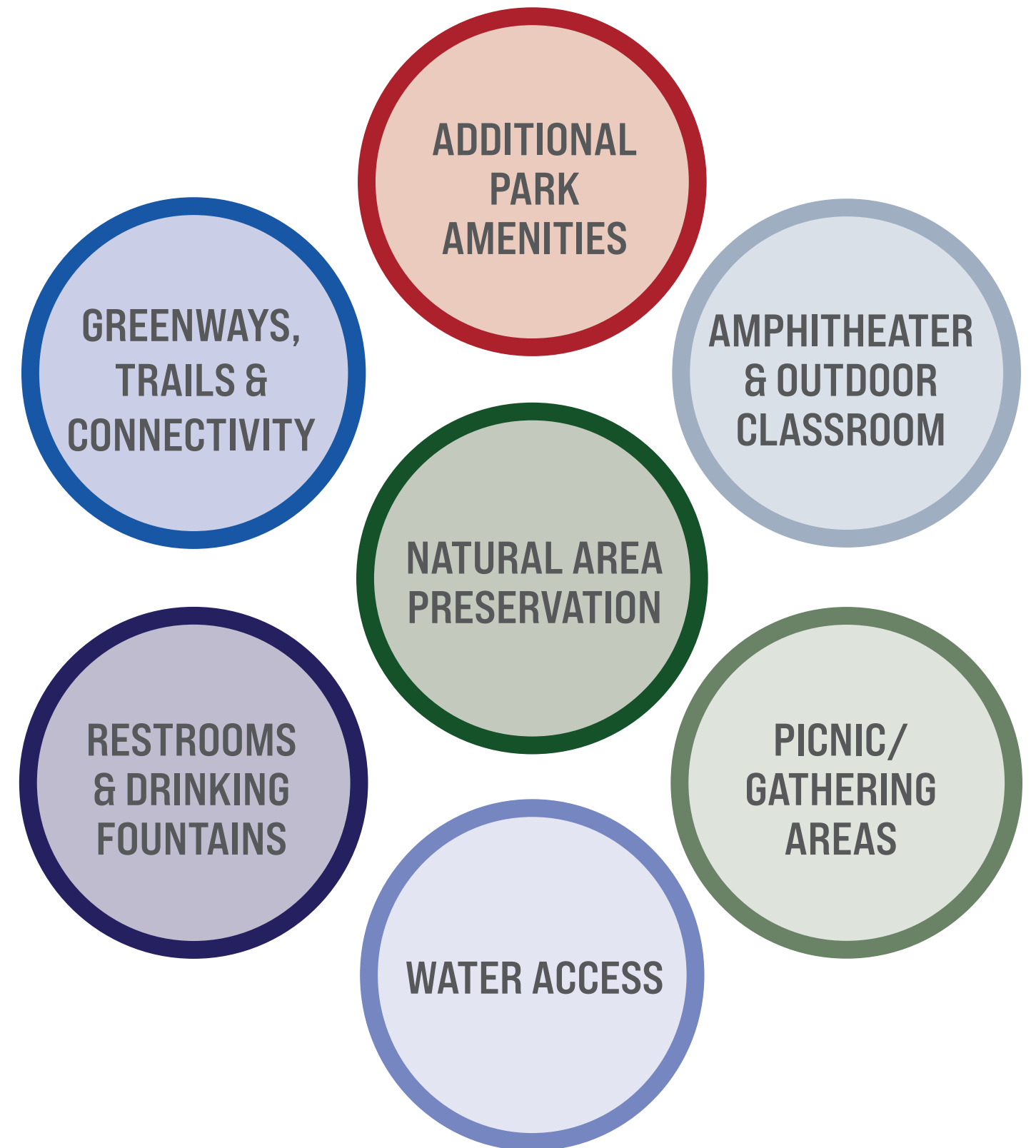


## ENGAGEMENT SUMMARY

Forming the foundation of qualitative research, the public involvement effort of the Little River Park Master Plan process provides a snapshot of residents', stakeholders', and Town Officials' views of needs and priorities for Little River Park.



## TOP THEMES ACROSS ENGAGEMENT METHODS





## Visual Preference Results

The following is a summary of the results of the exercise by category. Images of the boards with the totals from the green dot exercises and Virtual Open House rankings can be found on the following page.

### Walking Trails

- The image receiving the most dots was a raised boardwalk. The image of the paved asphalt trail also received a significant amount of votes, and was the highest ranked option in the Virtual Open House.
- **Outdoor Classroom/ Gathering Area**
  - The image receiving the most dots was amphitheater seating with a covered stage/ gathering space. This was also the highest ranked option in the Virtual Open House.
- **Nature-Based Play**
  - The image receiving the most amount of dots by Town participants is the large playground with a multi-story tower and slides. The second most liked image was a natural rock play area, which also received the highest ranking from the Virtual Open House.
- **Water Access**
  - The image receiving the most amount of attention by Town residents is the access to water via a linear boardwalk along the water. This was also the highest ranked option in the Open House.
- **Open Green Spaces**
  - The two images receiving the most votes were the grove of trees with a manicured ground cover as well as, the image of the natural planted area for pollinators. The grove of trees received the highest ranking.
- **Pavilions**
  - The image that received by far the most votes was the cathedral style pavilion. However, the angular roof shelter with natural wood was the highest ranking option in the Virtual Open House.
- **Historic/ Educational Exhibit**
  - The option receiving the most votes was the educational signage that informs park users about the flora/ fauna and local habitat. The other two images that received a significant amount of votes was the signs that alluded to environmental/ historical information about the local site. The highest ranking image from the Virtual Open House was a sign depicting the history of the site.
- **Park Amenities**
  - The two images receiving the most public votes were images showing wayfinding and directional signage for parks and trails. The other images that received a significant amount of public input were benches and picnic tables, with picnic tables ranking the highest in the Virtual Open House.

**ZEBULON**

## Little River Park Master Plan Virtual Open House

The Town of Zebulon Parks and Recreation Department would like to invite you to view a series of pages highlighting the Little River Park Master Plan.

Step 1 > Project Background > Existing Conditions > Preliminary Concept > **Precedent Images** > Precedent Images

1. Rank the park element images you think would be most appropriate at Little River Park for **Walking Trails**

### PRECEDENT - Walking Trail




Image 1	1st
Image 2	
Image 3	

Closed to responses

2. Rank the park element images you think would be most appropriate at Little River Park for an **Outdoor Classroom/ Gathering Area**

### PRECEDENT - Outdoor Classroom / Gathering Area













Image 1	
Image 2	
Image 3	

Closed to responses





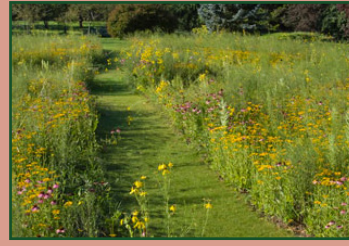




Virtual Open House Precedent Image Ranking















### Little River Park Precedent Image Results

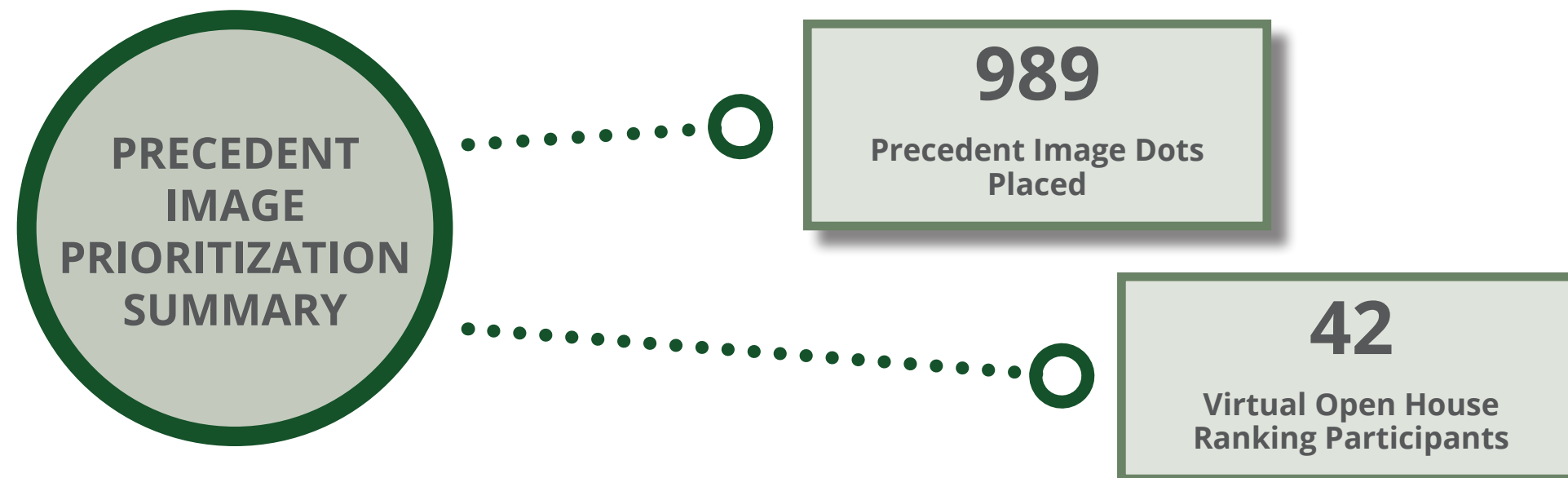
Program Element (Total Votes)	Image 1	Image 2	Image 3
Walking Trails (118)			
Green Dot Votes	<b>62</b>	17	39
Virtual Open House Ranking	2	3	<b>1</b>
Outdoor Classroom / Gathering Area (91)			
Green Dot Votes	<b>45</b>	19	27
Virtual Open House Ranking	<b>1</b>	3	2
Nature-based Playground (120)			
Green Dot Votes	47	19	<b>55</b>
Virtual Open House Ranking	<b>1</b>	2	3

### Little River Park Precedent Image Results

Program Element (Total Votes)	Image 1	Image 2	Image 3
Water Access (153)			
Green Dot Votes	<b>71</b>	39	43
Virtual Open House Ranking	<b>1</b>	2	3
Open Green Spaces (98)			
Green Dot Votes	23	32	<b>43</b>
Virtual Open House Ranking	2	3	<b>1</b>
Pavilions (116)			
Green Dot Votes	21	24	<b>71</b>
Virtual Open House Ranking	<b>1</b>	3	2



Little River Park Precedent Image Results						
Program Element (Total Votes)	Image 1	Image 2	Image 3	Image 4	Image 5	Image 6
Historic/Educational Exhibit (119)						
Green Dot Votes	<b>33</b>	18	21	14	11	<b>22</b>
Virtual Open House Ranking	4	5	<b>1</b>	2	6	3
Park Amenities (174)						
Green Dot Votes	27	16	31	17	<b>38</b>	<b>42</b>
Virtual Open House Ranking	<b>1</b>	5	3	6	2	4





# FINAL CONCEPT



## FINAL CONCEPT

Once the Public Engagement was completed, the project team summarized all written comments, the results from the precedent image exercises, and any notes taken during conversations with stakeholders and public participants. Input received was analyzed to determine the alignment of the public's needs and priorities with the ideas presented in the preliminary concept. The input received through the multiple avenues of engagement validated the design elements presented in the preliminary concept, provided direction for additional improvements to be included, and helped to visualize the intent of the design elements through the precedent image exercises.

The final concept contains the following programmatic and design elements for Little River Park:

- Improved and expanded walking trail network with a mix of paved and unpaved trails
- Upgraded amenities throughout the park
- ADA accessible pathways to key amenities
- Riverbed restoration and bank stabilization
- Historic exhibit with dam remnant on west bank
- Enhanced beach area and access to river on east bank

- Passive recreation areas on west side of the park with shaded picnic areas
- Improved unpaved parking areas
- Stormwater improvements
- Paved parking in the interior of the east side of the park with new access road
- Elevated platforms with fishing areas and outdoor education exhibits
- Open greenspaces on the east side of the park
- Meadow loop trail with native pollinator plantings
- Amphitheater and outdoor education area with restroom
- Nature-based play area
- Connections to future trail systems on north and south sides of the park
- Future connections to paved paths on W Gannon Avenue
- Future pedestrian bridge over the river on W Gannon Avenue



*Little River Park Exhibit During Play Zebulon Community Meeting*



# FINAL CONCEPT PLAN





# COST ESTIMATE & PHASING



## INTRODUCTION

The next step in the master planning process is to establish clear implementation strategies and priorities for the advancement of the community-driven concept for Little River Park. This involves developing an estimate of probable cost for the proposed improvements at Little River Park, and then aligning community priorities with available funding to establish an achievable phasing plan.

## ESTIMATE OF PROBABLE COST

### Cost Considerations

The estimate of probable cost associated with the Little River Park Master Plan is based on current market trends, similar projects, and project-specific research conducted by the project team. The project team utilized all of its available resources and technical expertise to provide order-of-magnitude cost estimates that are for planning purposes only.

The concept for Little River Park may be modified over time in response to actual costs, future Town objectives, and available funding sources. Additionally, it is recommended that proposed improvements undergo a detailed feasibility and cost analysis prior to physical implementation.

### Cost Estimates

The table on the following page details the overall estimate of probable cost for Little River Park, including direct construction costs, indirect costs associated with construction, contingency, design, permitting, and construction administration/construction management.



## Little River Park Master Plan

Order of Magnitude Estimate of Probable Capital Improvement Costs (2022)

	Unit	Quantity	Unit Cost	Subtotal
<b>Little River Park Improvements</b>				
Site Work				
Site Survey (Within limits of work)	Allowance	1	\$30,000	\$30,000
Site Clearing	Acre	7.5	\$6,500	\$48,750
Site Grading and Balancing	Acre	5	\$20,000	\$100,000
Erosion Control (Fences, Diversions, Waddles and Skimmer Basins)	Allowance	1	\$170,000	\$170,000
Dam Removal	Allowance	1	\$500,000	\$500,000
Stream Restoration & Bank Stabilization	Allowance	1	\$500,000	\$500,000
<b>Subtotal:</b>				<b>\$1,348,750</b>
Utilities				
Sanitary Service Supply	Allowance	1	\$25,000	\$25,000
Water Service Supply	Allowance	1	\$30,000	\$30,000
Electrical Service Supply	Allowance	1	\$30,000	\$30,000
Stormwater Treatment Areas	Allowance	1	\$100,000	\$100,000
<b>Subtotal:</b>				<b>\$185,000</b>
Building and Structures				
Restroom	SF	500	\$200	\$100,000
Large Pavilion (20'x20' typical)	Each	2	\$35,000	\$70,000
Small Pavilion (12'x12' typical)	Each	4	\$18,000	\$72,000
Large Fishing Pier	SF	2500	\$40	\$100,000
Small Fishing Pier	SF	800	\$40	\$32,000
<b>Subtotal:</b>				<b>\$374,000</b>
Hardscape				
Paved Parking and Entrance Road (Asphalt Pavement, Base, Parking Bumpers, Topsoil, Mulch, Signs, Striping)	SY	1950	\$85	\$165,750
Unpaved Parking and Entrance Roads (Parking Bumpers, Gravel Repair Topsoil, Mulch, Signs)	SY	1800	\$20	\$36,000
Paved Trail (8' Wide, Asphalt Surface, Base, Topsoil)	SY	2300	\$46	\$105,800
Unpaved Trail (8' Wide, Compacted Gravel Surface, Base, Topsoil)	SY	4500	\$20	\$90,000
Concrete Pads	SF	3200	\$8	\$25,600
<b>Subtotal:</b>				<b>\$423,150</b>

Landscape				
New Trees	Each	150	\$175	\$26,250
Pollinator Meadows	Acre	2.25	\$2,000	\$4,500
Additional Landscape Allowance	Allowance	1	\$15,000	\$15,000
<b>Subtotal:</b>				<b>\$45,750</b>
Park Elements				
Nature-Based Play Area (7,000 SF, Play Equipment, Surfacing, Shade, Curb)	Allowance	1	\$200,000	\$200,000
Historic Exhibit (Including Deck & Pavilion)	Allowance	1	\$65,000	\$65,000
Signage Allowance (Educational Signage, Wayfinding)	Allowance	1	\$35,000	\$35,000
Amphitheater Phase 1 (Stage, Shade, Seating for Rows 1-3)	Allowance	1	\$150,000	\$150,000
Amphitheater Phase 2 Seating, Stage Upgrades, Seating for Rows 5-7, Paved Path Connections)	Allowance	1	\$150,000	\$150,000
Amenity Upgrade Allowance (Benches, Picnic Tables, Trash Receptacles, Water Fountains)	Allowance	1	\$100,000	\$100,000
<b>Subtotal:</b>				<b>\$700,000</b>
<b>Total Direct Costs</b>				
				<b>\$3,076,650</b>
Mobilization and General Conditions				
		10.0%		<b>\$307,665</b>
Bonds, Insurance and Overhead				
		5.0%		<b>\$153,833</b>
Contractor Fees and Expenses				
		10.0%		<b>\$307,665</b>
Contingency				
		25.0%		<b>\$769,163</b>
<b>Total Construction Costs</b>				
				<b>\$4,614,975</b>
Design, Permitting, and CA/CM Fees				
		10.0%		<b>\$461,498</b>
<b>Total Cost for Little River Park Improvements</b>				
				<b>\$5,076,473</b>



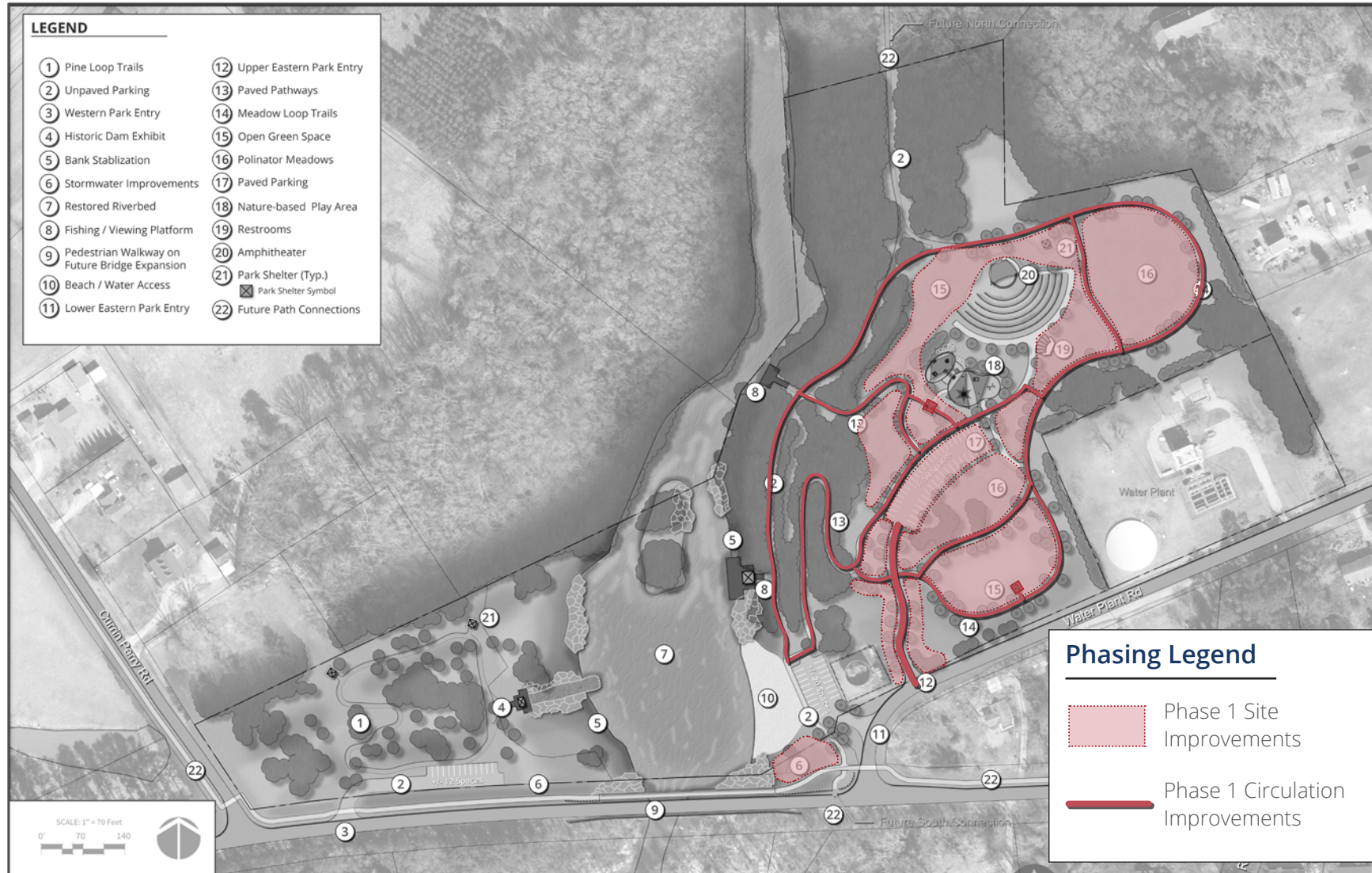
## PHASING

After the completion of the cost estimates, the project team met with Town staff to discuss the implementation and phasing strategies for Little River Park. Discussions with Town Staff resulted in the development of three phases for the implementation of the Little River Park Master Plan, with each phase seeking to provide meaningful improvements while laying the foundation and building momentum for future phases.

The phases are intended to utilize current and future funding and be implemented as this funding becomes available. Phase 1 will be initiated upon completion of this Master Plan Study, and provide infrastructure improvements that activate new areas of the park for a wide variety of users, expand programmable areas of the park, and help set the stage for further improvements. The phasing plan starts by activating the east side of the park and providing additional recreation amenities and experiences, and then improving the west side of the park and the river area in later phases. This approach is intended to attract more users to the park and generate momentum for future improvements that require additional funding. These three phases, along with their associated cost estimates, can be found on the following pages.







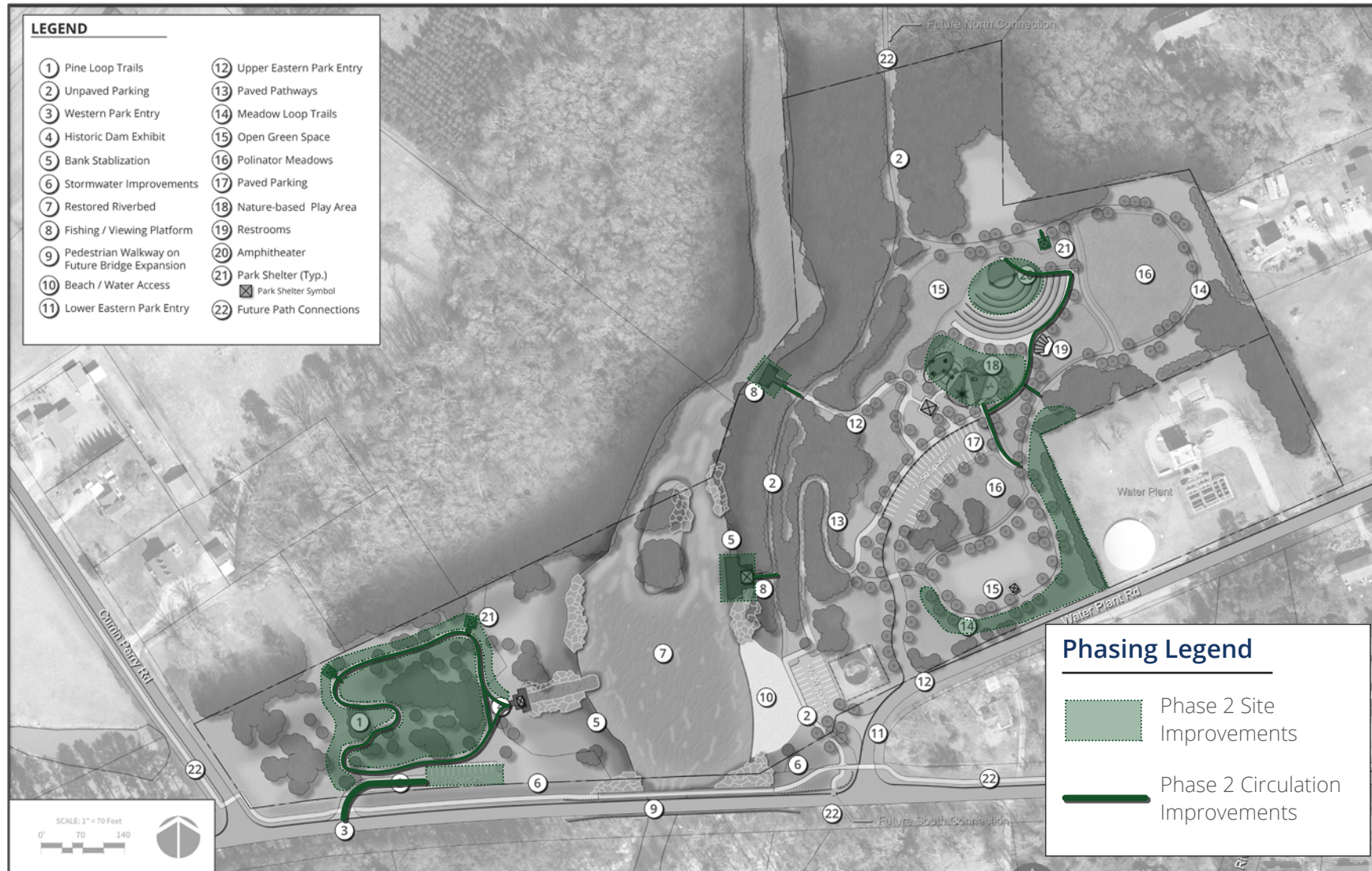
**Phase 1- \$1,054,895**

Phase 1 includes site work and infrastructure upgrades that focus on expanding access to the east side of the park for both pedestrians and vehicles, providing both paved and unpaved trails, and establishing the open spaces and pollinator meadows on the east side of the park. Phase 1 also includes additional landscaping improvements, site amenities and signage.

PHASE 1

Little River Park Master Plan - Phasing				
Order of Magnitude Estimate of Probable Capital Improvement Costs (2022)				
Little River Park Improvements Phase 1				
	Unit	Quantity	Unit Cost	Subtotal
<b>Site Work</b>				
Site Survey (Within limits of work)	Allowance	1	\$30,000	\$30,000
Site Clearing	Acre	4.5	\$6,500	\$29,250
Site Grading and Balancing	Acre	3.5	\$20,000	\$70,000
Erosion Control (Fences, Diversions, Waddles and Skimmer Basins)	Allowance	1	\$100,000	\$80,000
<b>Subtotal:</b>				<b>\$209,250</b>
<b>Utilities</b>				
Stormwater Treatment Areas	Allowance	1	\$25,000	\$25,000
<b>Subtotal:</b>				<b>\$25,000</b>
<b>Building and Structures</b>				
Large Pavilion (20'x20' typical)	Each	1	\$35,000	\$35,000
Small Pavilion (12'x12' typical)	Each	1	\$18,000	\$18,000
<b>Subtotal:</b>				<b>\$53,000</b>
<b>Hardscape</b>				
Paved Parking and Entrance Road (Asphalt Pavement, Base, Parking Bumpers, Topsoil, Mulch, Signs, Striping)	SY	1950	\$85	\$165,750
Paved Trail (8' Wide, Asphalt Surface, Base, Topsoil)	SY	1900	\$46	\$87,400
Unpaved Trail (8' Wide, Compacted Gravel Surface, Base, Topsoil)	SY	2400	\$20	\$48,000
Concrete Pads	SF	960	\$8	\$7,680
<b>Subtotal:</b>				<b>\$308,830</b>
<b>Landscape</b>				
New Trees	Each	50	\$175	\$8,750
Pollinator Meadows	Acre	2.25	\$2,000	\$4,500
Additional Landscape Allowance	Allowance	1	\$5,000	\$5,000
<b>Subtotal:</b>				<b>\$18,250</b>
<b>Park Elements</b>				
Signage Allowance (Educational Signage, Wayfinding)	Allowance	1	\$25,000	\$25,000
<b>Subtotal:</b>				<b>\$25,000</b>
<b>Total Direct Costs</b>				<b>\$639,330</b>
Mobilization and General Conditions		10.0%		\$63,933
Bonds, Insurance and Overhead		5.0%		\$31,967
Contractor Fees and Expenses		10.0%		\$63,933
Contingency		25.0%		\$159,833
<b>Total Construction Costs</b>				<b>\$958,995</b>
Design, Permitting, and CA/CM Fees		10.0%		\$95,900
<b>Total Cost for Little River Park Phase 1 Improvements</b>				<b>\$1,054,895</b>





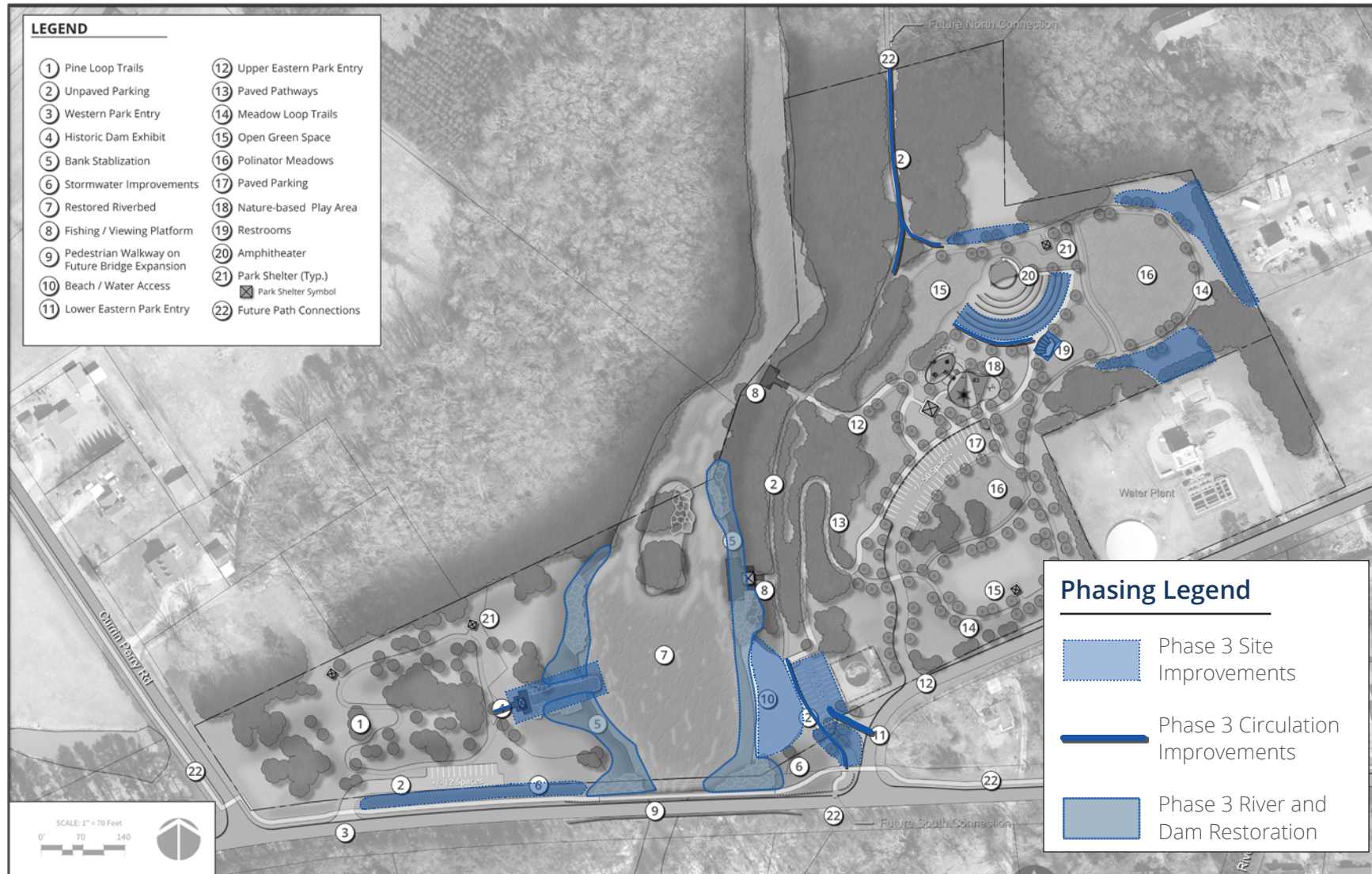
## Phase 2- \$1,400,735

Phase 2 includes the remaining site work on both the east and west sides of the park, as well as electrical utilities for the amphitheater area. Phase 2 furthers the activation of the park by providing the first phase of the amphitheater development, park utilities, the nature-based play area, fishing platforms, and additional trails and park amenities on both sides of the park.

## PHASE 2

Little River Park Improvements Phase 2	Unit	Quantity	Unit Cost	Subtotal
<b>Site Work</b>				
Site Clearing	Acre	3	\$6,500	\$19,500
Site Grading and Balancing	Acre	1.5	\$20,000	\$30,000
Erosion Control (Fences, Diversions, Waddles and Skimmer Basins)	Allowance	1	\$90,000	\$90,000
<b>Subtotal:</b>				<b>\$139,500</b>
<b>Utilities</b>				
Electrical Service Supply	Allowance	1	\$30,000	\$30,000
Stormwater Treatment Areas	Allowance	1	\$25,000	\$25,000
<b>Subtotal:</b>				<b>\$55,000</b>
<b>Building and Structures</b>				
Small Pavilion (12'x12' typical)	Each	3	\$18,000	\$54,000
Large Fishing Pier	SF	2500	\$40	\$100,000
Small Fishing Pier	SF	800	\$40	\$32,000
<b>Subtotal:</b>				<b>\$186,000</b>
<b>Hardscape</b>				
Unpaved Parking and Entrance Roads (Parking Bumpers, Gravel Repair Topsoil, Mulch, Signs)	SY	1000	\$20	\$20,000
Unpaved Trail (8' Wide, Compacted Gravel Surface, Base, Topsoil)	SY	1100	\$20	\$22,000
Concrete Pads	SF	960	\$8	\$7,680
<b>Subtotal:</b>				<b>\$49,680</b>
<b>Landscape</b>				
New Trees	Each	50	\$175	\$8,750
Additional Landscape Allowance	Allowance	1	\$5,000	\$5,000
<b>Subtotal:</b>				<b>\$13,750</b>
<b>Park Elements</b>				
Nature-Based Play Area (7,000 SF, Play Equipment, Surfacing, Shade, Curb)	Allowance	1	\$200,000	\$200,000
Signage Allowance (Educational Signage, Wayfinding)	Allowance	1	\$5,000	\$5,000
Amphitheater Phase 1 (Stage, Shade, Seating for Rows 1-3)	Allowance	1	\$150,000	\$150,000
Amenity Upgrade Allowance (Benches, Picnic Tables, Trash Receptacles, Water Fountains)	Allowance	1	\$50,000	\$50,000
<b>Subtotal:</b>				<b>\$405,000</b>
<b>Total Direct Costs</b>				<b>\$848,930</b>
Mobilization and General Conditions		10.0%		\$84,893
Bonds, Insurance and Overhead		5.0%		\$42,447
Contractor Fees and Expenses		10.0%		\$84,893
Contingency		25.0%		\$212,233
<b>Total Construction Costs</b>				<b>\$1,273,395</b>
Design, Permitting, and CA/CM Fees		10.0%		\$127,340
<b>Total Cost for Little River Park Phase 2 Improvements</b>				<b>\$1,400,735</b>





**Phase 3- \$2,620,844**

Phase 3 completes the vision for Little River Park by increasing the size of the amphitheater, building a restroom building, and adding associated landscaping and hardscape in this area. This phase encompasses all work associated with the Little River restoration, including dam removal, bank stabilization, and the historic exhibit. Phase 3 also includes additional trails, landscaping, signage and amenity upgrades throughout the park.

**PHASE 3**

Little River Park Improvements Phase 3	Unit	Quantity	Unit Cost	Subtotal
<b>Site Work</b>				
Dam Removal	Allowance	1	\$500,000	\$500,000
Stream Restoration & Bank Stabilization	Allowance	1	\$500,000	\$500,000
<b>Subtotal:</b>				<b>\$1,000,000</b>
<b>Utilities</b>				
Sanitary Service Supply	Allowance	1	\$25,000	\$25,000
Water Service Supply	Allowance	1	\$30,000	\$30,000
Stormwater Treatment Areas	Allowance	1	\$50,000	\$50,000
<b>Subtotal:</b>				<b>\$105,000</b>
<b>Building and Structures</b>				
Restroom	SF	500	\$200	\$100,000
Large Pavilion (20'x20' typical)	Each	1	\$35,000	\$35,000
<b>Subtotal:</b>				<b>\$135,000</b>
<b>Hardscape</b>				
Unpaved Parking and Entrance Roads (Parking Bumpers, Gravel Repair Topsoil, Mulch, Signs)	SY	800	\$20	\$16,000
Paved Trail (8' Wide, Asphalt Surface, Base, Topsoil)	SY	400	\$46	\$18,400
Unpaved Trail (8' Wide, Compacted Gravel Surface, Base, Topsoil)	SY	1000	\$20	\$20,000
Concrete Pads	SF	1280	\$8	\$10,240
<b>Subtotal:</b>				<b>\$64,640</b>
<b>Landscape</b>				
New Trees	Each	50	\$175	\$8,750
Additional Landscape Allowance	Allowance	1	\$5,000	\$5,000
<b>Subtotal:</b>				<b>\$13,750</b>
<b>Park Elements</b>				
Historic Exhibit (Including Deck & Pavilion)	Allowance	1	\$65,000	\$65,000
Signage Allowance (Educational Signage, Wayfinding)	Allowance	1	\$5,000	\$5,000
Amphitheater Phase 2 Seating, Stage Upgrades, Seating for Rows 5-7, Paved Path Connections)	Allowance	1	\$150,000	\$150,000
Amenity Upgrade Allowance (Benches, Picnic Tables, Trash Receptacles, Water Fountains)	Allowance	1	\$50,000	\$50,000
<b>Subtotal:</b>				<b>\$270,000</b>
<b>Total Direct Costs</b>				<b>\$1,588,390</b>
Mobilization and General Conditions		10.0%		\$158,839
Bonds, Insurance and Overhead		5.0%		\$79,420
Contractor Fees and Expenses		10.0%		\$158,839
Contingency		25.0%		\$397,098
<b>Total Construction Costs</b>				<b>\$2,382,585</b>
Design, Permitting, and CA/CM Fees		10.0%		\$238,259
<b>Total Cost for Little River Park Phase 3 Improvements</b>				<b>\$2,620,844</b>



# COMPREHENSIVE PHASING PLAN

