

MAZARICK PARK

NEIGHBORHOOD CONNECTIONS

Concept Plan



FAYETTEVILLE
PARKS & RECREATION
CUMBERLAND CO.



STEWART

Draft December 2023

City of
Fayetteville
North Carolina

FAYETTEVILLE
PARKS & RECREATION
CUMBERLAND CO.



STEWART

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1

INTRODUCTION

The Mazarick Park Neighborhood Connections Plan continues the City of Fayetteville's vision of creating an interconnected system of parks and greenways that provides amenities for residents and destinations for visitors.

This effort focuses on how to improve neighborhood connections to Mazarick Park and better connect the Murchison Road Corridor and Fayetteville State University to the Cross Creek Linear Park, Downtown Fayetteville, Methodist University, the Cape Fear River Trail and other attractions.

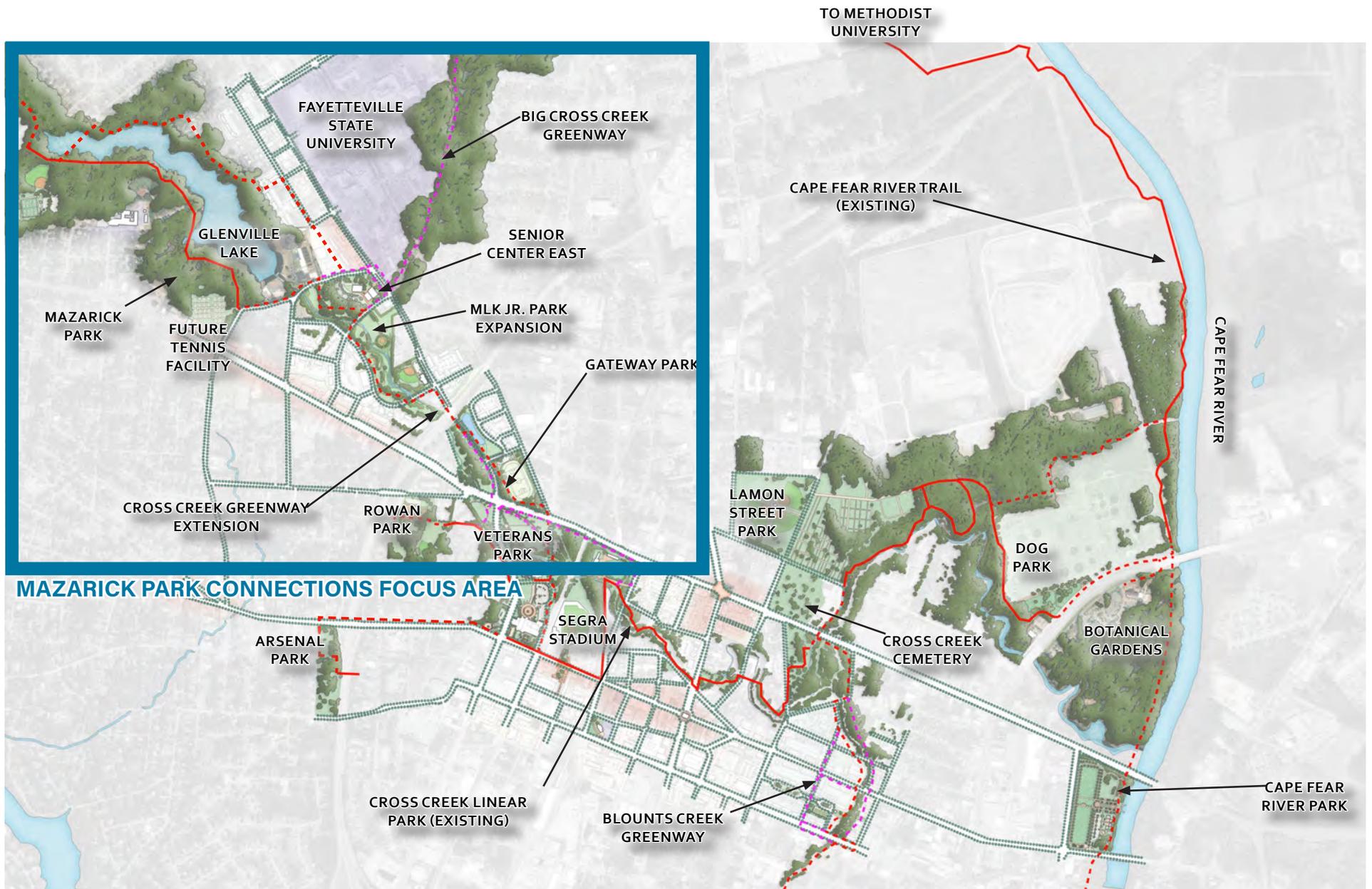
The plan builds on previous studies, including the Fayetteville Center City Parks and Trails Plan and maps out projects that will address missing links. Key recommendations include a multi-use path along the east side of Glenville Lake, a bridge to connect neighborhoods to the existing trails on the west side of the lake and priority improvements at Mazarick Park and other nearby properties owned by the City.

GOALS

- 1. Increase Access :** Increase access to Glenville Lake and Mazarick Park from surrounding neighborhoods and the Murchison Road Corridor.
- 2. Connect Destinations:** The City and other partners have made and are committed to significant investments in parks, institutions and private development in the Greater Downtown Fayetteville area. This plan seeks to connect existing and future destinations including Fayetteville State University, Mazarick Park, the new Senior Center East, a planned tennis facility, the planned MLK Park Expansion, Veterans Park, Downtown, Methodist University, and the Cape Fear River Trail.
- 3. Wayfinding, Safety and Comfort:** Improve safety, comfort, and ease of use for parks near Downtown. Develop and integrate signage for African American Heritage Trail sites into the wayfinding plans for existing and future trails.
- 4. Priority Park Improvements:** Utilize parks and public lands for priority improvements that meet local needs, increase usage and improve resilience.



CENTER CITY PARKS AND TRAIL: OVERALL SYSTEM CONCEPT



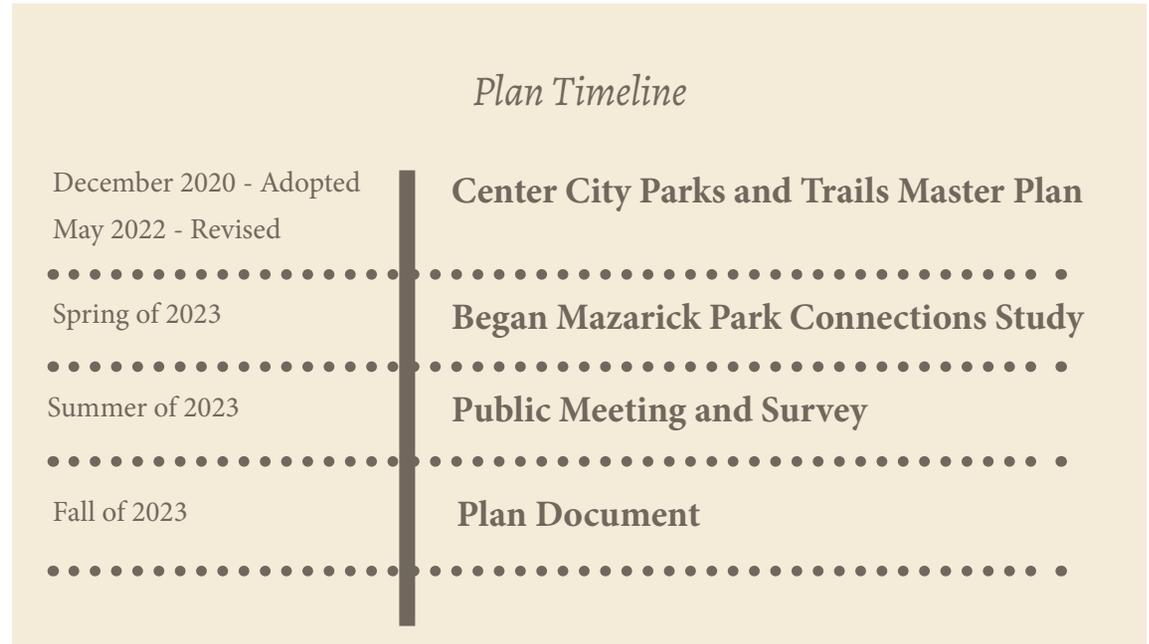
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PROCESS AND INPUT

After the adoption of the Center City Parks and Trails Master Plan in 2020 neighborhood groups and citizens lobbied the City of Fayetteville to revise the plan and include a new trail connection between the neighborhoods on the east shore of Glenville Lake and Mazarick Park. The Center City Parks and Trails Master Plan revision also included a recommendation for a followup study to determine the alignment and of a trail and begin studying a bridge crossing over Glenville Lake or the lower end of Little Cross Creek.

The Mazarick Park Connections Study (this plan) was initiated by Fayetteville-Cumberland Parks and Recreation in the Spring of 2023. Analysis and a field visit occurred in the spring. A public meeting and a community survey were conducted during the summer of 2023 to gather feedback on citizen and stakeholder preferences and concerns. Highlights from the feedback received at the public meeting and survey are included in this section.

Based on citizen and staff input recommendations were updated and included in the plan document.



PUBLIC MEETING AND SURVEY RESULTS

Smith Recreation Center Public Meeting

A public meeting was held June 22nd to both inform community members about the project and gather feedback. The goals of the project were explained, and residents present were receptive to improving connections to Mazarick Park from the Murchison Road Corridor and surrounding neighborhoods. Participants got the chance to learn about the background of the plan and past plans (including the Center City Parks & Trails Mater Plan) and provided input on key connections, park improvement priorities, and preliminary concepts.

Participants viewed an informative presentation about the Plan, draft goals and recommendations then participated in open-ended discussions about their priorities and edits or additions they would like to see to recommendations for Mazarick Park and surrounding areas. Multiple informational and visuals preference poster boards were displayed, and project team members were able to answer questions and in-turn ask for clarification on comments that were provided.

Public Meeting Highlights

Amenity priorities that received the most votes included:

- Trailhead, fishing dock or viewing platforms, boardwalks/elevated walkways and bridges, picnic areas with grills and open shelters with seating, community center, paddle boats and kayaking, and outdoor fitness equipment

Other comments received covered a wide range of topics, such as:

- Access from Mary McDonald Park.
- Concerns about sedimentation, erosion, maintenance of stormwater infrastructure and impacts to riparian buffers.
- Litter along existing and proposed paths.
- Security concerns around the Water Treatment Plant.
- Educational signs on environmental topics or local history and/or an environmental education center.
- Name selection for new trails or other new features.
- Community involvement, including from local organizations.



Public Survey

The Public Survey for this effort was drafted and open to the public from mid-May to late summer. Over the course of the project, 125 responses were recorded. The survey was comprised of 14 questions and a mix of multiple choice, short answer, checkboxes or select multiple options and open-ended questions. The first four questions were demographic questions to see who was responding to the survey. Others asked respondents about their connection and familiarity with Fayetteville, Mazarick Park, and the Cross Creek Linear Park and about priority park and trail improvements.

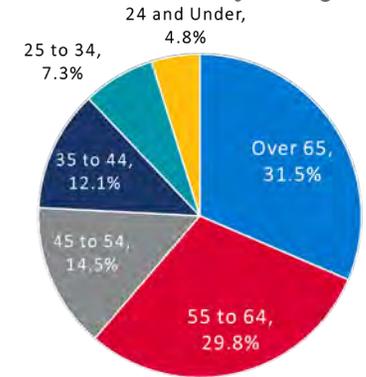
Of the 14 questions in the survey, an average of 72% of participants answered each question. Percentages shown are for the total number of responses per question, meaning participants who skipped a question are not counted.

Over 60% of respondents live or work in the three zip codes immediately adjacent to Glenville Lake (28301, 28303, and 28205). Three quarters (75.8%) were over the age of 45 and two thirds (66.9%) self-identified as Black. When asked about personal connections to Fayetteville, respondents shared the following:

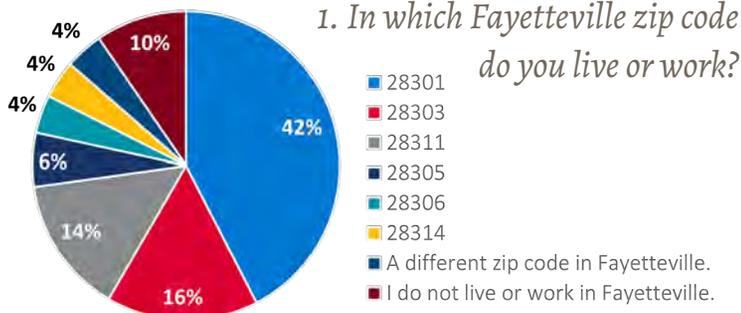
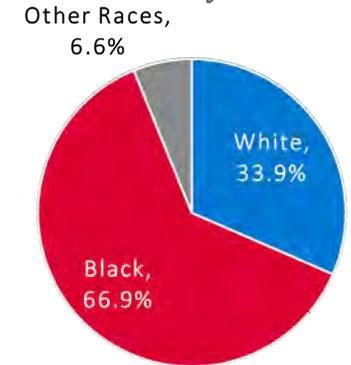
- 68% live in Fayetteville
- 47% use Fayetteville parks and trails
- 46% have family connections to Fayetteville
- 30% own or manage property near Mazarick Park
- 25% work in Fayetteville but not at either university or at Fort Liberty
- 23% visit Fayetteville frequently
- 18% attend or work at Fayetteville State, currently or have in the past

When asked about if or how often they visit Mazarick Park or the Cross Creek Linear Park in Downtown Fayetteville, responses were varied. A combined 88.6% of survey participants reported going to Mazarick Park at least once a year, with 35% going at least a few times a year, and nearly 40% going at least monthly. The remaining 11.4% indicated that they had never visited the park. With regards to the Cross Creek Linear Trail, 44.3% of respondents said they have never visited the trail.

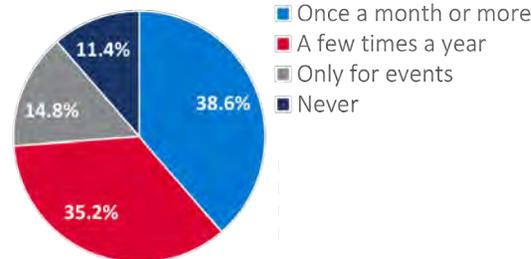
2. What best describes your age?



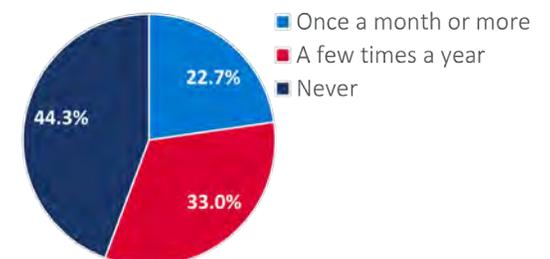
4. What best describes your race?



6. How frequently do you visit Mazarick Park?



7. How frequently do you visit the Cross Creek Linear Trail?

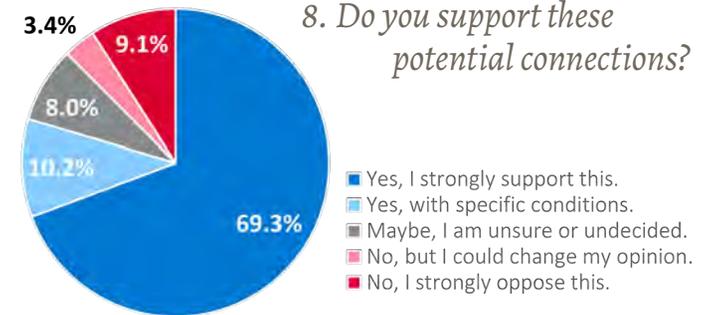


Participants in the survey were largely in support of the idea to build greenway connections between Mazarick Park, Fayetteville State, and the surrounding neighborhoods over or around Glenville Lake. 80% were in strong support or support the connection with specific conditions. 9% were strongly opposed, 8% were unsure, and the remaining 3.4% indicated some specific considerations and clarifications could influence their opinion. Comments about specific conditions included themes such as safety and crime prevention, environmental impact, water quality, maintenance and cleanliness, and clarity on how this effort fits in with other Park and Recreation improvements in the area. Multiple choice and short answer questions asked about preferred amenities in the area including the East Shore of Glenville Lake, Mazarick Park and/or at trail heads. Top responses from these questions included:

- Non-motorized boating (i.e. kayaks or canoes)
- Greenways
- Fishing pier or platform for viewing wildlife
- Playground
- Educational opportunities like a nature or science center, informative and interactive signage
- Public restrooms
- Pollinator habitat
- Community center
- Reuse original tennis courts for other programming (i.e. skate park).
- Staff to monitor and maintain parks and facilities

Question 13 asked for thoughts, questions, concerns, or ideas about the lake, planned trails, and/or greenway accessibility in Fayetteville. Comments and themes included:

- Defining the trail through downtown to the Cape Fear River and through the Lamon Street area
- Considerations for braille so signage is accessible to the blind
- Adding bike rental and kayak rental opportunities
- More garbage, recycling, dog waste, and water stations
- Improving safety and security for elderly and younger park users
- Increasing efforts and awareness to protect the water quality



9. If these connections are made, what factors or features are most important to you?

1. Public safety measures
2. Accessibility for mobility aids or assistive devices
3. Preservation of the natural areas
4. Direct access to existing neighborhoods

Along the East Shore of the lake, in Mazarick Park, and/or at trail heads, what would you like to see for...

10. Active amenities or activities?

1. Non-Motorized Boating (40%)
2. Greenway/Bike Connection or Trailheads (39%)
3. Fishing Platform (36%)
4. Inclusive Playgrounds (32%)
5. Outdoor Fitness Equipment (27%)
5. Community Center (27%)
5. Adventure Playgrounds (27%)

11. Passive amenities or features?

1. Public Restrooms (50%)
2. Pollinator Habitat (31%)
3. Nature/Wildlife Viewing Platforms (26%)
3. Open Shelters with Seating (26%)
4. Benches (25%)
5. Picnic Areas with Grills (24%)
5. Paved Trails (24%)
5. Natural Surface Trails (24%)

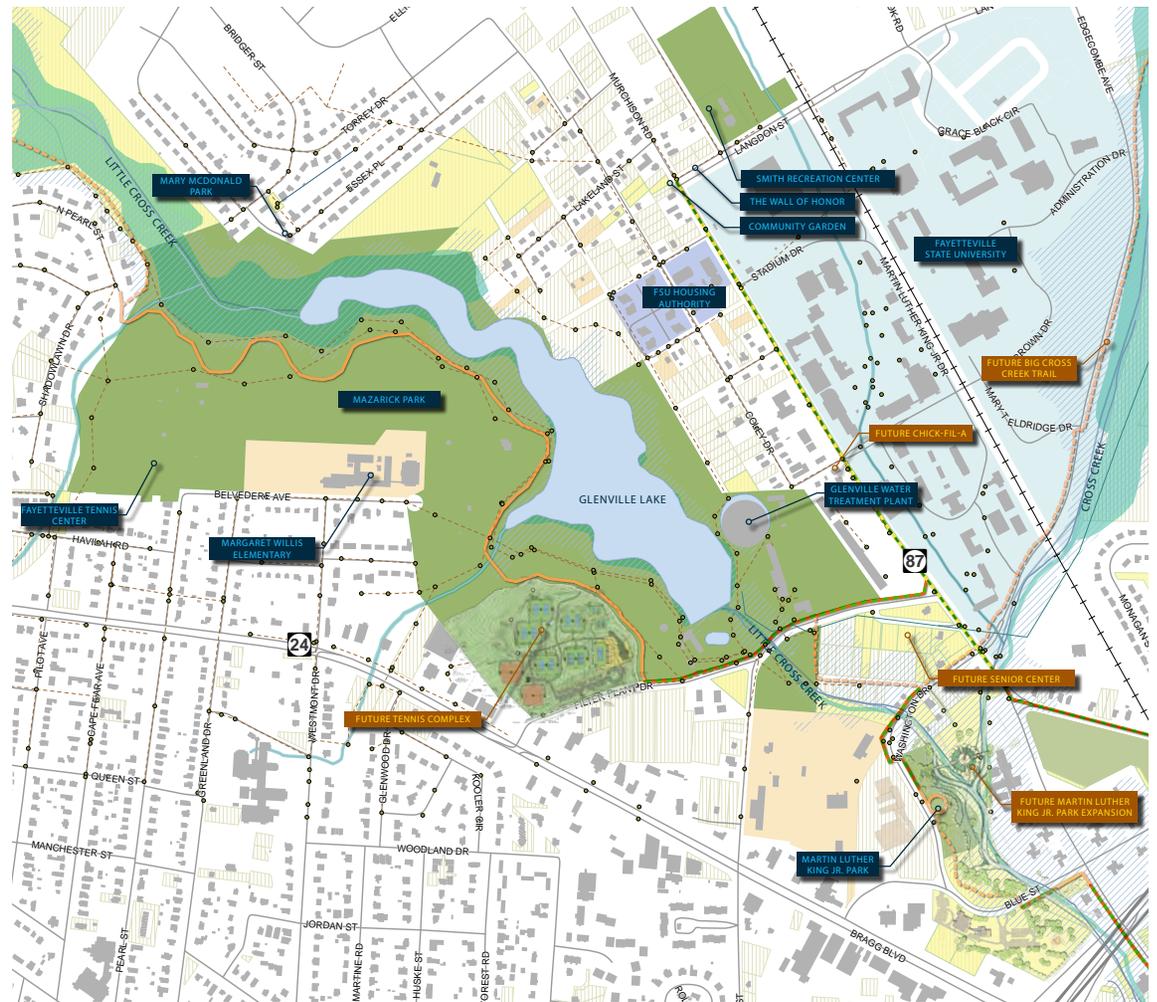
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EXISTING CONDITIONS

Mazarick Park is an 80 acre park located north and east of Bragg Boulevard on the west shore of Glenville Lake. The park has three entrances, two off of Belvedere Avenue near Margaret Willis Elementary and a greenway entrance off of Filter Plant Drive. The Fayetteville Cumberland Parks and Recreation Department maintains the park which includes a tennis center, disc golf course, picnic shelters, a playground, trails, a baseball field a 1 mile segment of greenway and a fishing pier.

The City of Fayetteville owns land on the northeast side of Glenville Lake. Part of this land is used by the Fayetteville Public Works Commission for the Glenville Water Treatment Plant and associated activities. Mary McDonald Park is a half acre park located on Essex Place north of where Little Cross Creek enters Glenville Lake.

STUDY AREA MAP



MAZARICK PARK PROVIDES A VARIETY OF RECREATIONAL OPPORTUNITIES WHICH ARE EASILY ACCESSED FROM NEIGHBORHOODS ON THE WEST SIDE OF GLENVILLE LAKE. A SIDEWALK EXISTS ALONG FILTER PLANT DRIVE THAT WILL CONNECT TO FAYETTEVILLE STATE UNIVERSITY AND THE FUTURE TENNIS COMPLEX AND SENIOR CENTER. AN ADDITIONAL CONNECTION ON THE NORTH SIDE OF THE LAKE WOULD IMPROVE CONNECTIVITY TO THE PARK FROM NEARBY NEIGHBORHOODS AND FSU. ADDITIONALLY, LAND OWNED BY THE CITY MAY BE UTILIZED FOR TRAILS OR OTHER PROGRAMMING TO ENHANCE RECREATIONAL OPPORTUNITIES IN THE AREA.

POINTS OF INTEREST

Within the study area points of interest include Margaret Willis Elementary, Mazarick Park and the existing and planned recreational facilities within the park, the planned Senior Center located at the corner of Filter Plant Drive and Murchison Road, Fayetteville State University, Mary McDonald Park, nearby neighborhoods and apartment complexes and the Bronco Midtown development that will include a new Chik-fil-a. Outside of the immediate area planned greenways will connect to other destinations including Martin Luther King Jr. Park, Veterans Park, Harry F. Shaw Cross Creek Linear Park, Downtown Fayetteville, Rowan Park Skate Park, the Cape Fear River Trail, Cape Fear Botanical Gardens and Methodist University.

AFRICAN-AMERICAN HERITAGE TRAIL

Along the existing and planned trails within the Fayetteville Center City Parks and Trails system there are many African-American Heritage Trail sites that recognize key locations that played a role in African-American life in the City.

ACCESS & CONNECTIVITY

Mazarick Park is located on the west bank of Glenville Lake. Currently there are no connections to the park from neighborhoods on the east side of the lake and Little Cross Creek. A sidewalk existing along Filter Plant Drive which has been recommended to be upgraded to a multi-use path in previous plans. An additional connection via a bridge on the north side of the lake or lower part of Little Cross Creek would provide additional park access to residents of nearby neighborhoods and Fayetteville State University students,



MARY MCDONALD PARK, LOCATED ON THE NORTH END OF GLENVILLE LAKE ON ESSEX PLACE INCLUDES A PLAYGROUND AND SWING SET.



EVANS A.M.E. ZION METHODIST CHURCH, LOCATED ALONG THE HARRY F. SHAW CROSS CREEK LINEAR PARK IS ONE OF THE MANY STOPS IN THE FAYETTEVILLE AFRICAN-AMERICAN HERITAGE TRAIL.

BACKGROUND AND ONGOING PROJECTS

Over the last seven years Fayetteville Cumberland Parks and Recreation has invested in upgrading and expanding parks and recreation facilities across the City of Fayetteville. In 2016 a Parks and Recreation Bond was passed that authorized \$35 Million for park upgrades. New facilities and upgrades completed through the bond include:

- New splashpads at Kiwanis, Myers, Massey Hill, and Gilmore Rec. Center
- Improvements to Massey Hill Rec Center, Clark Park, Seabrook Pool, Segra Stadium, and Jordan Soccer Complex
- Skate park at Rowan Park
- Bill Crisp Senior Center

Ongoing or planned park improvements projects include:

- Senior Center East
- Tennis Center at Mazarick Park
- Sports Field Complex (I295 and McArthur Rd)
- Cape Fear River Park
- Martin Luther King Jr. Park Expansion



The Senior Center East project will include multipurpose rooms, a warm water pool, a library and lounge, dance/fitness room, and a kitchen and cafe. It will be located between Filter Plant Drive and Washington Drive across from Fayetteville State University.



The new Mazarick Park Tennis Center will include 11 hard courts, 1 competition court, 4 clay courts, 4 pickleball courts, an 6,500 square foot clubhouse, Pro Shop, learning center and connectivity to the greenway.

TENNIS CENTER CONCEPT



SITE MAP WITH AERIAL



STUDY AREA PHOTOS



An existing 8' foot wide trail bordered by a swale traverses through Mazarick Park on the west bank of Glenville Lake. The trail winds through mostly hilly terrain and forested woodlands. Pockets of open spaces can be found along the trail with access to various park amenities. The existing canopy is a mix of new growth hardwood trees and evergreen trees.



The picture above shows another view of the sewer line and easement midway along the west shore path around Mazarick Park. This view is looking southeast with the lake waterline encroaching into the treeline in the background. The location for the other bridge option landing would be just beyond the cleared easement in the left edge of the picture. There is minimal space for landing the bridge between the high-water line and the easement.



Facing north along the existing path in Mazarick Park, this image shows the exposed sewer line that weaves along the trail and around Glenville Lake. The sewer pipe and manholes require clearly maintained easements. Bridge landing locations will have to navigate this utility constraint depending on the desired crossing location.



One potential bridge crossing is shown above facing east from the west shore of Glenville lake at the northern most part of Mazarick Park. Across the lake is Essex Park and a potential trailhead for parking and access by the community surrounding Fayetteville State University (FSU).



On the east shore of Glenville Lake, PWC maintains much of the shoreline access. This is one of a number of gates limiting access and is located at the end of Kornbow Street. At this location, a potential land swap with FSU allowing a potential trailhead and parking area to be established midway along the east shore.



At the opposite end of Kornbow Street facing north, a public access easement would allow the trail to connect to this east shore neighborhood. Upgraded road facilities would allow the trail to come down the street and connect to the potential trailhead leading further south along the lake and eventually to FSU.



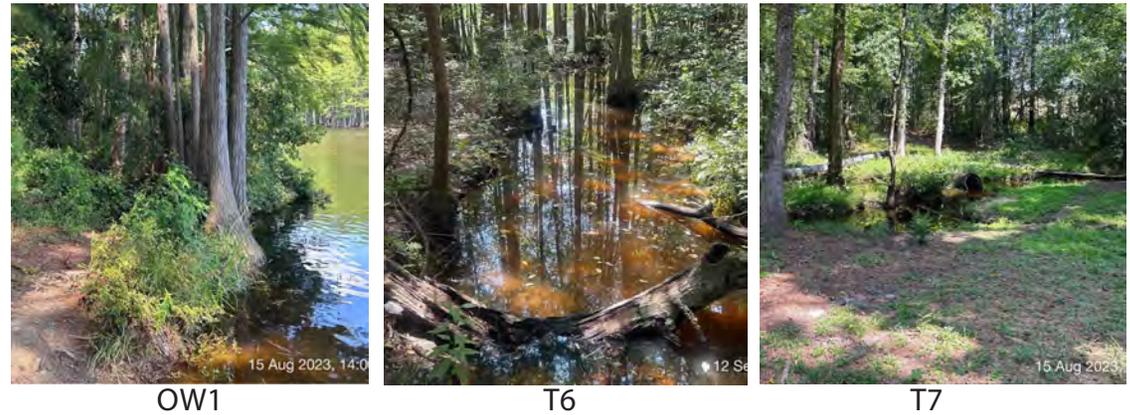
Behind Bronco Square along Murchison road, the trail would currently run just outside the center's property line left of the fence shown in this picture. There is a grade changed fall from in the background to the foreground shown.



Essex Park has a perimeter fence blocking access from the park to the lake. If the bridge were to land just to the right of this picture's view, the trail would then head southeast behind the fence within the woods. Formal entry and access from the park would want to be developed for this trail-head location.

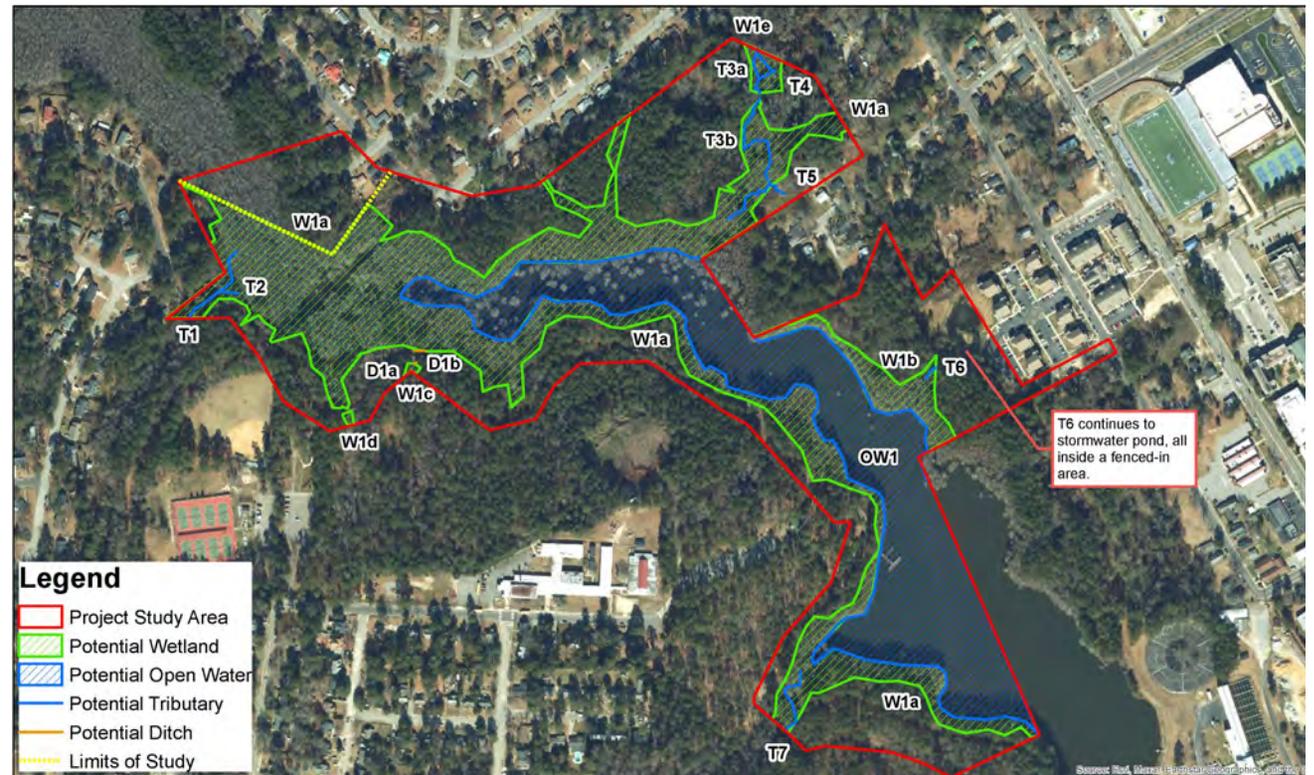
WETLANDS AND WATERS

In the delineation process, Terracon first reviewed available resources to identify potential waters of the United States (WOTUS) and wetlands on or near the site. A field investigation followed, using the Routine On-site Determination Method outlined in the U.S. Army Corps of Engineers Wetland Delineation Manual and the Atlantic and Gulf Coastal Plain Regional Supplement. Wetland areas were identified based on hydrophytic vegetation, hydrology, and hydric soil indicators.



Hydrophytic vegetation was assessed by plant species and wetland indicator ratings. Hydrology is determined by primary and secondary indicators, and hydric soil is assessed based on soil features. Wetland areas meeting all three criteria were delineated with flagging tape, and data points are collected for each type, detailing conditions related to vegetation, hydrology, and soil.

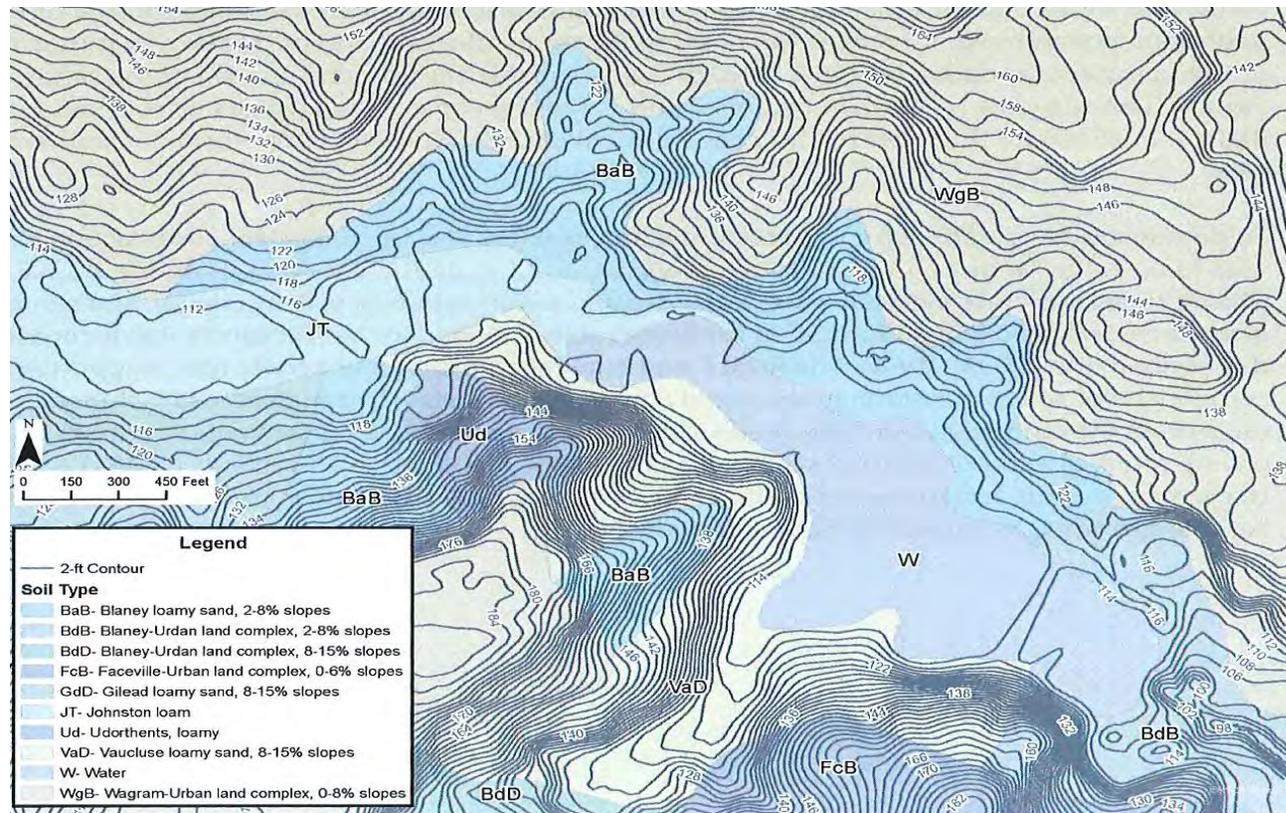
Additional potential WOTUS were marked, investigated for stream classification and drainage patterns, and assessed for hydrological connections.



SOILS AND TOPOGRAPHY



A recent report by Jacobs Engineering underscores the importance of considering soils and soil types in the proposed trail development near Glenville Lake. It highlights the vulnerability of sandy soils to erosion, emphasizing the potential impact on water quality, sediment loading in the lake, and the need for stormwater management to prevent soil loss. Specific soil types, such as Blaney loamy sand and Johnston loam, are identified for their erodible nature and the challenges they pose during construction and development.



Given the potential for soil runoff after rain events it will be essential to implement Best Management Practices (BMPs) to control erosion and mitigate the impact on Glenville Lake. The presence of maintained utility corridors is recognized as an opportunity to limit environmental impact, particularly by restricting trail construction to previously disturbed areas wherever possible.

Overall, the text emphasizes the significance of understanding and addressing soil-related considerations to safeguard water quality and the delicate ecosystems surrounding Glenville Lake.

4

RECOMMENDATIONS

1

KEY CONNECTIONS

- 1A: Glenville Lake Crossing
 - Design and construct a bridge or boardwalk crossing over lower Little Cross Creek or Glenville Lake to improve connections from neighborhoods and FSU to Mazarick Park .
- 1B: Neighborhood Connections
 - Connect surrounding neighborhoods to Mazarick Park via sidewalk and trail connections.
 - New connections could include to Essex Place, Carver Street, Lakeland Street/Church Street and/or Kornbow Street.
- 1C: Connections to FSU
 - Improve pedestrian and bike connections from East Shore Trail to existing Murchison Road crossings. Priorities include:
 - *Council Street Connection: Trail to Council Street along paper street ROW.*
 - *College Street Connection: Trail to College Street to connect to existing sidewalk. Includes a crosswalk across Foundation Lane.*
 - *Coley Drive / Matthews St. Sidewalk Improvements. Including finishing sidewalk on one or both sides of roadway and crosswalks.*
- 1D: Connection to Senior Center East
 - Widen sidewalk along Murchison.
 - Painted, Themed Art Crosswalk on east end of Filter Plant Drive / Bronco Way.

2

EAST SHORE TRAIL AND TRAILHEAD

- Design and construct a trail along the east shore of Glenville Lake to connect from Essex Place to the University Place Apartments.
 - Include a trailhead near Council St. and/or Mary McDonald Park.

3

MURCHISON ROAD STREET RETROFIT

- Murchison Road Street retrofit from 4 to 2-3 lanes.
- Widen sidewalk to urban trail typology
- FSU gateway improvements

4

MAZARICK PARK IMPROVEMENTS

- Limbing (targeted canopy improvement and limbing to increase views)
- Programming, planting and maintenance
- Study future uses for existing Tennis Center
- Widen sidewalk along Filter Plant Drive to FSU

5

OTHER PARK IMPROVEMENTS

- Park and Programming Improvements
 - Fishing pier / wildlife viewing platform
 - Playground
- Stormwater Improvements
 - Installations to offset impacts from trail, capture, store, filter urban runoff from existing and future develop.
- Educational Opportunities
 - Incorporate educational components to reconnect residents and youth to nature.



Graphic Legend

- EXISTING GREENWAY
- PROPOSED GREENWAY
- PROPOSED STREET RETROFIT
- PROPOSED SIDEWALK CONNECTIONS
- EXISTING SIDEWALK
- EXISTING URBAN TRAIL
- PROPOSED URBAN TRAIL
- P PROPOSED PARKING LOT AND TRAILHEAD
- PROPOSED BRIDGE CROSSING
- PROPOSED CROSSWALK ENHANCEMENTS
- BUS ROUTE
- P BUS STOP
- COUNTY OWNED LAND
- CITY OWNED LAND
- VACANT LAND
- FLOODPLAIN
- PARK / OPEN SPACE
- CEMETERY
- WETLANDS
- SEWER
- MANHOLE



TRAIL STANDARDS



Urban Trail

The **Urban Trail** standard should be utilized in plazas and near roadways. The ideal cross section is a 10-12-foot-wide concrete surface with intermittent brick bands. If located beside a road an 8ft planting strip is recommended to separate trail uses from the roadway.

This is similar to the existing section in the Cross Creek Linear Park downtown, however the existing sections are more narrow. Existing sections of the primary path through the Linear Park could be widened to allow for bicycle users to be accommodated along with joggers and walkers.



Greenway

The **Greenway** trail standard should be used away from roadways and through more natural settings. The standard includes a 10-foot-wide asphalt path with concrete banding on the outside edges. The asphalt should be a minimum of 2" thick with an aggregate base course. The trail should have a 2-6ft shoulder with adequate side and overhead clearance.

Directional striping may be needed on sections with anticipated heavy usage volumes.



Natural Surface Path

A **Natural Surface Path** standard can be used in more environmentally sensitive areas, such as along the Cape Fear River. This standard should be made of crushed stone or screenings. Trail width should be 8-10 feet. Cross slopes should be a maximum of 2 percent. Positive drainage should be maintained and stormwater features should be incorporated into trail design to minimize erosion.

PRIORITY TRAIL AND SIDEWALK CONNECTIONS

PROJECT NAME	PROJECT ID	FACILITY TYPE	LENGTH (LF)	DESCRIPTION	EST PROBABLE COST*
Glenville Lake Crossing	1A	Bridge	750	Bicycle/pedestrian bridge connecting Mazarick Park to Mary McDonald Park	\$4,155,000
East Shore Trail	1B/2	Greenway / Multi-use Path	5,000	Multi-use path connecting new bridge to Murchison Road	\$2,250,000
Council Street Connection	1C	Greenway / Multi-use Path	690	Multi-use path connecting East Shore Trail to Council Street	\$209,000
Key Connections	1C	Sidewalk / Urban Trail	670	Sidewalk connections from East Shore Trail to Murchison along Matthews and Coley Dr.	\$180,000

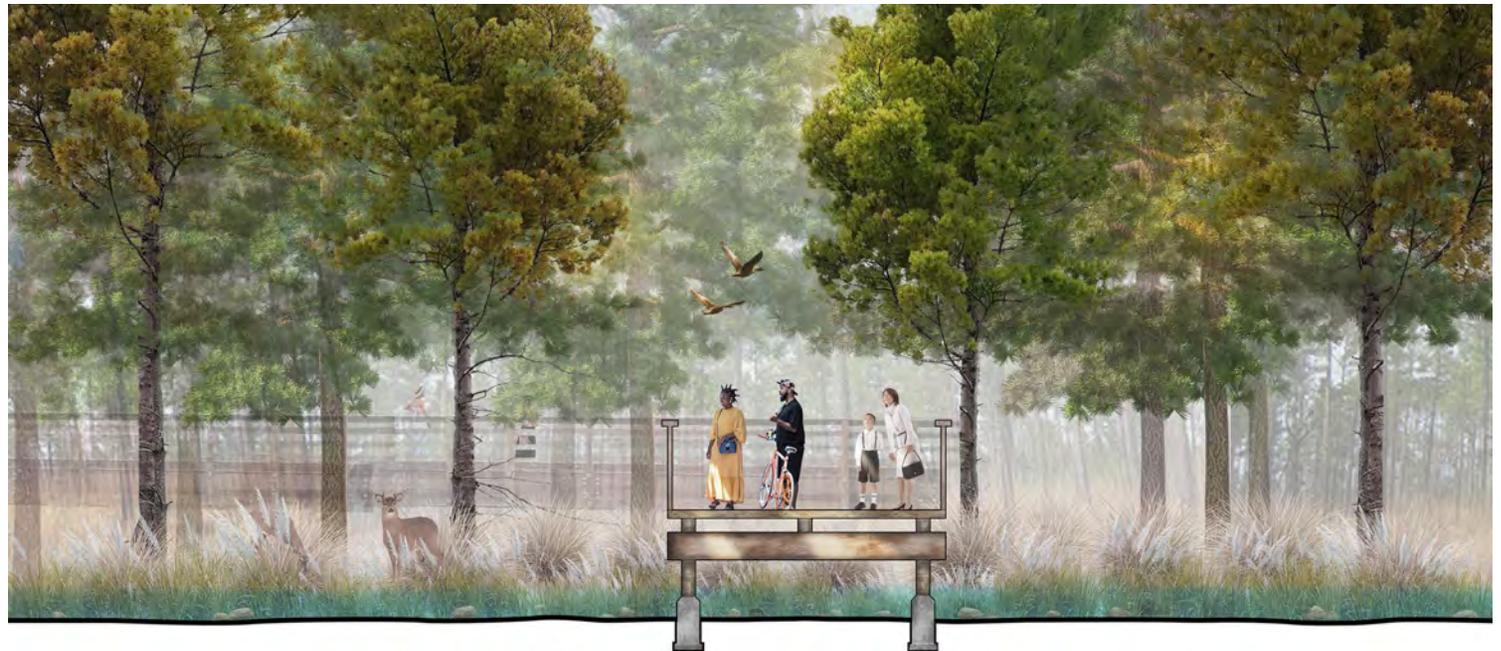
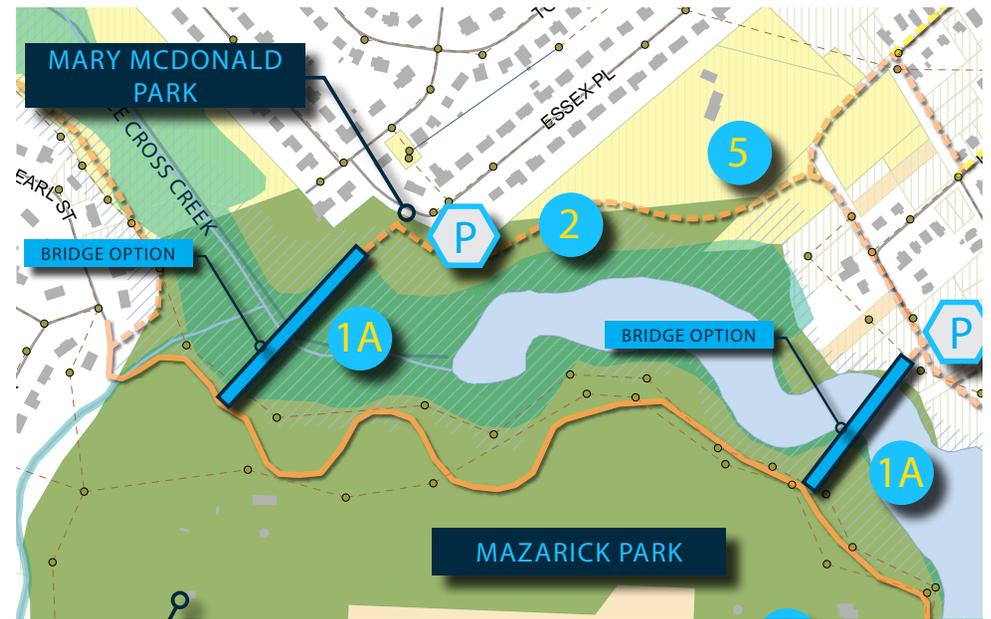
* Estimate includes construction only, does not include acquisition of right-of-way, amenities, furnishings or construction oversight.

*Additional study of alignments needed to determine final cost estimate.

GLENVILLE LAKE CROSSING

RECOMMENDATIONS

- Conduct a flood study to determine preferred location for designing a bridge over the lower end of Little Cross Creek or the upper end of Glenville Lake.
- The flood study should be conducted in tandem preliminary bridge design.
- Minimize impacts to existing trees along planned bridge route and at landings.
- Coordinate with utility providers to avoid impacts to existing water and sewer infrastructure.
- Historical research and resident and neighborhood nominations should be gathered to assist in naming the bridge or trail features for local historic or influential figures.



EAST SHORE TRAIL

RECOMMENDATIONS:

- Connect the new bridge crossing to Murchison Road.
- Portions of the trail should be a 10ft asphalt multi-use path.
- A diverging path should be utilized to avoid heritage trees.
- A parallel natural surface trail could flank the existing trail to be used by joggers and hikers or spur trails could provide access to natural features.
- A trailhead should be located in the vicinity of Mary McDonald Park or at the terminus of a new extension of Council Street.
- The trail could connect a series of passive recreational opportunities that may include a fishing pier or wildlife viewing platform, a nature play area and environmental education installations.
- Safety features along the trail should include a clear zone on either side of trail, lighting at key locations (lamp posts at trailheads and bridge) and call boxes or emergency kiosks.



SIDEWALK CONNECTIONS

RECOMMENDATIONS:

- Many neighborhood street in this area lack sidewalks.
- Filling key gaps in the sidewalk connections can help improve connections and encourage usage of the proposed East Shore Trail and Mazarick Park.
- Key connections that should be considered include along Matthews Drive, Coley Drive, Lakeland Street and Carver Street.
- In addition a sidewalk or multi-use path connection on the unused right of way east of College Street could provide direct access to the crosswalk in the vicinity of Stadium Drive.



MURCHISON ROAD STREET RETROFIT

RECOMMENDATIONS:

- Although the focus of recommendations is to improve connections between Mazarick Park, nearby neighborhoods and Fayetteville State University, it is also recommended that streetscape improvements be made to Murchison Road.
- Murchison Road should be converted from a four lane facility to a 2-3 lane, median divided roadway with intermittent on-street parking, landscaping and a wider sidewalk on the west side and a multi-use path on the east side.
- This conversion would improve pedestrian safety along the roadway by reducing speeds and also enable the improvement of crosswalks to include pedestrian refuge islands that reduce crossing distance.



EAST BOULEVARD IN CHARLOTTE REPRESENTS A GOOD PRECEDENT FOR THE CONVERSION OF A FOUR LANE FACILITY TO A COMPLETE STREET THAT BALANCES MOTOR VEHICLE TRAFFIC WITH PEDESTRIAN AND BICYCLE SAFETY AND ON-STREET PARKING TO ACCESS RESIDENCES AND BUSINESSES.

MAZARICK PARK IMPROVEMENTS

- Survey results supported improved connections and identified maintenance priorities and programming opportunities in Mazarick Park.
- The park is located on the banks of Glenville Lake but due to topography views to the lake are limited. Targeted limbing (removal of lower tree branches) on existing trees could help open up view to the lake and to the new Tennis Center. This could improve perceptions of safety and improve usage. Selective canopy improvement is also recommended to improve the diversity of tree species and provide for areas of decorative and native plantings.
- Maintenance was cited as priority in the community survey. As a result it is recommended that an inventory of priority maintenance issues and an updated maintenance plan be developed for the park.
- Programming enhancements should be contemplated due to the potential for additional users due to the new Tennis Center. In addition future uses of the existing Tennis Center on the north side of the park should be studied.
- As recommended in the Center City Parks and Trails Plan the sidewalk along Filter Plant Drive should be upgraded to an urban trail section with additional width. A portion of this should be incorporated into EB-5540, a planned trail project that has received NCDOT funding in the Statewide Transportation Improvement Program (STIP).

OTHER PARK IMPROVEMENTS

Additional park improvements should be considered for park land on the east side of Glenville Lake. Potential improvements are described on the following pages and include:

- Fishing pier / wildlife viewing platform
- Playground
- Stormwater Improvements
- Educational Opportunities



FUTURE PARK PROGRAMMING AND AMENITIES

NON-MOTORIZED BOATING:

Non-motorized boating is envisioned to be a key feature, offering a serene escape for paddlers, kayakers, and canoeists. Accessible from designated locations, this addition enhances the recreational offerings, inviting visitors to embark on a peaceful journey and fostering a deeper connection with nature. It offers a captivating and refreshing experience for all ages, whether paddling leisurely or seeking a quiet moment of reflection.



Potential Location: East Shore Trail Connection near Bridge Option B.



FISHING PIERS:

Accessible fishing piers, strategically positioned along Glenville Lake and connected to the park's trails, provide an ideal opportunity for all to enjoy fishing. Designed with accessibility in mind, these spots offer a peaceful setting for anglers of all abilities to cast their lines into the serene waters, ensuring a comfortable and safe fishing environment.



Potential Location: Mazarick Park or East Shore Connection near Bridge Option B.



ADVENTURE PLAY:

Located on the east shore of the lake, our inclusive adventure zone is built with natural materials, featuring climbing structures, sensory paths, and play zones. Designed for all ages and abilities, it includes ramps and diverse textures. With treehouse-like structures, climbing vines, and boulders inspired by nature, this spot fosters imaginative play and exploration, inviting everyone to join in the fun amid the park's greenery.



Potential Location: Mazarick Park near future Tennis Facility or existing tennis facility.



OUTDOOR FITNESS:

An outdoor fitness circuit seamlessly integrates exercise and nature. Designed to blend with the environment, the circuit features strategically placed workout stations, utilizing natural elements like fallen logs and tree stumps for a challenging yet organic fitness experience. Set amid serene spots, users can engage in a variety of exercises surrounded by trees, fostering a balanced approach to fitness that combines exercise benefits with the therapeutic effects of nature, promoting a healthy lifestyle.



Potential Location: Various locations along existing multipurpose trails/ East Shore Connections trails.

FEATURE AMENITIES

PUBLIC RESTROOMS:

The park's modern restroom, built from durable, low-maintenance materials, prioritizes practicality and aesthetics. Designed for accessibility and cleanliness, it offers spacious compartments, well-lit interiors, and eco-friendly fixtures. With separate facilities for genders and accommodations for individuals with disabilities, it caters to diverse demographics. The efficient design seamlessly blends with the park's surroundings, providing a clean and inviting amenity for all visitors.



Potential Location: Near proposed Tennis Facility in Mazarick Park.

WILDLIFE VIEWING:

Nature-focused platforms along the trail system seamlessly integrate into wooded areas, providing optimal vantage points for wildlife observation. With strategically placed benches, bird-watching scopes, and informative displays about local avian species, these platforms offer a tranquil and immersive experience. Visitors can appreciate the beauty of the surrounding woodlands and the serene lake, making it an ideal spot for birdwatching and wildlife observation.



Potential Location: Various locations along existing multipurpose trails/ East Shore Connections trails.

SEATING AND CANOPIES:

“Bench seating and shelters in the park seamlessly combine comfort and communal spaces. Strategically placed benches provide serene spots for individuals to relax and appreciate the surroundings. Adjacent shelters offer shade, protection, and ample seating, creating ideal settings for picnics and group gatherings amidst the park’s natural beauty.”



Potential Location: Various locations along existing multipurpose trails/ East Shore Connections trails.

PICNIC AREAS:

Park picnic areas, scattered for diverse gatherings, range from intimate nooks to larger pavilions. Shaded spots with tables suit smaller groups, while designated areas with grills accommodate barbecue enthusiasts. Larger pavilions encourage communal celebrations, fostering togetherness amid natural beauty. Whether a cozy family outing or a lively friend gathering, these areas cater to various preferences, ensuring a delightful experience for all visitors



Potential Location: Various locations in Mazarick Park and East Shore Connections trails.

FEATURE AMENITIES

STORMWATER MITIGATION:

Ensuring the lake's water quality, crucial for drinking water, requires effective stormwater management in the surrounding area. Innovative strategies like bio-retention basins, permeable pavement, and strategic vegetation help filter and slow down stormwater runoff, minimizing pollutants. These initiatives protect the lake's pristine nature and contribute to maintaining pure drinking water for the community, preserving ecological balance with a proactive and reliable approach.



Potential Location: Along existing multipurpose trails/ East Shore Connections trails.

POLLINATOR PLANTING:

Enhancing existing plantings and landscape areas throughout existing park areas and proposed expansion with vibrant pollinator-friendly additions serves as an educational and environmental initiative. Integrating native plants that support bees, butterflies, and hummingbirds, these plantings aim to educate visitors on the crucial role of pollinators. Informative signposts scattered across the park emphasize the significance of biodiversity and the interdependence between plants and pollinators. This initiative transforms the park into a serene space, underlining the critical role of these creatures in sustaining our environment.



Potential Location: Various locations in Mazarick Park and East Shore Connections trails.

PROBABLE COSTS

ACTIVE RECREATION AMENITIES:

Canoe/ Kayak Launch:	\$15-25K
Asphalt Paved Multi-Use Path:	\$40/ SF
Trailheads with Signage:	\$10K - \$50K
Fishing Platforms:	\$15-25K
Inclusive Playgrounds:	\$75K- \$150K
Adventure Playgrounds:	\$40K - \$150K
Outdoor Fitness:	\$50K - \$150K

PASSIVE RECREATION AMENITIES:

Restrooms (prefab):	\$150K- \$250K
Nature/Wildlife Viewing Platforms:	\$10K - \$30K
Open Shelters:	\$25K - \$80K
Benches and Seating:	\$15K - \$30K
Picnic Areas with Grills:	\$10K - \$25K
Pollinator Habitats:	\$5 - \$10/ SF
Stormwater Improvements:	\$50K - \$500K/ Per Acre

The ranges described above account for the varying degrees of complexity, materials, construction, and labor. Additional costs should be factored in to site specific conditions such as grading, drainage, clearing and grubbing.

ENVIRONMENTAL EDUCATION

WATERSHED EDUCATION:

Lakes are part of larger watersheds. Teaching the community about the concept of watersheds, the sources of pollution, and how actions within the watershed affect the lake's water quality is essential. Field trips and workshops can facilitate this learning. An outdoor education center that focuses on watersheds, wetlands, education, and community awareness is a facility designed to engage people in experiential learning about these vital ecological components. Create interactive maps or apps that show residents the flow of stormwater in their area and its eventual discharge into the lake. This visual representation can help people understand the connection between their properties and the lake.



Watershed Center, Pennington, NJ

WATER QUALITY TESTING:

Regular water quality testing and analysis can involve the community. Educate people about the health of their water source, the impact of pollution, and the importance of maintaining clean water. Local schools, environmental groups, and individuals can participate in monitoring and data collection trips and workshops can facilitate this learning.



NATURE WALKS:

Traversing various landscapes, including wetlands, wooded areas, and lakeside shores, allowing participants to witness the diversity of ecosystems within the watershed. Providing insights into the geological and hydrological features of the watershed. Explain how water moves through the environment and how it ultimately impacts the lake. Observe aquatic life in tributaries, learn about the importance of riparian zones, and examine wetland plants and their role in water filtration.



Develop educational materials and programs that highlight the interconnectedness of the lake, its tributaries, and the surrounding wetlands is a powerful way to educate the community about the intricate relationships within this ecosystem.

VISUAL AIDS AND MAPS:

Create visual aids, maps, and diagrams that vividly illustrate the geographical layout of the entire ecosystem. These can include large-scale maps with labeled wetlands, tributaries, and the lake, as well as arrows and symbols to indicate the flow of water and nutrients. These visuals should be clear and easy to understand, appealing to a broad range of age groups and educational backgrounds.



WILDLIFE HABITATS:

Illustrate the habitats that each component of the ecosystem provides for various wildlife species. Emphasize the role of wetlands in supporting migratory birds, amphibians, and other wildlife, as well as the importance of tributaries for fish spawning and as aquatic habitats.

ECOSYSTEM COMPONENTS:

Break down the ecosystem into its various components, such as the lake, tributaries, wetlands, and surrounding terrestrial areas. Explain the unique characteristics and functions of each component, emphasizing their importance.



HUMAN IMPACT:

Discuss the impact of human activities on the ecosystem, including pollution, deforestation, urban development, and invasive species. Show how these activities can disrupt the delicate balance of the ecosystem and negatively affect water quality.

NUTRIENT CYCLING:

Explain the cycling of nutrients within the ecosystem. Show how organic matter and nutrients from the terrestrial area and wetlands enter the water, providing essential resources for aquatic life and plants in the lake. Highlight the importance of nutrient balance for maintaining water quality.



ECOLOGICAL PROCESSES:

Describe key ecological processes, such as nutrient uptake by wetland plants, sediment deposition in wetlands, and the influence of vegetation on water quality. Use simple language and clear visuals to make these processes accessible to a wide audience.

ENVIRONMENTAL EDUCATION

STORMWATER MANAGEMENT WORKSHOPS:

Offer workshops and seminars on the impact of stormwater runoff on the lake's water quality. Educate residents about best management practices for stormwater, such as rain gardens, permeable paving, and rain barrels. These practices can be integrated into residential properties to reduce runoff. Create demonstration sites in the community where residents can see effective stormwater management techniques in action. These sites can showcase rain gardens, vegetated swales, and other stormwater control measures. Interpretive signage can explain their benefits.



GREEN INFRASTRUCTURE PROJECTS:

Collaborate with local government and environmental organizations to implement green infrastructure projects in the community, such as constructed wetlands or urban forestry. These projects can serve as educational resources and mitigate stormwater runoff.



RAINWATER HARVESTING PROGRAMS:

Promote the use of rainwater harvesting systems in homes and businesses. Workshops and educational materials can teach residents how to collect rainwater for non-potable uses, reducing the volume of stormwater entering the lake. Conduct workshops and activities where community members can test the quality of rainwater. This demonstrates the potential for rainwater to carry pollutants and underscores the importance of preventing contamination.



LAKE AND WATERSHED CLEAN-UP DAYS:

Organize community watershed clean-up events. Participants can remove litter and pollutants, instilling a sense of responsibility for maintaining the watershed's health. These events also provide hands-on learning about the ecosystem. Encourage participation of local residents, community groups, schools, and environmental organizations. Volunteers of all ages and backgrounds.



PUBLIC AWARENESS CAMPAIGNS:

Use public awareness campaigns to educate residents about the importance of protecting the lake as a source of drinking water. These campaigns can include public service announcements, newsletters, and social media outreach.

Collaboration with Water Authorities: Partner with local water authorities to offer educational programs and resources. Water authorities often have expertise and materials for teaching about water conservation and quality.

STEWARDSHIP PROGRAMS:

Establish lake stewardship programs that engage residents in ongoing efforts to protect the lake. This might include invasive species management, water conservation initiatives, and shoreline restoration projects. Organize events like lake festivals, clean water fundraisers, and art exhibitions that focus on environmental themes. Bring the community together to learn and appreciate the value of their natural water source. Offers a sense of community and togetherness, allowing neighbors to connect while working toward a common goal.



OTHER RECOMMENDATIONS AND NEXT STEPS

Goals for the Glenville Lake Master Plan will include building the pedestrian bridge across Glenville lake connecting the east and west shores; constructing the east shore trail from Mary McDonald Park to Murchison Road and the new Senior Center; linking Fayetteville State University to Mazarick Park; and expanding the Mazarick Park trail network to connect to the new Tennis Center along Filter Plant Dr.

NEXT STEPS

Following the completion of this document, the proposed trail network and connections will need to be further designed and detailed at a scale that can be constructed. In order to do this, a consultant team will need to be hired to do the following items:

Preliminary Jurisdictional Determination (PJD): A PJD request to United States Army Corp. of Engineers (USACE) would be an immediate next step regarding wetland and waters impact permitting.

Wetland & Waters Detailed Survey: This needs to be done to provide a clear extent of wetlands and waterways that will have jurisdictional buffers associated with them.

Design Survey: Have a design survey completed to identify all surface level structures, land forms, tree canopy areas, identified tree save areas, subsurface utilities, etc.

Flood Study: A flood study will need to be completed to understand the extent of water forces on proposed design alignment of the trail system

Bridge Design: Design of the bridge crossing will need to be completed in tandem with the flood study. This will determine final location, span lengths and a more detailed cost estimate.

Trail Design Refinement: Consultants will need to be hired to design the trail and amenities in more detail which will require the following:

- **Site walk to flag trail alignment and tagging of trees to be saved**

- **Design of trail, trail amenities, trailhead parking and improvements, boardwalk, pedestrian bridges, stormwater management devices, and signage**
- **Coordination with FSU, PWC, and other local partners**

Construction Documents: Create a set of construction documents for all portions of the trail and connections.

Permit Document Sets: Develop a set of permit drawings for approval by the city for construction, for approval by state or federal agencies that may include the USACE or the North Carolina Department of Water Resources (NCDWR). A pre-application request for a meeting with USACE/NCDNR and project stakeholders is recommended. An additional Section 10 permit may be identified following such meeting.

Soil Borings: Soil Borings will need to be taken for where bridges and boardwalks will be placed crossing sensitive bodies of water

Bidding of the Construction: The consultant of record for the detailing of the trail network can assist with the bidding of the project

Construction Administration: The design consultant will be needed to work with the general contractor to help oversee the quality of work being installed



Picture: Walnut Creek Greenway