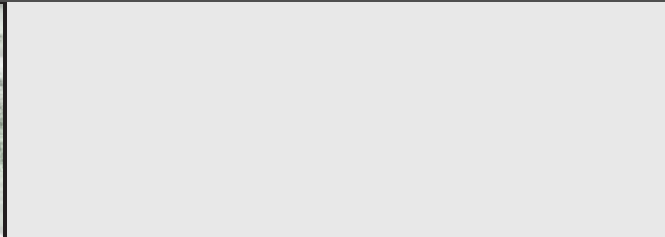




The Greenprints Vision | A Sustainable Greenspace and Trail Network that defines and enhances the City of Woodstock's community, natural and economic resources for all generations.

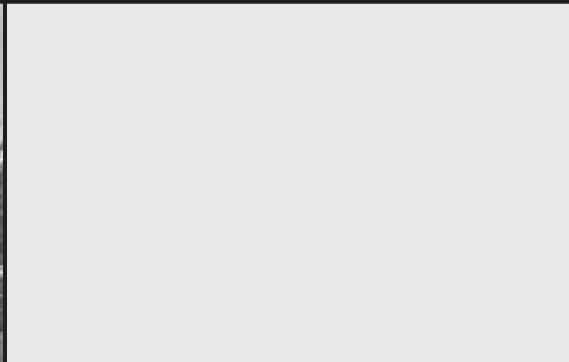


Prepared For:
The City of Woodstock, Georgia



Prepared By:
Ecos Environmental Design, Inc.
The PATH Foundation
Pros Consulting

June 16, 2008



Acknowledgements

Mayor and Council

Donnie Henriques – Mayor

Randy Brewer – Council Member, Ward 1

Chris Casdia – Council Member, Ward 2

Bob Mueller – Council Member, Ward 3

Tracy Collins – Council Member, Ward 4

Bud Leonard – Council Member, Ward 5

Steve Faris – Council Member, Ward 6

Citizens of Woodstock

Greenprints Committee

Alex Walker - Youth Council

Chris Conti - Parks and Recreation Advisory Board

David Potts - Resident

James Drinkard - Planning Commission

Jeff Wood - Planning Commission

John Hicks - YMCA / SORBA

John Hilburn - Senior Center

Kevin Poske - Outspokin Bike Shop

Lisa Tully - Youth Council

Liz Baxter - Resident

Michael Brantley - Cherokee County Parks and Recreation

Scott Gordon - Resident

Shaun Harty - Parks and Recreation Advisory Board

Tony Perry - Builder / Developer

Parks and Recreation Advisory Board

Shaun Harty – By Mayor

Chris Conti – Chair – By Mayor

Tamara Trull – Vice Chair – Ward 1

Jo Marchildon – Ward 2

Shari Stewart – Ward 3

John Hilburn – Ward 4

Genevieve Georges – Ward 6

Planning Commission

Jeff Wood - By Mayor

John Szczesniak (Vice-Chairman) - Ward 1

Joe Linden - Ward 2

Judy Davila - Ward 3

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| | |
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Executive Summary

Fifty miles north of Atlanta, The City of Woodstock encompasses approximately 7,170 acres adjacent to Lake Allatoona in Cherokee County. The city is embraced by extensive Corp of Engineer protected land along the Little River and Noonday Creek, contains a regional county park, and four city parks. The City is strategically located between two regional recreational assets: to the north of the City, the Blankets Creek mountain biking trail system receives over 200,000 visitors annually and twenty miles to the south, the Silver Comet multi-use trail system has over 2 million visitors annually. Other community assets include 18 miles of riparian corridors- mainly Little River, Noonday Creek, and Rubes Creek; Sweat Mountain and its enormous viewshed throughout the city; and historic downtown with buildings dating back to 1879, as well as, newly developed living and dining opportunities. Yet, with population expected to at least triple by 2030 there is a need to connect these community assets via a green infrastructure network, expanding currently deficient open space/ recreational opportunities to encompass sensitive conservation areas and provide connectivity for City residents and visitors.

Parks, greenways, trails, open lands, preserves, and rural landscapes are powerful amenities that improve the quality of life for residents and businesses. Collectively these amenities improve the livability of a community and facilitate economic progress. Current research finds that defined greenspaces are an enticement for communities nationwide, attracting major employment groups, residential growth, and eco-tourism within a sustainable framework. Additional motivation for development of a sustainable greenspace approach is found in the emerging awareness of the negative impacts of sprawl, including the degradation of air quality, watershed concerns (especially stormwater runoff), loss of scenic views and over-dependence on the automobile. Left unaddressed the City of Woodstock is at risk for becoming undesirable for future residents and businesses.

An initiative of the Woodstock City Council and the Planning and Economic Development Department, The Greenprints Project is a comprehensive park, trail and open space initiative that establishes a foundation and framework for the creation of a citywide green infrastructure system. The project unites land use planning with land conservation practices to outline necessary strategies for ensuring the preservation, improvement, implementation and maintenance of Woodstock's unique natural and recreational resources in the future. A conversation has been initiated with residents, businesses, and landowners regarding the benefits of a network of greenspaces, trails, and parks. Guided by the Greenprint Committee- comprised of representatives of the City Planning Commission, Parks and Recreation Advisory Board, Youth Advisory Board, Cherokee County and interested citizens and business owners- this nine month **community based and resource based planning process** involved the community through a series of meetings, surveys, and project website. The Greenprint Plan vision for the City of Woodstock is **“A sustainable greenspace and trail network that defines and enhances the City of Woodstock's community, natural and economic resources for all generations.”** In meeting this vision, The Greeprints Plan first illustrates land conservation priorities based upon goals and criteria, and then provides recommendations for two key elements- Greenspaces and Connectivity. The following are highlights of each element.

- **Greenspaces:** A variety or hierarchy of greenspace types were established to allow the City to plan for future growth as well as identify those areas best suited for conservation. The greenspace types examined include neighborhood parks, community parks, regional parks, natural areas, and corridors. Based upon current and 2030 recommended greenspace standards, the City is satisfied in regional parks; however, the City is 106 acres and 162 acres deficient in neighborhood and community parks. According to the Composite Conservation

Executive Summary

Priorities analysis and walkability gaps to residences, the City is deficient locationally for neighborhood parks, community parks, natural areas, and especially corridors. Although needing additional connectivity and accessibility the northern portion of the city contains the natural corridor provided by the Corp of Engineer protected land and the regional park features of J.J. Biello Park. Therefore, central to The Greenprints Plan is providing enhanced community gathering opportunities and greenspaces within the downtown area and to provide neighborhood and community parks within walkable distance to residents in southern portion of the City. The Future Development Map was consulted closely to ensure future greenspaces correspond to more intense development nodes. The proposed greenspaces also provide the means to meet the community expressed desires for flexible multi-purpose spaces and a variety of trails- especially mountain biking. To protect many of the sensitive riparian corridors and to enhance connectivity, the Plan recommends a series of greenway corridors.

- **Connectivity:** To meet the needs of all users, The Greenprints Plan illustrates three types of trails- off road multi-use trails, on road bike lanes, and specialized trails. The off road multi-use trails encircle the downtown core connecting community facilities, neighborhoods, shopping, and dining opportunities. Looping segments of the trail then branch to regional features like Blanket Creek mountain biking, Sweat Mountain Park in Cobb County, and Roswell's Leita Thompson Memorial Park. The off road multi-use trails also strive to enhance connectivity through a series of passages under the barriers of Interstate 575 and Highway 92. The majority of the off road trail system follows either a roadway/ urban greenway corridor or a waterway/ riparian greenway corridor. Forty-seven percent of the off road trails are within city or county owned road right-of-way or already cleared sewer easements, while twenty-seven percent are within community facilities or public protected land. The off road multi-use trails total to 60 miles at approximately \$32 million based upon 2008 estimated implementation costs. In addition to the off road trails, east west bicycle connectivity from the Towne Lake neighborhood to the rural terrain northwest of the city is provided by on road bike lanes along Towne Lake Parkway and Arnold Mill Road. On road bike lanes also extend along Old Rope Mill Road from historic downtown to Rope Mill Park. Finally and of high priority to the community, opportunities for specialized trials- mountain biking and footpaths- are illustrated within the Corp of Engineer protected land along Little River and Noonday Creek.

The Community, Greenprint Committee, and City were engaged in analyzing resources, exploring trends, and developing a vision and plan for Woodstock's green infrastructure system utilizing the following planning process. The planning process also forms the framework for this summary report.

- **Determine Benefits and Trends:** The numerous economic, environmental, and community benefits of a green infrastructure system were explored. In addition, the current greenspace and trail planning trends and initiatives at the city, county, regional, and state level were examined to ensure this process builds on and connects to parallel efforts.
- **Inventory and Analyze Resources:** An inventory of data was conducted to collect and overlay as much of the cultural and environmental resources as



Fig. 1 - Off Road Trail
Courtesy of: Ecos

Executive Summary

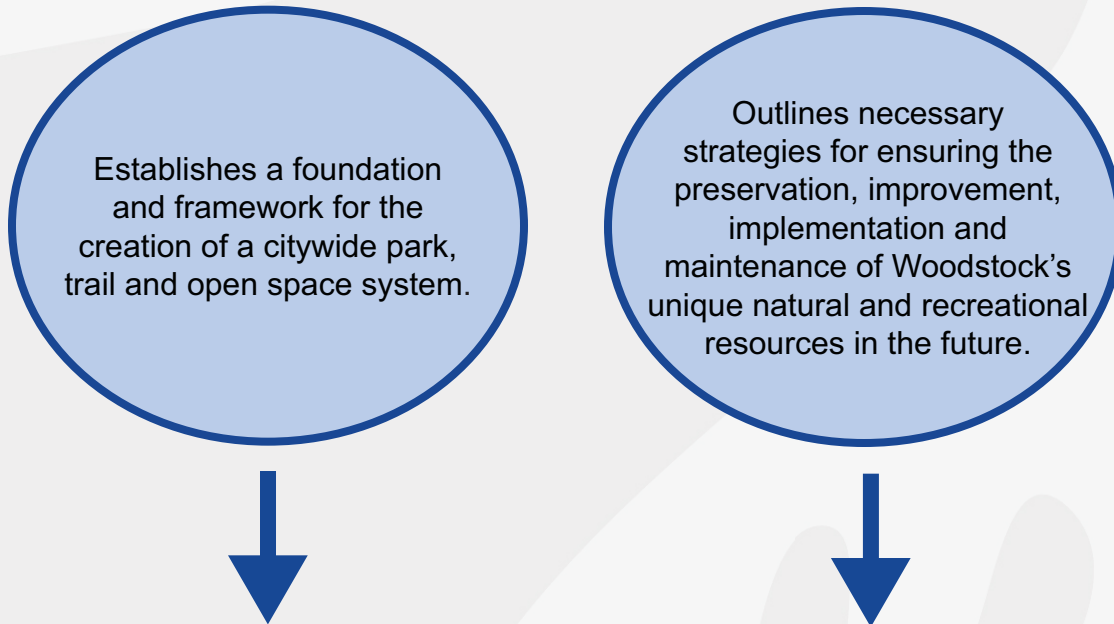
possible- including hydrology, landforms, utilities, cultural features, and regional features. Through an extensive analysis that was both community and resource based, key parcels were identified that are critical in conserving resources and land types to achieve the City's goals.

- **Establish Vision, Goals, Criteria:** Through the Greenprint Committee, community open house, and community survey- the vision, four supporting goals, and the criteria to meet each goal were established. The Greenprint Plan vision for the City of Woodstock is "A sustainable greenspace and trail network that defines and enhances the City of Woodstock's community, natural and economic resources for all generations."
- **Determine Needs and Priorities:** Community needs and priorities for conservation, greenspaces, and connectivity were determined both in quantity/ units and locationally utilizing the following: community survey and feedback, greenprint committee feedback, National Park and Recreation Association guidelines, estimated population growth by 2030, and criteria analysis for each goal. Using geographic analysis software, each goal was assigned criteria that were prioritized from high to low. This demonstrated the importance of conserving significant lands within the City- ones that would provide passive and active recreational opportunities and trail connections. The final Composite Conservation Priorities Map provides a tool the City can utilize in the development review process. In addition to this locational resource analysis (Composite Conservation Priorities Map), a set of recommended quantity/ unit standards were establish based upon national guidelines, community feedback, and population growth.
- **Develop the Greenprints Plan:** From the understanding of needs and priorities both in quantity and location, the Greenprint Committee engaged in a charrette to explore locations for different types of greenspaces and to identify key places to connect. The resulting Draft Plan was refined through a series of site visits, a community open house, and Greenprint Committee guidance to show a hierarchy and variety of greenspace and trail types.
- **Identify Implementation Steps:** Five steps with corresponding action items were identified for the implementation process, including the following: adopt and prioritize, partnerships/ stakeholders, community outreach, management and maintenance, acquisition and funding. In support of the action items, the Plan recommends model standards for greenspaces and trails, land owner and city based acquisition/ funding mechanisms, and potential role of partners in supporting the implementation process.

The Greenprints Plan concludes with recommendations for model standards for physical improvements to a variety of greenspace and trail types, outlines phased implementation strategies and identifies responsible parties and funding sources to facilitate the plan's realization. Community involvement has been integral to The Greenprints Project to be certain the natural and recreational resources of the City of Woodstock are properly planned for, today and tomorrow. Continued support of the community, Greenprints Committee, and City officials as champions for implementation of The Greenprints Plan is crucial for the community to successfully reap all the benefits- economic, social, and environmental- of a citywide and regional green infrastructure system.

What is Green Infrastructure Planning?

A strategy that unites land use planning with land conservation practices



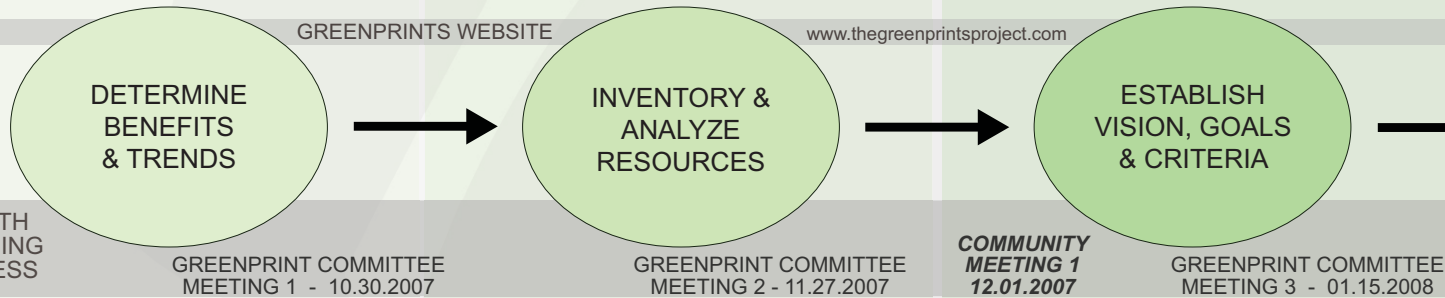
GREEN INFRASTRUCTURE PLANNING

- Focused on integrating land protection, development practices, and connectivity.
- Strategically planned and locally managed networks of trails and protected greenspace types with multiple purposes.
- Interconnected system of preserved land and waterways that support natural, social, and economic goals.

Fig. 2 - Greenway vegetation along stream
Courtesy of: Others

What is the Greenprints Process?

A 9 Month Community and Resource Based Process:



ONLINE COMMUNITY SURVEY



DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA

What is the Greenprints Process?



Courtesy of: Ecos

www.thegreenprintsproject.com

GREENPRINTS WEBSITE

**DETERMINE
NEEDS &
PRIORITIES**

**DEVELOP THE
GREENPRINTS
PLAN**

**IDENTIFY
IMPLEMENTATION
STEPS**

GREENPRINT COMMITTEE
MEETING 4 - 02.19.2008

**COMMUNITY
MEETING 2
04.01.2008**

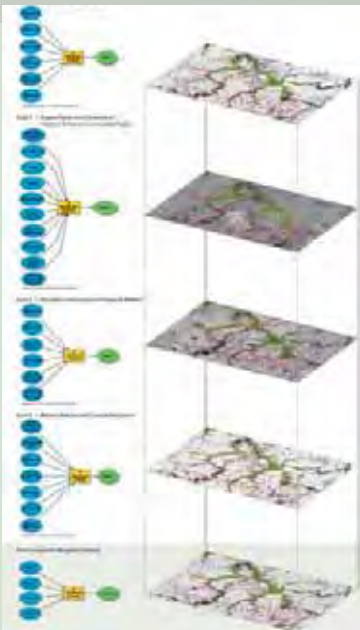
GREENPRINT COMMITTEE
MEETING 5 - 04.15.2008

GREENPRINT COMMITTEE
MEETING 6 - 05.20.2008

ONLINE COMMUNITY SURVEY

PLANNING COMMISSION &
PARKS AND RECREATION
ADVISORY BOARD
MEETING - 06.02.2008

CITY COUNCIL
MEETING - 06.16.2008



Courtesy of: Ecos



Courtesy of: Ecos

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

What is the Greenprints Process?

What are the Benefits of The Greenprints Project?

Economic Development

Provide potential economic generator for local government through increased value for adjacent properties.

- Parks, open spaces and trails have shown to bolster property values and are desirable amenities to both homeowners and businesses. Various studies around the nation suggest the average increase is 5%. Further, home buyers are willing to pay more for land adjacent to protected greenspace- as much as 33 percent more by some estimates. It has been reported that open space and urban forests “overwhelmingly” improve the value of neighboring properties. Homes in areas with protected open spaces can sell for significantly more than those in other developments. Consider the following examples:

- Boulder, Colorado: Value homes increased 32% if located adjacent to greenway trail
- Portland, Oregon: Homes within ¼ mile walking distance of open space on average accounted for 16% of sale price
- Austin, Texas: Homes adjacent to greenway trail sold at 20% premium.

Provide less expensive tax burden to the local government.

- The most important point to note is that greenspace lands are undeveloped areas that incur little, or NO, infrastructure costs. A recent Cost of Community Services studies in Georgia (UGA, 2002) found that for every \$1.00 generated by residential land use tax revenues required \$1.24-\$2.26 in community services (i.e. government expenses, such as garbage collection, schools, libraries, etc.). The same studies found that for every \$1.00 generated by farms, forest lands, and greenspaces in tax revenues actually required only \$.20-\$.36 in community services- a far less economic burden to a local government, and more reason why conserving greenspace actually improves the economic health of a community

Recreation, Health & Fitness

Provide diverse recreational and health experiences for all ages

Alternative Transportation

Provide an alternative means of travel and improve connections between natural spaces and residents

Water & Air Quality Improvement

Provide a buffer between development and our state’s water resources and offering spaces for filtration

Stewardship & Habitat Restoration

Provide corridors for wildlife and native plants

Historic & Cultural Preservation

Provide a tool to educate and preserve our past for all generations

Education

Provide the opportunity to inform people about natural, historic and environmental resources

Community & Social

Provide an opportunity for interaction of people with nature and one another



Fig. 3 - Images of greenspaces and trail use

How Will The Greenprints Project Support...

The State?

Georgia Land Conservation Act

- A landmark initiative to encourage the long-term conservation and protection of the state's natural resources through legislation that established a trust fund and a revolving loan fund of state, federal and private funding available to local governments and the Georgia Department of Natural Resources (DNR) for the purchase of conservation lands. This Act seeks to protect 20% of the state's greenspace.



Fig. 4 - Housing Density 2000
Courtesy of: SCORP

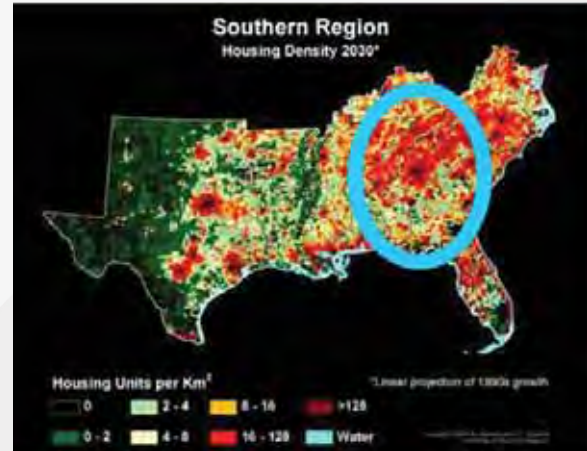


Fig. 5 - Housing Density 2030
Courtesy of: SCORP

The Region?

Atlanta Regional Commission's adopted Envision 6 Regional Development Plan Outlines open space and preservation policies for environmentally sensitive areas and historic landscapes and sites throughout the 20-county Atlanta metropolitan area that are threatened by development.

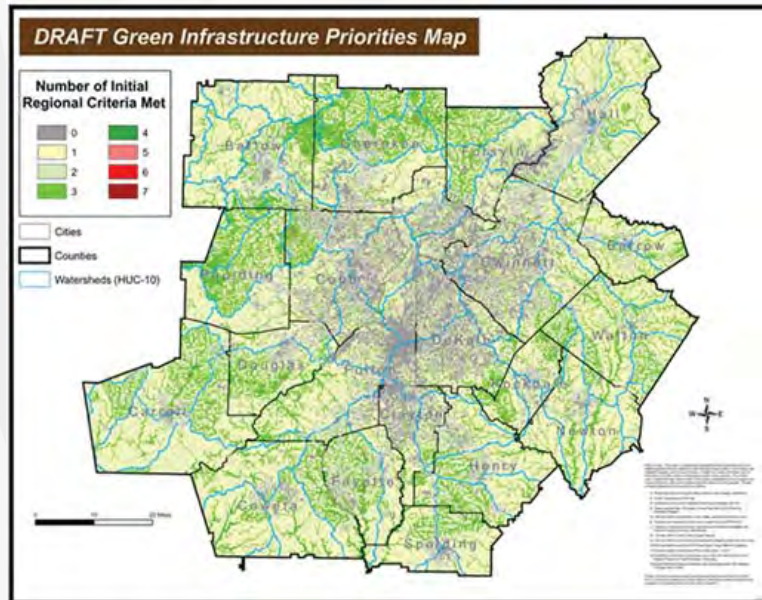


Fig. 6 - Draft Green Infrastructure Priority Map for Region
Courtesy of: Atlanta Regional Commission

DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA

The County?

Cherokee County Greenspace Protection Program Outlines a strategy for promoting the permanent protection of greenspace amounting to at least 20% of county land over the next 10 years.

The Cherokee County Recreation and Parks Authority Comprehensive Master Plan identifies potential opens space and trails, creating a network throughout the county.



Fig .7 - Cherokee County Greenspace Vision Map
Courtesy of: Cherokee County

The City?

City of Woodstock Draft Community Agenda for the 2008 Comprehensive Development Plan Update

- A policy document identifying the need for balance between the built and natural environment through the integration of green infrastructure and green architecture into the fabric of development and the recommendation that future development should provide appropriate private and public open spaces at different scales and purposes.

Woodstock Current Population- 19,949 : Almost doubled since 2000 :
Projected increase of 3 to 3.5 times by 2032



Fig. 8 - 1960 Aerial Imagery of Woodstock Highlighting Areas of Concentrated Development
Courtesy of : Digital Library of Georgia



Fig. 9 - 2006 Aerial Imagery of Woodstock Highlighting Areas of Concentrated Development
Courtesy of : City of Woodstock

Inventory and Analyze Resources

Draft Future Development Map

The Future Development Map identifies Character Areas and special districts in the City of Woodstock, through a transect of uses and densities. This map was one of the most important considerations during the planning process because it shows locations of activity centers and concentrations of population which will need to be connected and have walkability to greenspace.

Existing Parks Inventory

The Existing Park Inventory examines two main considerations. The first is the inventory and condition of existing city parks by ranking each park within the following seven categories: Safety, Accessibility / Connectivity, Built Environment Infrastructure, Passive Amenities, Maintenance and Natural Areas. All of the parks ranked fairly well, except for concerns for unmarked paths and pedestrian / vehicular safety in Dupree Park and lack or accessibility and connectivity to Olde Rope Mill Park. The second consideration involved classifying existing parks and assigning service areas to determine where gaps exist in the park system.

WOODSTOCK CITY PARK - 1 ACRE

| Element: | Condition: | Comments: |
|----------------------------------|------------|---|
| Safety | GOOD | <ul style="list-style-type: none"> Fenced off by main road Railroad close – separated from the park by parking. Located by the police station. |
| Accessibility/Connectivity | GOOD | <ul style="list-style-type: none"> In downtown Woodstock. Adjacent to local shops Sidewalks present in and around park. |
| Built Environment/Infrastructure | GOOD | <ul style="list-style-type: none"> Very little, but all fairly new and most in good shape. Loose steps up to the gazebo; broken bench on gazebo; no handrail on ramp. |
| Active Amenities | N/A | <ul style="list-style-type: none"> No existing. |
| Passive Amenities | GOOD | <ul style="list-style-type: none"> Plenty of seating Great as a public gathering space – “town square” feel. Sidewalks present within for walking. |
| Maintenance | GOOD | <ul style="list-style-type: none"> Clean Grass maintained |
| Natural Features | GOOD | <ul style="list-style-type: none"> Many new small trees, some larger 2 large Wisteria (invasive!) |

Poor = 1; Fair = 2; Good = 3.....OVERALL SCORE/CONDITION: 18 = GOOD

Inventory of Amenities:

- Gazebo
- Plenty of benches
- Formal sidewalks
- Clock
- Fountain



DUPREE PARK - 24.5 ACRE

| Element: | Condition: | Comments: |
|----------------------------------|------------|---|
| Safety | POOR | <ul style="list-style-type: none"> Traffic calming within parks (speed bumps) No separation of cars and pedestrians Speed limit on main road 30 mph. |
| Accessibility/Connectivity | FAIR | <ul style="list-style-type: none"> Well marked park entrance. No sidewalks to park; car heavy. No paths from parking lot. |
| Built Environment/Infrastructure | FAIR | <ul style="list-style-type: none"> Railroad ties used as retaining wall by the lake – seeping. No shade in the parking lot. Buildings are old, but sturdy walls; parking area in good shape. |
| Active Amenities | FAIR | <ul style="list-style-type: none"> Basketball area needs re-stripping/missing pole and hoop. Baseball and tennis courts in good shape. |
| Passive Amenities | POOR | <ul style="list-style-type: none"> Footpaths not well-marked or well-defined. Could take better advantage of existing wooded area. |
| Maintenance | GOOD | <ul style="list-style-type: none"> Fresh paint on buildings Clean – trash emptied, but dumpster by parking could be better located. Grass and shrubs maintained. |
| Natural Features | FAIR | <ul style="list-style-type: none"> Significant erosion around the lake A lot of trees (old and new.) Some existing invasive exotics. |

Poor = 1; Fair = 2; Good = 3.....OVERALL SCORE/CONDITION: 13 = FAIR

Inventory of Amenities:

- 2 Softball fields
- 4 Tennis courts with lights
- Lake
- Grills
- Picnic table
- 2 Basketball courts, but 1 missing pole/hoop.
- Restrooms (building & Port-a-Potties)
- Playground
- Trash receptacle



OLDE ROPE MILL PARK - 14.2 ACRE

| Element: | Condition: | Comments: |
|----------------------------------|------------|--|
| Safety | FAIR | <ul style="list-style-type: none"> Secluded from surrounding areas, but open once inside the park No police call box Minimal lighting. |
| Accessibility/Connectivity | POOR | <ul style="list-style-type: none"> Not currently connected, but has potential. Have to drive to get there. One way in and out of park. |
| Built Environment/Infrastructure | GOOD | <ul style="list-style-type: none"> Structures are located within 25' buffer along river (picnic tables and pads, benches) Lacks signage within the park. |
| Active Amenities | N/A | |
| Passive Amenities | FAIR | <ul style="list-style-type: none"> Great space for large groups/entertaining. Some trails exist, but not well-defined or well-marked – potentially were formed unintentionally.) |
| Maintenance | GOOD | <ul style="list-style-type: none"> Clean Grass cut |
| Natural Features | FAIR | <ul style="list-style-type: none"> No 25' buffer – placed structures within and planted grass Parking angled toward river causing surface flow Runoff from road leading to riverbank erosion. |

Poor = 1; Fair = 2; Good = 3.....OVERALL SCORE/CONDITION: 13 = FAIR

Inventory of Amenities:

- Pavilion with fireplace
- Viewing decks overlooking river
- Picnic tables
- Benches and swings
- Winding path



SPRINGFIELD PARK - 2 ACRE

| Element: | Condition: | Comments: |
|----------------------------------|--|---|
| Safety | FAIR | <ul style="list-style-type: none"> Somewhat isolated Small rickety bridge Close to road (speed limit 25, but cars driving much faster.) |
| Accessibility/Connectivity | FAIR | <ul style="list-style-type: none"> No sidewalks No parking, although may not be necessary – neighborhood park Very little signage (only a small Park Service sign at entry.) |
| Built Environment/Infrastructure | GOOD | <ul style="list-style-type: none"> Very minimal infrastructure – basic trails and bridges. |
| Active Amenities | GOOD | <ul style="list-style-type: none"> Play structures in good shape. |
| Passive Amenities | GOOD | <ul style="list-style-type: none"> Plenty of seating Bird/bat houses and guide to animal tracks for wildlife watching/education |
| Maintenance | GOOD | <ul style="list-style-type: none"> Some bare earth Clean |
| Natural Features | GOOD, overall, but FAIR on the other side of stream. | <ul style="list-style-type: none"> Very wooded site with mature trees Privet and other invasive exotics across the stream. Milky water in the stream. |

Poor = 1; Fair = 2; Good = 3.....OVERALL SCORE/CONDITION: 19 = GOOD

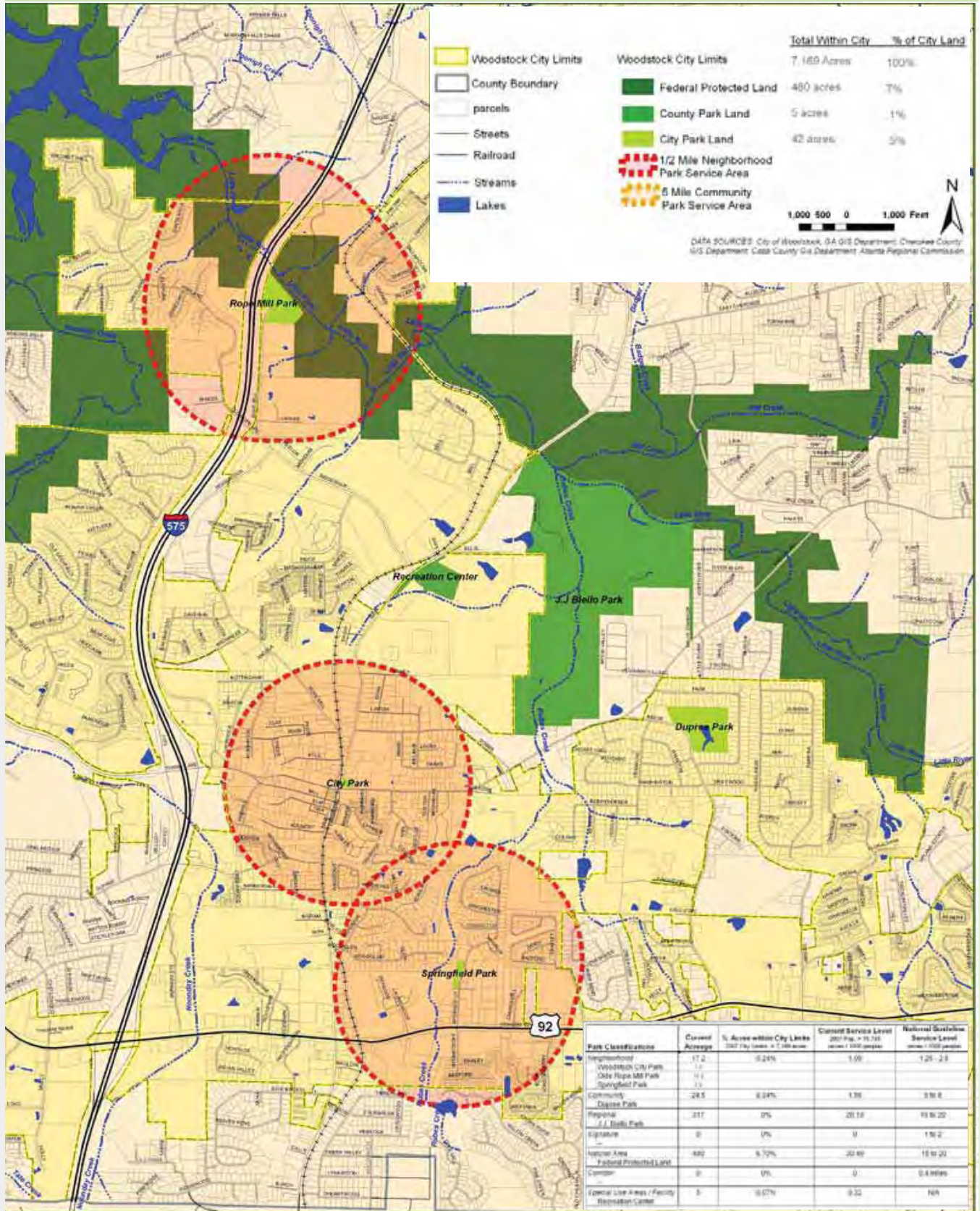
Inventory of Amenities:

- 2 Playgrounds
- Aggregate foot trails
- 4 Picnic tables
- 2 Trash receptacles



What is the Greenprints Process?

Existing Parks Inventory

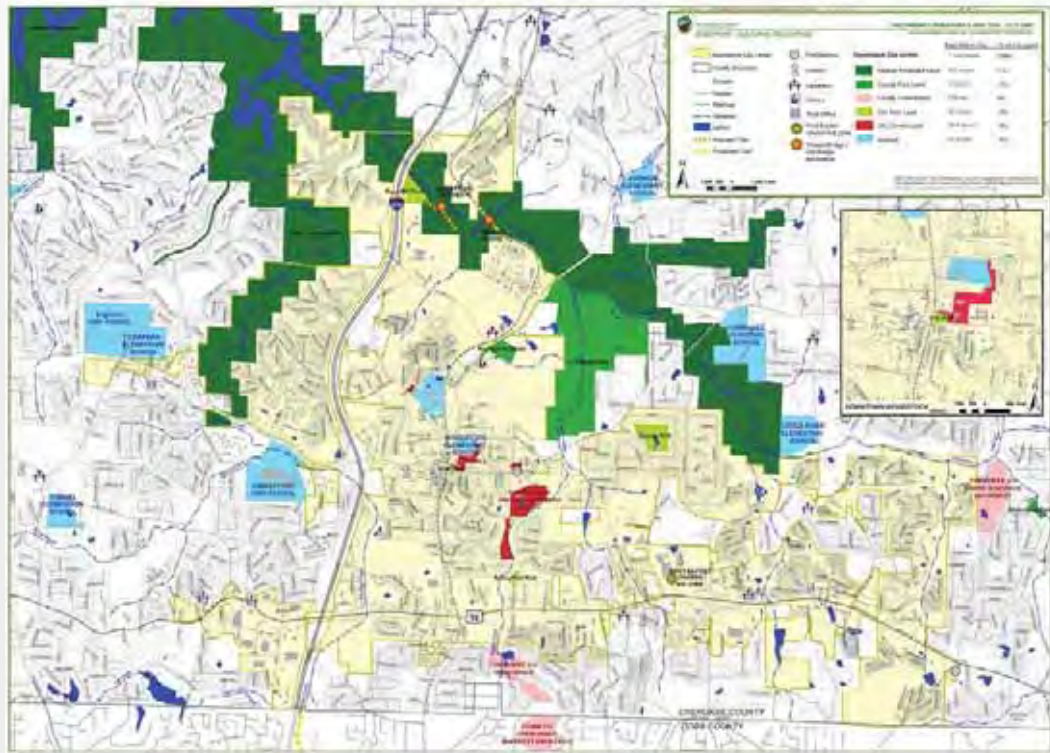


What is the Greenprints Process?

Inventory and Analyze Resources

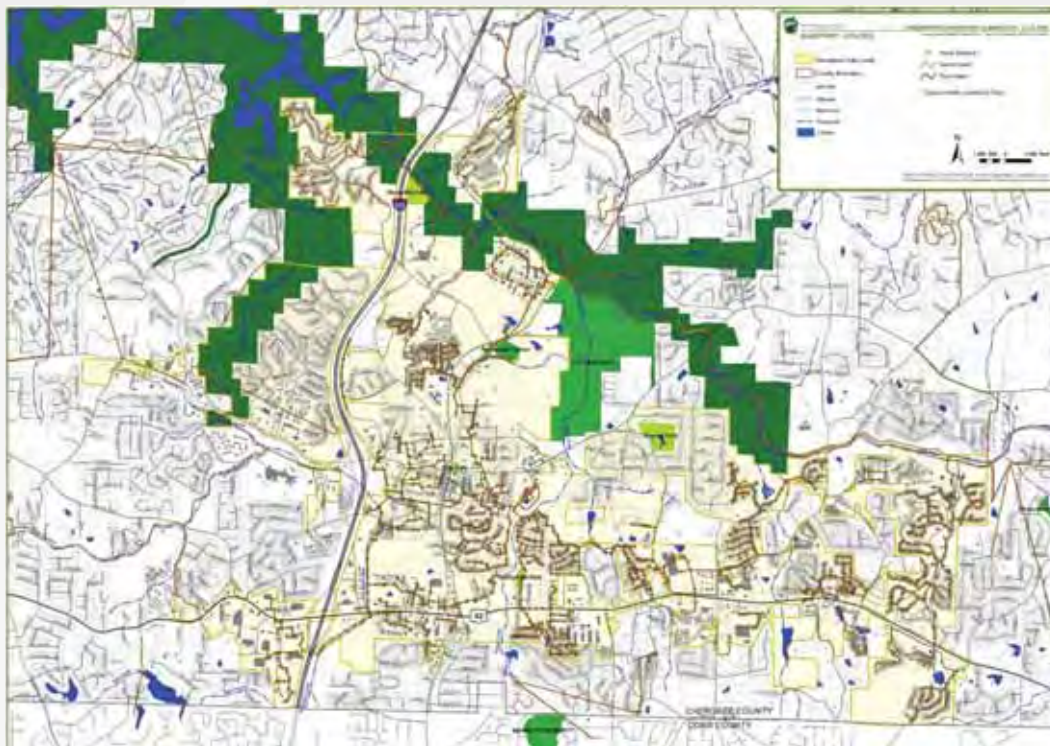
Cultural Resources

The Cultural Resources Map identifies areas of interest such as the Little River Trestle Bridge and community facilities such as schools, library, and post office. The map displays Federal Protected lands, City/County Parks, and other City/County owned land. The protected land, parks, and schools account for 8% of the city.



Utilities

Existing utility right-of-ways and easements can be beneficial in making trail connections, especially along riparian corridors since they are already cleared passages.



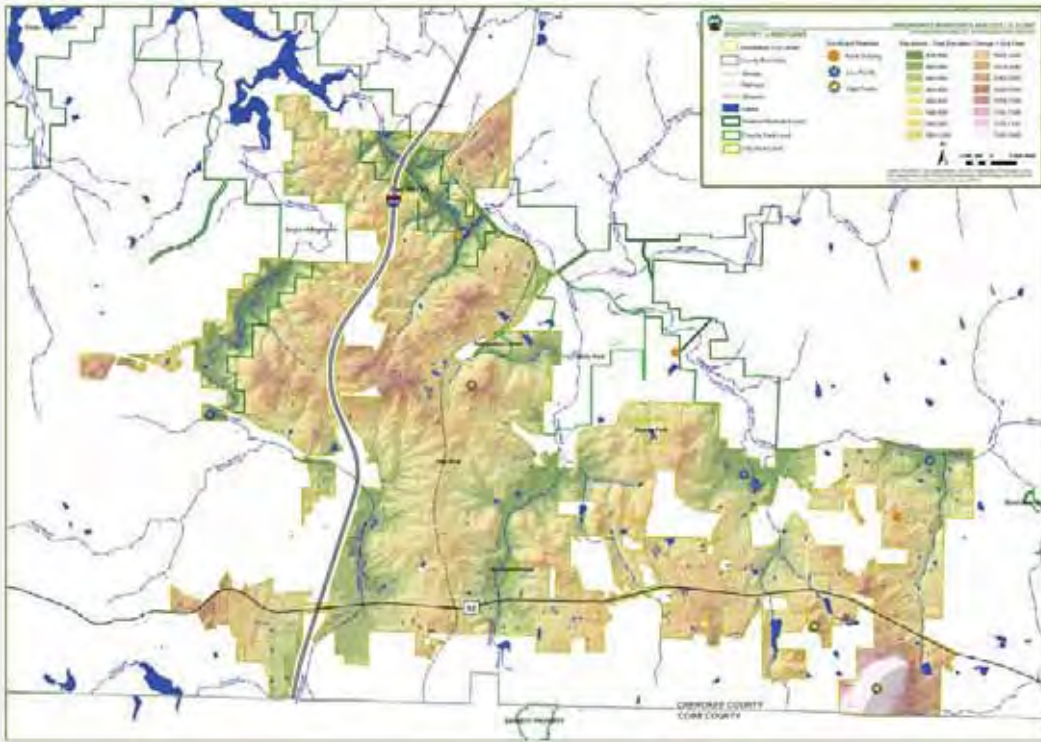
What is the Greenprints Process?

DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

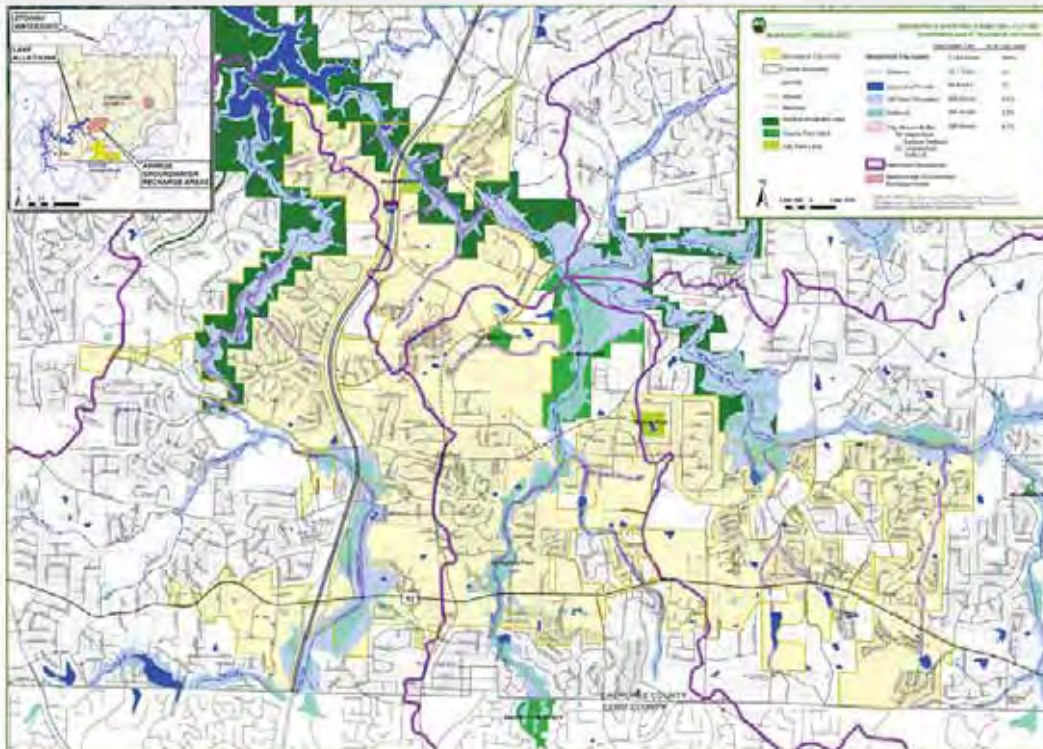
ESTABLISH VISION, GOALS & CRITERIA

Landforms



The landform map displays low elevations or riparian corridors in green and displays high points or potential viewsheds in white to pink. The elevation change within Woodstock is approximately 604 feet. Significant rock outcroppings are present along the Little River approximately 1/2 mile east of Rope Mill Park.

Hydrology



Woodstock is adjacent to Lake Allatoona and lies in the Etowah Watershed. Ground water recharge areas are located just north of the city. The Federal Protected Land and the County J.J. Biello Park provide good protection for a sensitive area where three sub watersheds merge into the Little River. There are 18 miles of riparian corridors - mainly Little River, Noonday Creek, Rubes Creek, and Mill Creek. Floodplain and wetland comprise approximately 10 to 13% of the city.

What is the Greenprints Process?

Establish Vision, Goals & Criteria

The Vision, Goals and Criteria for the Greenprints Project were determined through the Greenprints Committee, Community Meetings and the Community Survey

Vision →

What The Woodstock Greenprints Project wants/strives to be for the benefit of the community in the future. Encompasses community beliefs and priorities to be enhanced during the planning process.

Goals →

Broad statements that set the direction and guides how the Greenprint should evolve.

Criteria →

Course of action/ strategies required to achieve goals. The criteria is resource based and community based. The criteria is specific, measurable, attainable, realistic and timely.



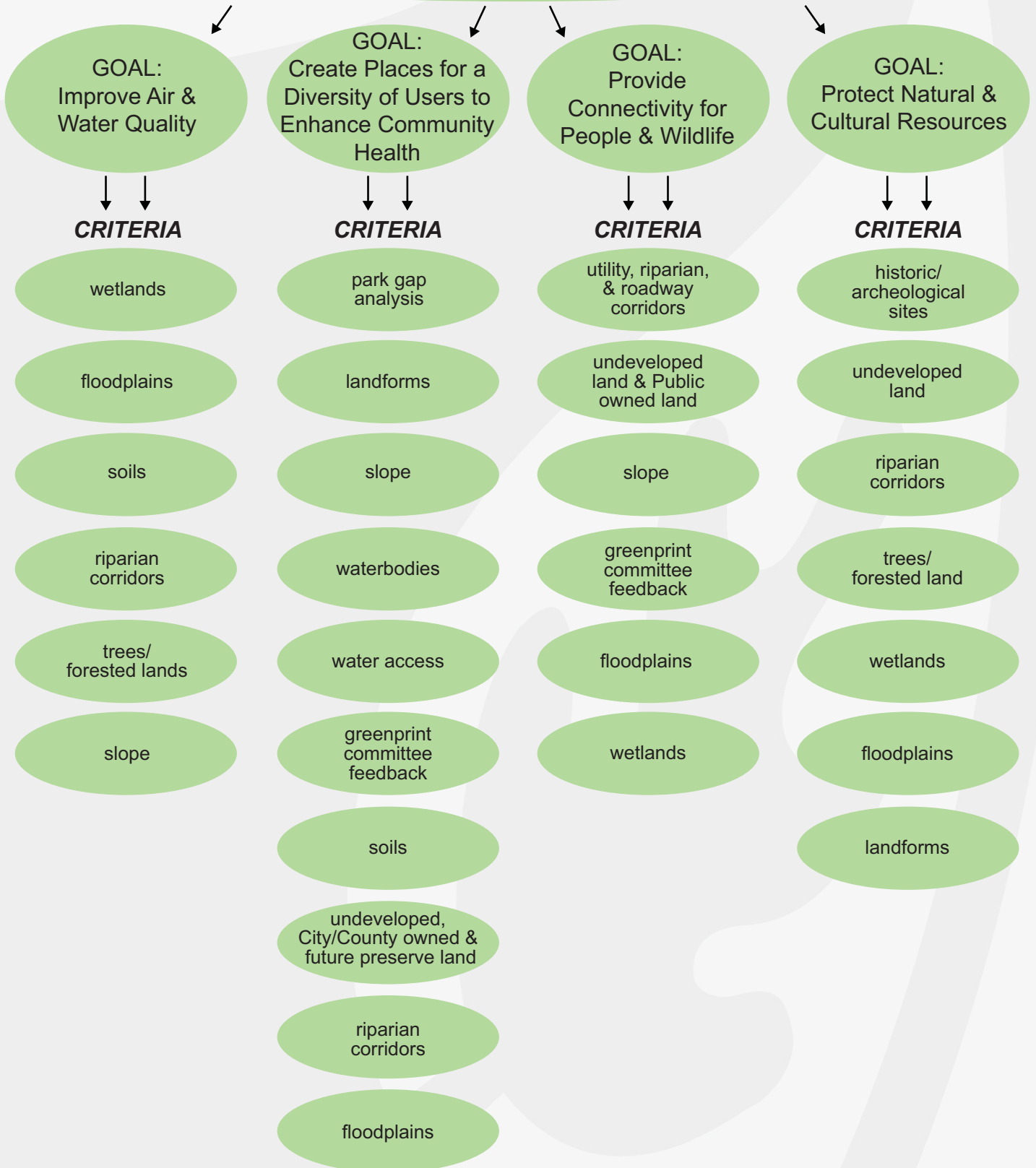
Fig. 10 - Natural Resources in Woodstock
Courtesy of: Ecos



Fig. 11 - Greenprints Community Meeting
Courtesy of: Ecos

VISION:

A Sustainable Greenspace and Trail Network that defines and enhances the City of Woodstock's community, natural and economic resources for all generations.



DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

What is the Greenprints Process?

Determine Needs and Priorities

Community Survey Results - Key Findings

The respondents validated the goals created by the Greenprints Committee and agreed they were all equally important. These goals include:

- Improve air and water quality
- Create places for a diversity of users to enhance community health
- Provide connectivity for people and wildlife
- Protect natural and cultural resources

The respondents overwhelmingly agreed that greenways and passive parks are important to maintaining a high quality of life in Woodstock. They also agreed that preserving natural resources and providing paved, unpaved and mountain biking trails is very important for the city's Green Infrastructure Network.

The respondents preferred that a trail network be a circular or looping system with adequate directional signage. They would most prefer connections to their residences, parks and greenspaces and other trails in the surrounding counties and region. Many community respondents specifically mentioned they would like connections to Blankets Creek trail system, downtown Woodstock, parks within the city such as Rope Mill Park and J.J. Biello Park and the natural resources within the Corp of Engineers land located in the northern half of the city.

When asked for input on important lands for acquisition and protection, the community agreed that land along existing stream banks be utilized for trails. They were in favor of conservation easements for trails, restricted zoning on undeveloped land deemed a high priority for conservation and / or recreation, collaborations with developers to set aside identified open space and to provide segments of or connections to a trail network.

Regarding funding, the community supports SPLOST-special purpose local option sales tax, general obligation bond / bond referendum and user fees. They were not in favor of a property tax increase as a funding mechanism.

Currently, most respondents do not frequent the parks in the Woodstock area. They agree that the majority of the parks are in fair condition but they do not provide many of the amenities desired. They would like to see more biking trails and walking trails within the parks and also provide a multi-use trail system connection to parks and open spaces.

1. The Greenprints Project Vision

The City of Woodstock's The Greenprints Project is a strategy that unites land use planning with land conservation practices to establish a framework for the creation of a green infrastructure network (parks, trails, and open spaces) for the city's livability and vitality. Green Infrastructure Planning focuses on integrating land protection, development practices, and connectivity. Through this planning process strategies will be outlined for ensuring the preservation, improvement, implementation, and maintenance of Woodstock's unique natural and recreational resources.

Your input in this survey is necessary to assist in meeting the City of Woodstock's Greenprint Project Vision: "A SUSTAINABLE GREENSPACE AND TRAIL NETWORK THAT DEFINES AND ENHANCES THE CITY OF WOODSTOCK'S COMMUNITY, NATURAL AND ECONOMIC RESOURCES FOR ALL GENERATIONS"

Evidence gathered in this survey will inform the Greenprints Project steering committee in assessing the City of Woodstock's existing park and open space level of service for the current residents, as well as in determining the need and proper use of future parks, trails and open spaces (also called a "green infrastructure network") for residents of the City of Woodstock.

2. Provide Feedback for the Future Green Infrastructure Network

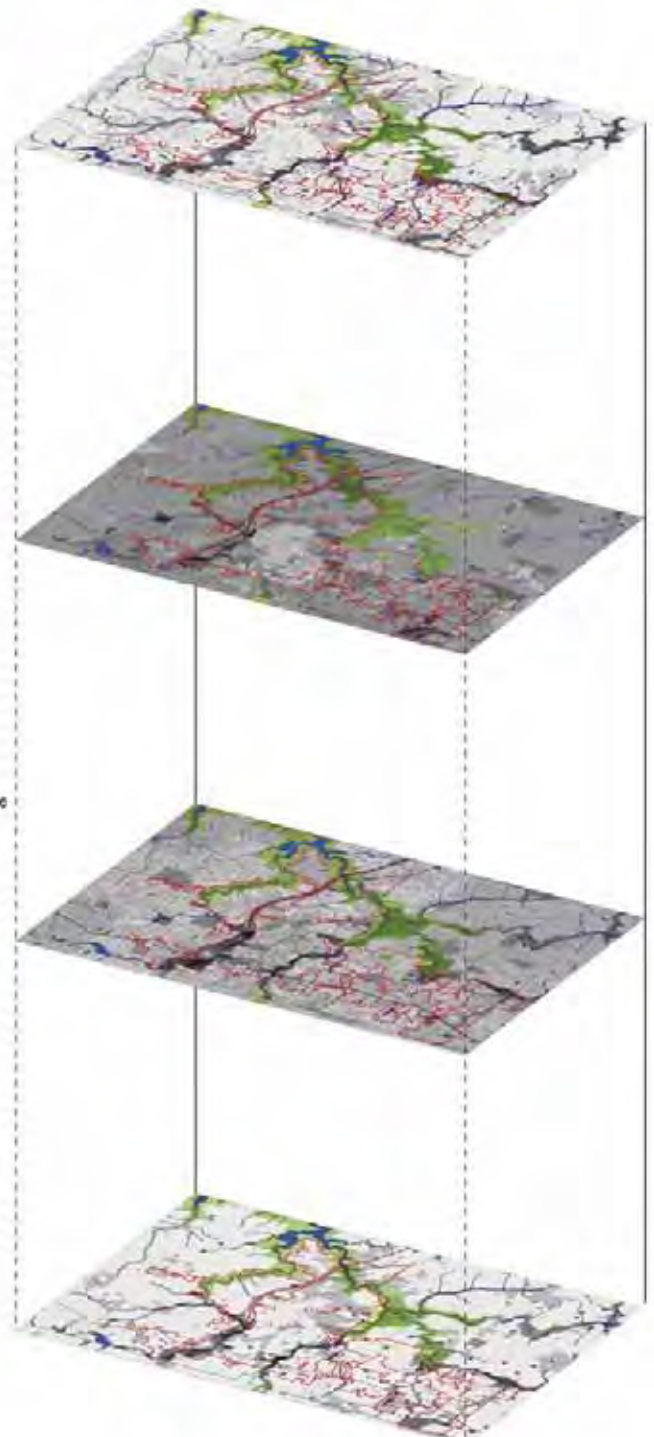
1. Please distribute 30 points among the following Goals, providing more points to the goals that you feel are more important. The Goals were generated by the Greenprint Steering Committee to guide how the Greenprint Vision will be met.

| | |
|--------------------------------|---------------------------------|
| Protect Air and Water Quality: | <input type="text" value="10"/> |
| Enhance Community Health: | <input type="text" value="10"/> |

Fig. 12 - The Greenprints Project - Community Survey

Goal Map Analysis to Establish Community Conservation Priorities

Using both community and resource based analysis allowed for community generated goals and feedback to guide analysis of the city's resources. The first step in mapping the four goals for The Greenprints Project is to establish criteria to represent each goal (shown of pg. 16). The criteria for each goal is analyzed and weighted equally (by percentage), through the use of GIS Spatial Analyst Software, to create the four Goal Maps. These maps represent High Conservation Priority Areas based on each goal with darker shades of gray and Low Conservation Priority Areas with lighter shades of gray. All four of the goal maps are overlaid to create the Composite Conservation Priority Map.

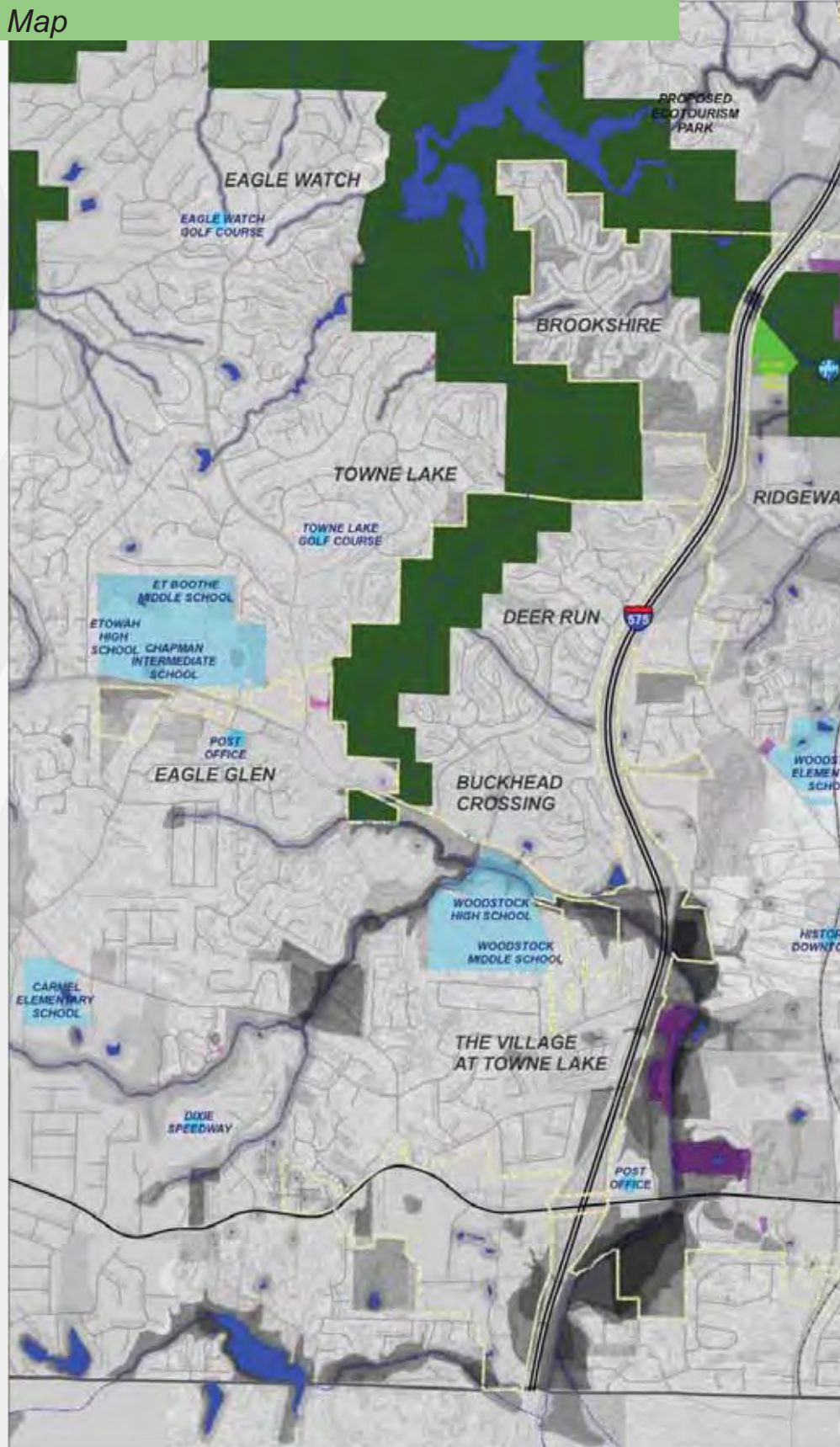


What is the Greenprints Process?

Determine Needs and Priorities

Composite Conservation Priority Map

The Composite Conservation Priority map was created by overlaying the four goal maps and weighting each goal evenly. The Composite Conservation Priority Map establishes locational priorities for land conservation and greenspace. It is used as the base for the Greenprints Proposed Greenspace & Trail Plans to ensure that all goals and criteria are met in the planning process. As displayed in the legend, High Conservation Priority Areas are represented with darker shades of gray and Low Conservation Priority Areas are represented with lighter shades of gray.

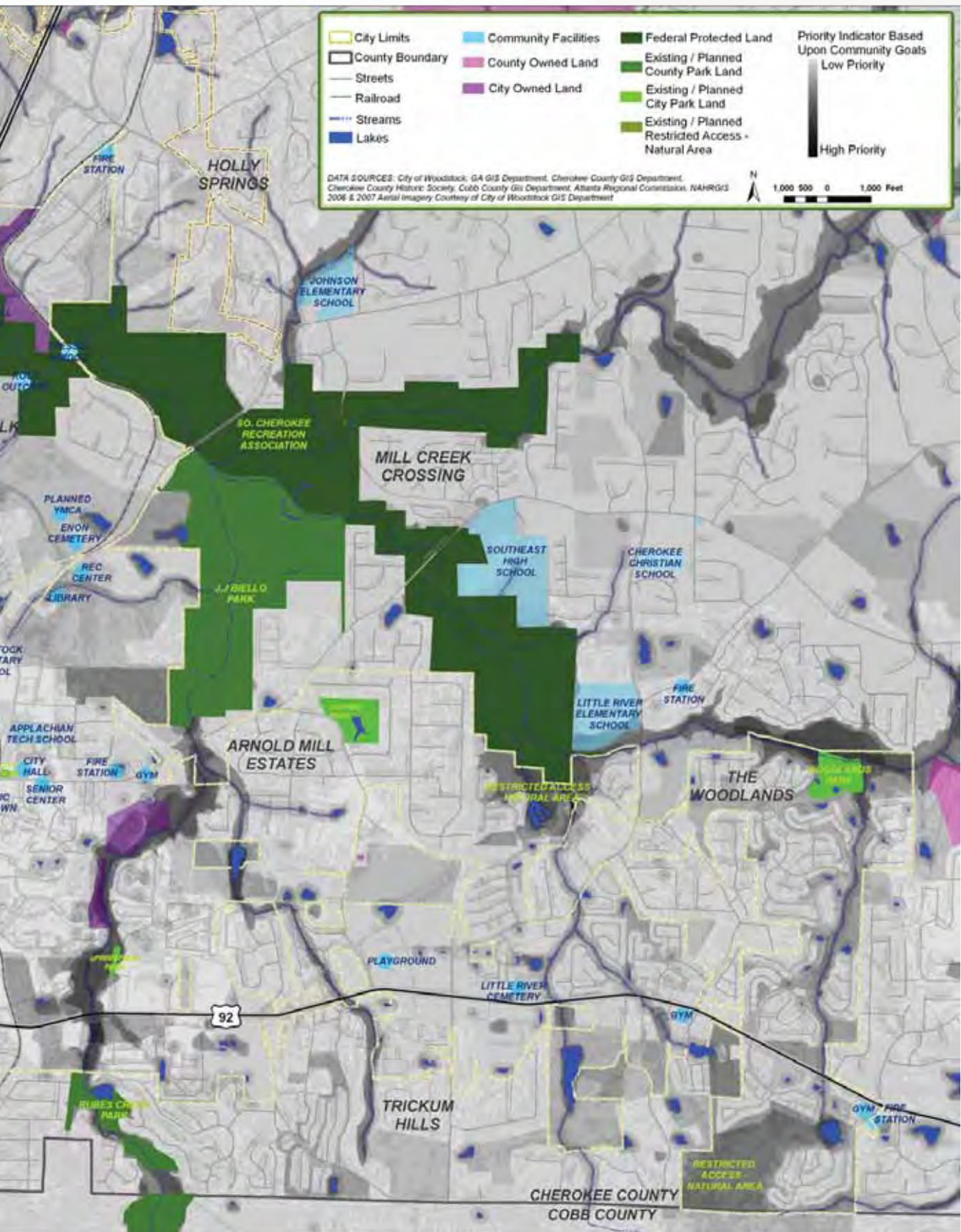


What is the Greenprints Process?

DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Determine Needs and Priorities

Greenspace & Connectivity Priority Matrix

The following matrix takes into consideration existing and programmed greenspaces and trails, population growth, demographics, and National Park and Recreation Association Guidelines in analyzing recommended enhanced service levels to meet the needs of the projected 2030 City population. The recommended types of greenspace and trails are also described. This needs analysis shows deficiencies

| Type | Description | Existing Facilities and Units |
|--|--|---|
| Neighborhood  | 1 to 15 acres, 1/4 mile service area for immediate residences and businesses | Woodstock City Park (1 acre), Rope Mill Park (14.2 acres), Springfield Park (2 acres) |
| Community  | 15 to 150 acres, 1/2 mile service area for several neighborhoods | Dupree Park (24.5 acres) |
| Regional  | Over 150 acres, Serves the overall community and region | J.J. Biello Park, South Cherokee Recreation Association |
| Natural Area  | Over 5 acres, Serves region and may offer habitat protection, wildlife/ habitat viewing and educational programs | Federal Protected Land (480 acres) |
| Corridor  | greenway corridors, linear parks and linkages | N/A |
| Multi-Use Trails  | a recreation corridor intended for the use of non-motorized alternate forms of transportation such as, but not limited to, walking, running, bicycles, and in-line skates. | N/A |
| Specialized Trails  | mountain biking, equestrian, boardwalk, cross-country/ footpaths | N/A |

1. 2030 Population estimate of 61,785 and planned/programed projects taken from Impact Fee Methodology Report by Ross + Associates dated May 9, 2007.

2. Recommended Enhanced Service Level provided by Pros Consulting based upon demographics, values, needs of the community, and experience with similiar communities.

in neighborhood, community, and corridor greenspaces, as well as multi-use and specialized trails. The Federal protected land provides sufficient quantity of natural areas; however, locational needs for the southern portion of the City are deficient. While the Composite Conservation Priority Map provides locational direction for greenspaces, this matrix provides quantity or unit needs for greenspace.

| City Planned/ Programmed Facilities and Units as of 2007 | Total Existing and Planned/ Programmed Units | Recommended Enhanced Service Level | Needs Analysis for 2030 | |
|---|--|------------------------------------|---------------------------------|--|
| | | | Unit Needs | Locational Needs |
| GREENSPACES | | | | |
| N/A | 17.2 acres | 2 acre/ 1,000 persons | DEFICIENT: 106 acres | DEFICIENT: • west of I-575 • north and southwest of downtown • southeast portion of city |
| Woodlands Park (30 acres) | 54.5 acres | 3.5 acres/ 1,000 persons | DEFICIENT: 162 acres | DEFICIENT: • west of I-575 • north and southwest of downtown • southeast portion of city |
| N/A | 523.8 acres | 8 acres/ 1,000 persons | SATISFIED | SATISFIED |
| N/A | 480 acres | 0.2 acre/ 1,000 persons | SATISFIED | DEFICIENT: • southern portion of city |
| N/A | N/A | 0.4 miles/ 1,000 persons | DEFICIENT: 25 miles | DEFICIENT: • southern portion of city |
| CONNECTIVITY | | | | |
| Off Road: Rope Mill Trail (.5 miles), Arnold Mill Extension (1.3 miles), Ridgewalk Parkway (.8 miles), Dupree Road (1.6 miles) On Road: Town Lake Parkway (1 miles), Rope Mill (1.1 miles) | 6.3 miles | 0.4 miles/ 1,000 persons | DEFICIENT: 18.7 miles | DEFICIENT: • entire city |
| N/A | N/A | minimum 5 miles | DEFICIENT: 5 miles | DEFICIENT: • within key greenspaces |

3. The unit needs provided in the Recommended Enhanced Service Level exceeds those provided in the Impact Fee Methodology Report in order to improve the level of service by 2030.

4. Photos by Ecos, PATH Foundation, Georgia Department of Natural Resources, www.kyspeaks.com, www.flickr.com, www.leics.gov.uk, and others.

What is the Greenprints Process?

Develop the Greenprints Plan

Regional Connectivity Plan

The Regional Connectivity Plan was created by analyzing opportunities for the Woodstock Trail System to connect to surrounding trail systems, whether complete or proposed. The municipalities analyzed were within a 20 mile radius of Woodstock and consisted of six cities and seven counties. The desire for regional connectivity is strong and currently being lead by members of a Recreational Summit Committee within the region.



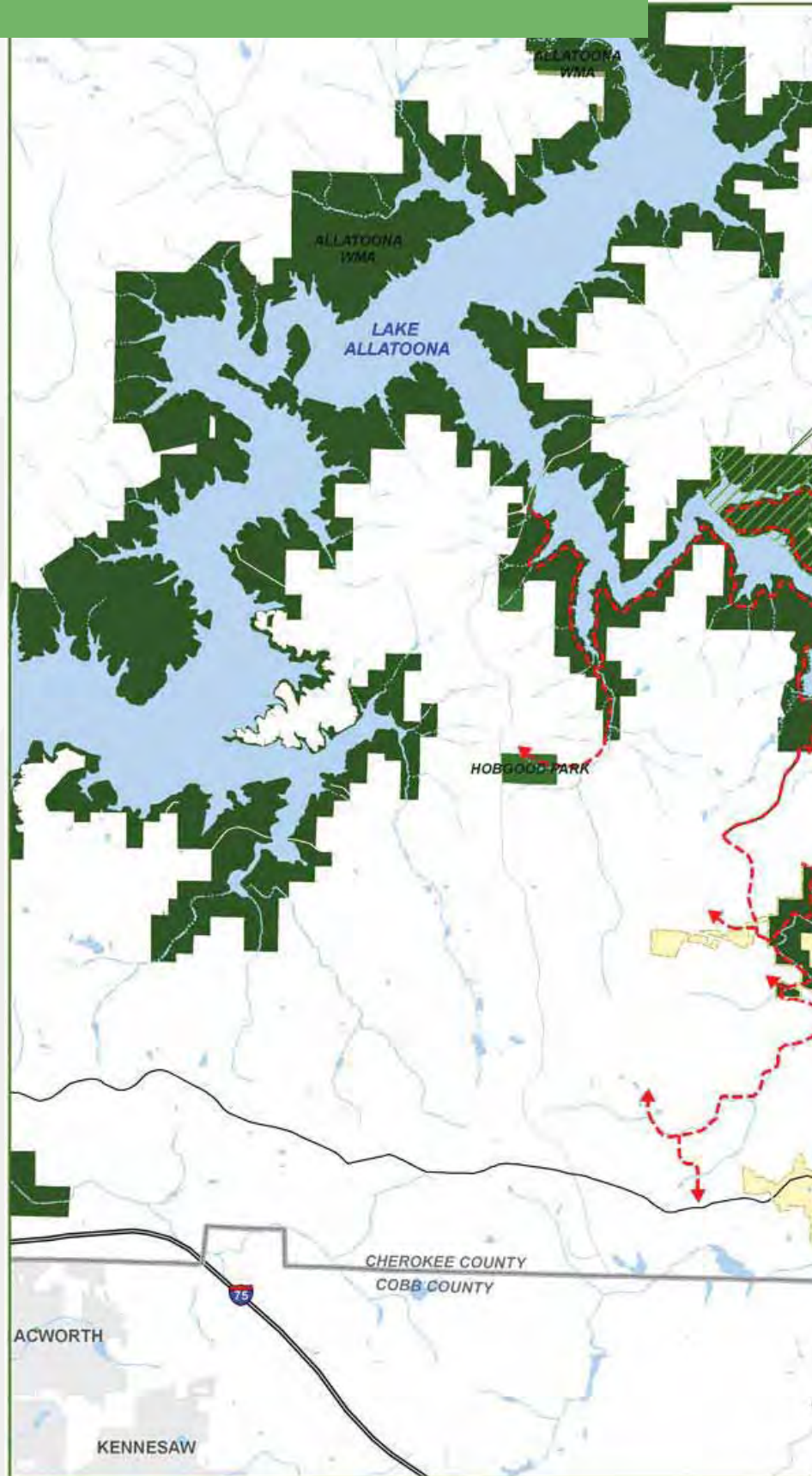
Fig. 13 - Blankets Creek Trail Head, Cherokee Co.
Courtesy of Flickr - Enobi Stills



Fig. 14 - Sweat Mountain, Cobb Co.
Courtesy of Flickr - Eric Tart



Fig. 15 - Leita Thompson Memorial Park, Fulton Co.
Courtesy of Blogspot - moonbunnyhikes



DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA

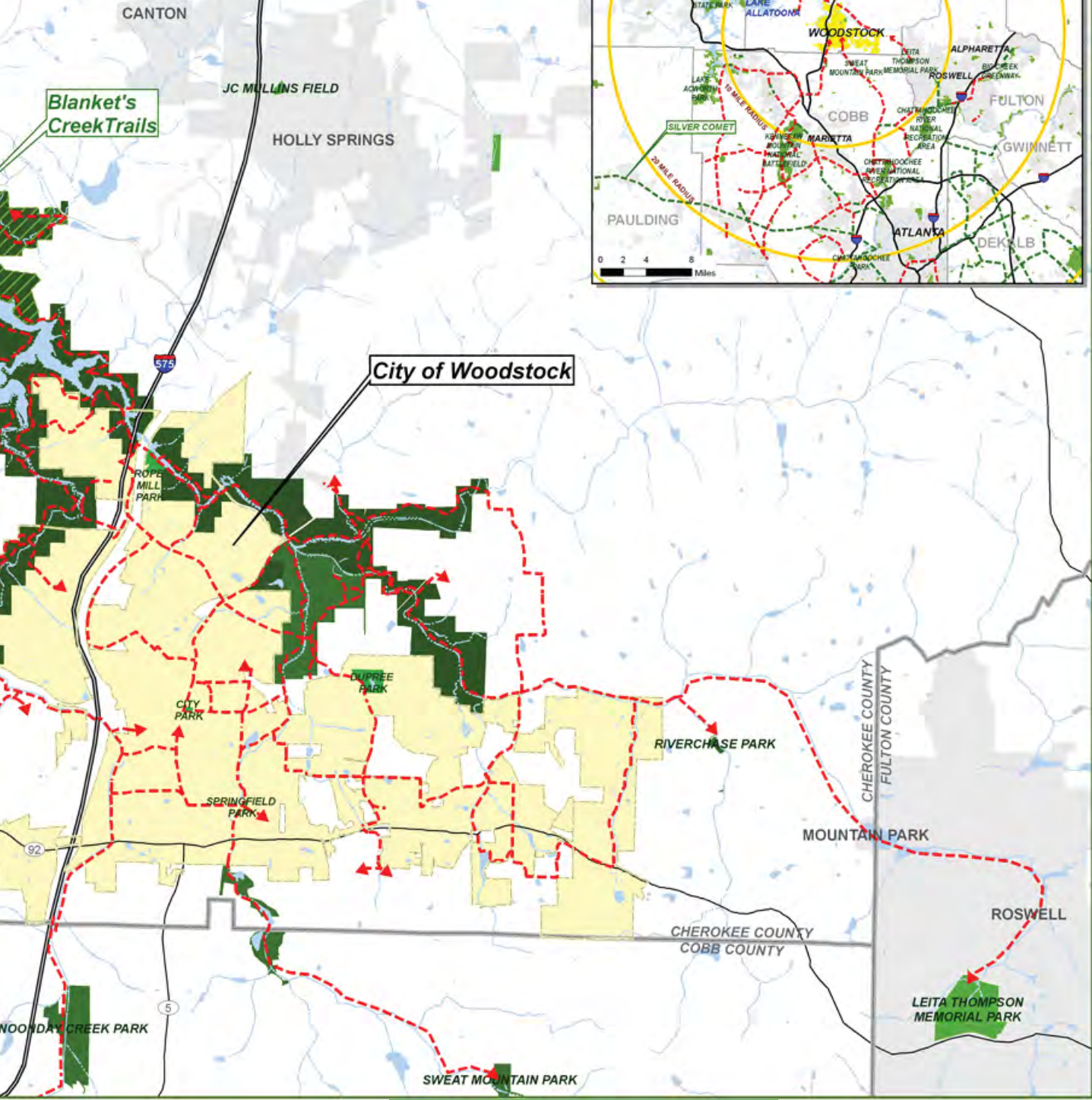
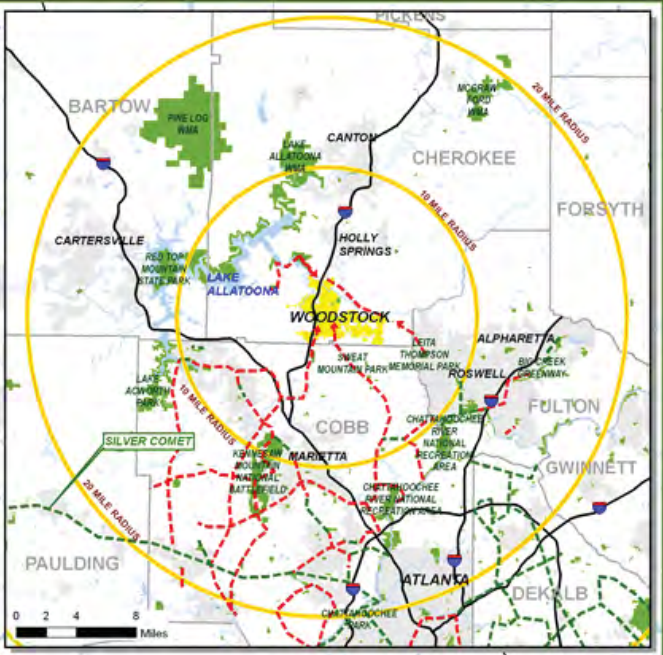
What is the Greenprints Process?

DRAFT REGIONAL CONNECTIVITY - LEGEND - 04.01.2008

| | | |
|-------------------|------------------------|--------------------------|
| City of Woodstock | Federal Protected Land | Existing Trail |
| County Boundary | State Managed Land | Planned / Proposed Trail |
| City | County Park Land | |
| Interstate | City Park Land | |
| Streams | Proximity Radius | |
| Lakes | | |

DATA SOURCES: City of Woodstock, GA GIS Department, Cherokee County, GIS Department, Cobb County, GIS Department, Atlanta Regional Commission, Georgia Dept of Current Affairs, State Base Map of Georgia, Fulton County & ESRI.

Scale: 0 1,000 2,000 Feet



DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

What is the Greenprints Process?

Develop the Greenprint Plan

Greenprints Plan

The Greenprints Plan provides a comprehensive network of greenspaces and trails to meet the vision, goals, and criteria established by the Greenprint Committee and community. The Plan strives to overcome the barriers created by Interstate 575 and Highway 92 to provide walkability and connectivity to neighborhoods, community facilities, parks, and the historic downtown. Please refer to the Proposed Greenspace and Proposed Connectivity Plans for more detail concerning the variety and types of greenspaces and trails.

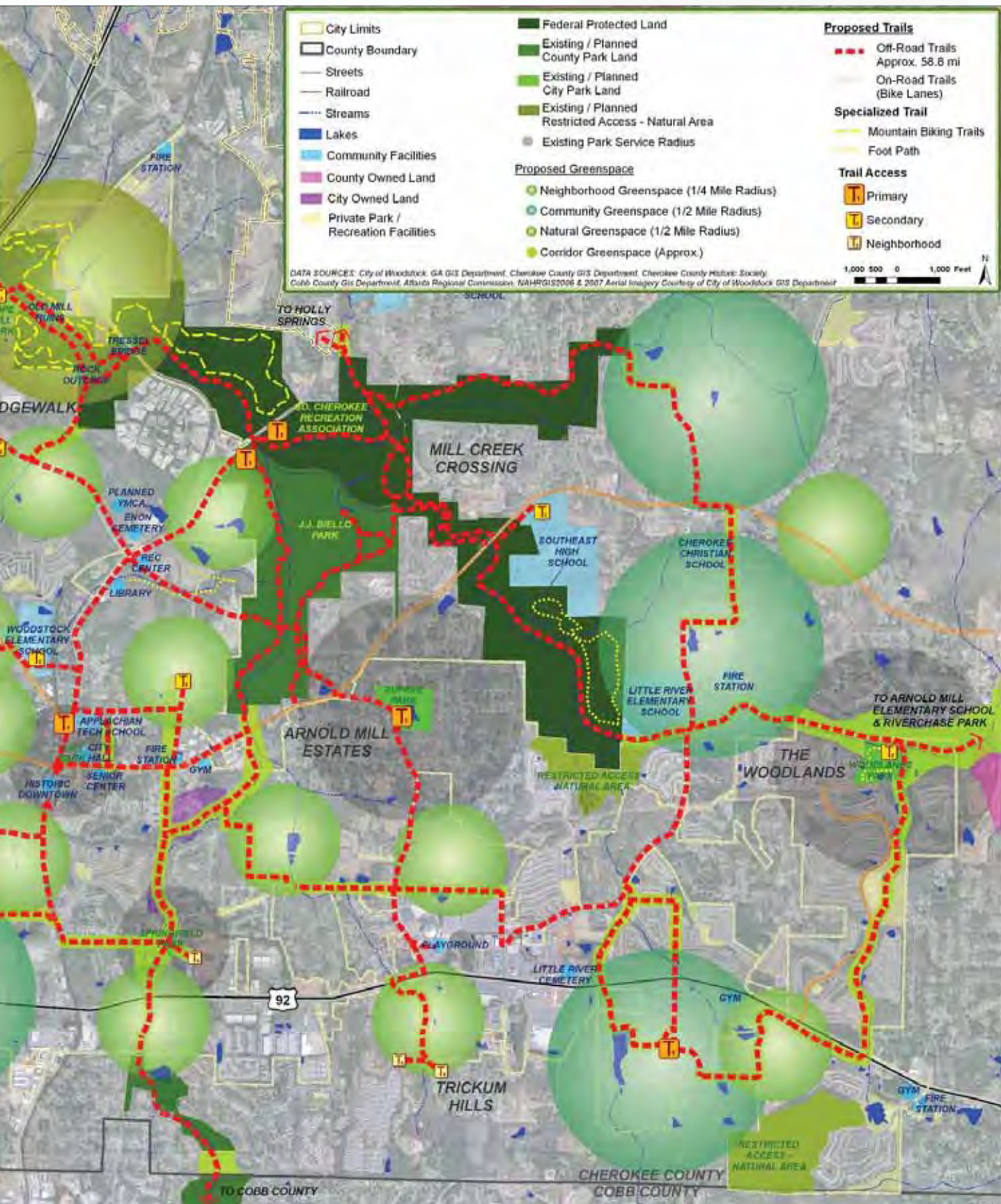


DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA

What is the Greenprints Process?



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Develop the Greenprint Plan

Greenprints Plan - Proposed Greenspace

Proposed greenspaces encompass high priority conservation areas and are located to provide walkable access for current and future residents. The proposed parks are illustrated on The Greenprints Plan based upon the walkable service area (1/4 to 1/2 mile), which increases with the scale of the proposed park space. Corridor greenspaces encompass trailways and riparian corridors. The following are the greenspace types with corresponding imagery illustrated on The Greenprints Plan.



Fig. 16 - Neighborhood Greenspace
Courtesy of: Ecos



Fig. 17 - Community Greenspace
Courtesy of: others



Fig. 18 - Natural Greenspace
Courtesy of: Ecos



Fig. 19 - Corridor Greenspace
Courtesy of: others

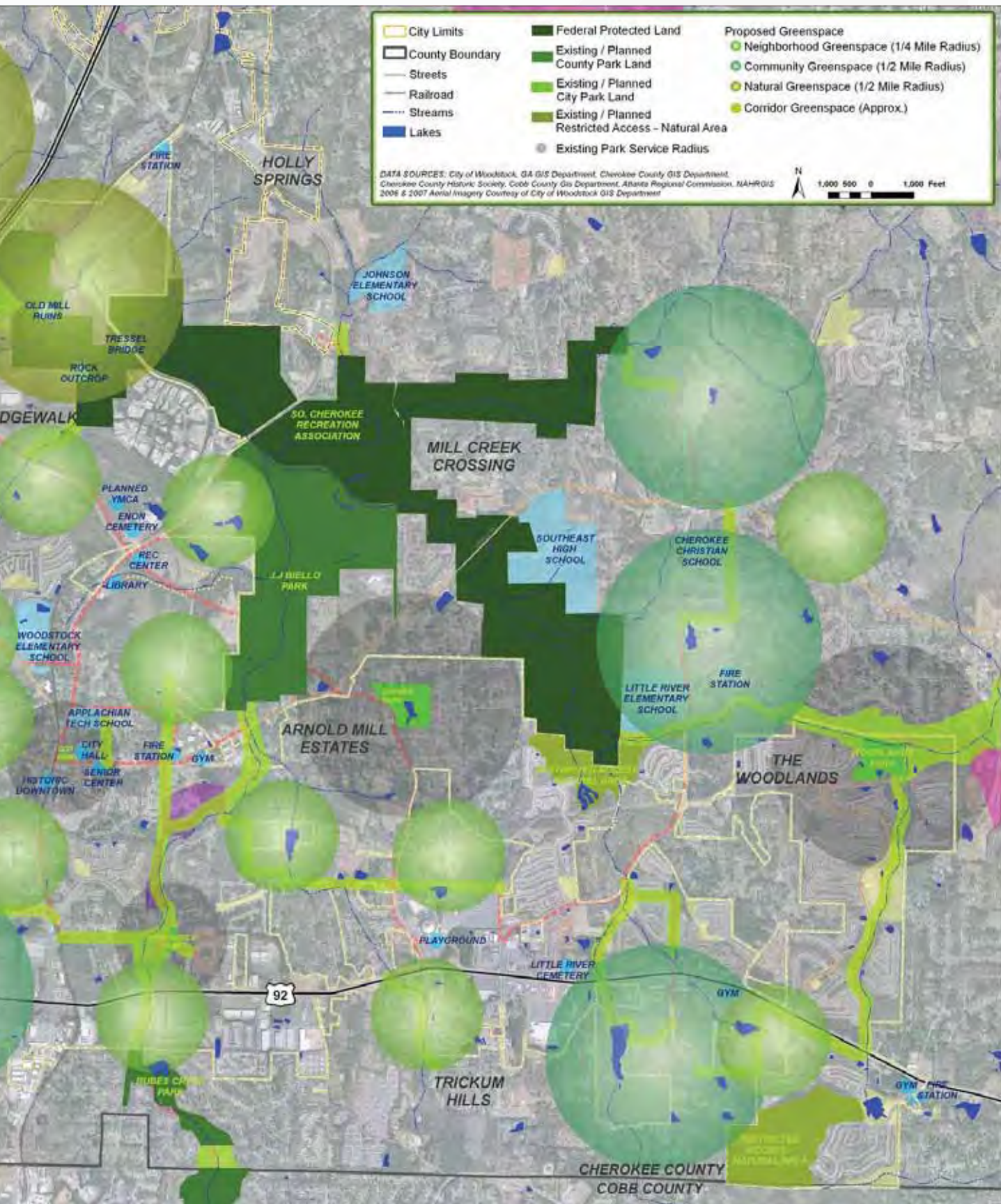


What is the Greenprints Process?

DETERMINE BENEFITS & TRENDS

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ESTABLISH VISION, GOALS & CRITERIA



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Greenprints Plan - Proposed Greenspaces

Greenspace Typology

The *Greenspace Typology* section describes the specific park types based on national standards. This section details size, location, function and facilities for each park type. Additional Greenspace Programming Standards are located in the Implementation, Management and Maintenance section.

Neighborhood Park

- **Description**
 - Neighborhood parks serve a variety of age groups within a limited area or “neighborhood.” It should accommodate neighborhood interest and preferences and provide a recreation area within a walkable distance of a residential area.
- **Typical Features**
 - Passive Recreation:
 - Multi use trails, picnicking, viewing areas, etc...
 - Active Recreation:
 - Paved area for court games, athletic fields, picnic areas, natural or landscaped areas, playground equipment, water play, etc...
 - Multi-Use trails are permitted throughout neighborhood parks.
- **Space / Design & Service Area**
 - ¼ mile service area for immediate residences and businesses
 - 15 minute walk
 - Approximately 5,000 persons.
 - Suitable sizes for future park development ranges from 1 to 15 acres
- **Representative City Park**
 - Woodstock City Park (1 acre)
 - Rope Mill Park (14.2 acres)
 - Springfield Park (2 acres)

Community Park

- **Description**
 - Community parks are larger than neighborhood parks and serve several neighborhoods.
 - Should provide diverse recreational opportunities as well as accommodate social, cultural, educational and physical activities of particular interest to the community. Multi-purpose, year round, day/night activities; low level competitive sports with limited spectator space.
- **Typical Features**
 - Passive Recreation:
 - Opportunities such as walking, viewing, sitting and picnicking with small to medium sized shelters, water fountains, benches, etc.
 - Active Recreation:
 - May include areas for intense recreation activity such as competitive sports, swimming, tennis, track and field, volleyball, etc.
 - Multi-Use trails, playgrounds, recreation center
 - Amenities:
 - indoor recreation facilities, special use facilities, meeting rooms and library
 - Lighting, vehicular accessibility, parking and restrooms are provided.
 - Facilities are designed to support revenue generation.
 - Multi-Use trails are permitted throughout community parks.
- **Space / Design & Service Area**
 - 1/2 mile service area for several neighborhoods
 - Suitable sizes range from 15 to 150 acres
 - serve several neighborhoods or 15,000 to 25,000 people
 - accessible by walking, cycling and public transit
- **Representative City Park**

- Dupree Park (24.5 acres)
- (Planned) Woodlands Park (30 acres)

Natural Area

• Description

- Natural areas can be stand-alone or within another park type and offer a significant ecological function or structure and include wetlands, waterways and rare habitat areas.
- Generally these are high quality, undisturbed areas which include remnant natural areas and/or have overall restoration potential.

• Typical Features

- Passive Recreation:
 - Recreation use is limited to passive recreation such as wildlife and habitat viewing, environmental education programs and demonstration programs.
 - Multi Multi-Use trails are permitted throughout natural areas.
- Active Recreation:
 - Potential multi-use trail connection to the area.
- Amenities:
 - Education Center, Nature Center, restrooms and parking are optional.
 - Multi-Use trails are permitted throughout natural areas.

• Space / Design & Service Area

- Suitable size or acreage must be sufficient to protect the resource and provide for appropriate usage and buffering to minimize potential off-site impacts and should include linkages and connective corridors.
- Over 5 acres serves region and may offer habitat protection, wildlife/ habitat viewing and educational programs

• Representative City Park

- Federal Protected Land (480 acres)

Corridor Greenspace

• Description

- Corridor parks include greenway corridors, linear parks and linkages, serving as connections or natural corridors that link parks together and promote safe movement. Typically, the linear park is developed for one or more modes of recreational travel.
- Corridors function as human and wildlife connectors.
- When corridors are along a waterbody, they provide opportunities to enhance water quality as well as retain and preserve existing stream buffers.

• Typical Features

- Passive Recreation:
 - walking, jogging, hiking
- Active Recreation:
 - road biking, mountain biking, inline skating and horseback riding.
- Amenities:
 - Trailheads, signage (directional & interpretive), restrooms and parking are optional.
 - Multi-Use trails are permitted throughout corridor greenspaces.

• Space / Design & Service Area

- Should be sufficient to protect the resource and provide maximum usage with appropriate connections. These spaces are unique to the local conditions
- At narrow areas, building should front the corridor greenspace. At wider areas, buildings may back onto it.
- Where privacy is desired, screening should be provided at rear yards.
- Landscaping for corridor greenways should be appropriate for the location of the greenway; native plants are recommended for naturalization and drought tolerance.
- Urban corridors should have more formal landscaping while corridors through a natural area would have more natural landscaping.

• Representative City Park : NA

Develop the Greenprint Plan

Greenprints Plan - Proposed Connectivity

The proposed connectivity map identifies off-road multi-use trail, on-road bike lanes, and specialized trail routes. With sixty miles of off-road trails mapped, the Woodstock Trail System was divided into seventeen trail segments based on logical beginning/ending destinations. A three tiered hierarchy was defined for implementation of the trail segments – high, medium, and low. Six trail segments were defined high priority based on support and interest of the trail segment from the community, limited number of private property owners along the trail segment, and their ease of construction. A three tiered hierarchy was also defined for the trailheads. T1 trailheads main features include parking and facilities along with access to the trail. T2 trailheads main features include parking and would, when possible, be shared parking with existing facilities such as schools. T3 trailheads would be simple in nature, providing signage only at the beginning of the trail. For detailed trailhead information, refer to the Trail Model Standards. The following are the trail types with corresponding imagery.



Fig. 20 - Off-Road Multi-Use Trail
Courtesy of: others



Fig. 21 - On-Road Bike Lane
Courtesy of: walkablestreets.com



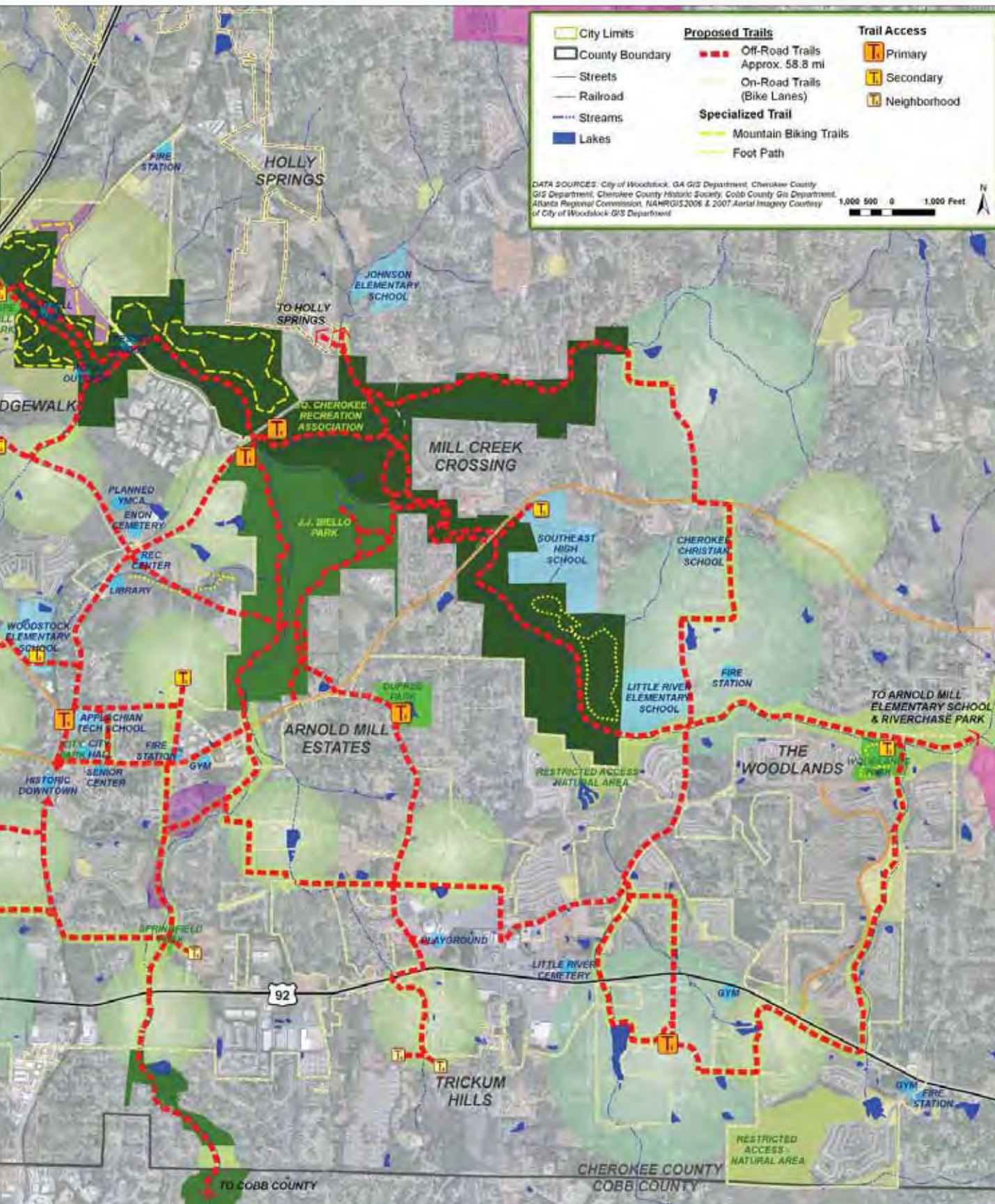
Fig. 22 - Specialized Trail
Courtesy of: others



DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Greenprints Plan - Proposed Connectivity

Introduction to Proposed Trail Segments

Description of Woodstock's Trail System

The City of Woodstock's Trail System has been developed to preserve greenspace, provide opportunities to experience natural areas, and to allow for alternate means of transportation and recreation between various points of interest. With the trail system in place, Woodstock will have an extraordinary asset for the community and visitors to enjoy. All trail segments identified take advantage of the greenspace and recreation opportunities existing and proposed for the City of Woodstock. It is the wish of those involved with this plan for every trail segment to provide an enjoyable experience for the trail user.

The trail system will connect city parks and county parks, proposed greenspace and community facilities; provide access to downtown Woodstock's many amenities, Little River, Noonday Creek, and Rubes Creek. The resulting trail system will connect regionally to Blanket's Creek, Riverchase Park, Leita Thompson Park and Sweat Mountain Park.

Cost Analysis

A preliminary cost estimate to build each segment of the trail system is included within the individual trail segment descriptions. The estimates are based on unit costs to construct similar trails during 2007. These estimates do not include costs associated with acquisition. The following unit costs for major cost components were used to compile the estimates:

| <u>Cost Component</u> | <u>Estimated Cost Per Unit Shown</u> |
|--|--------------------------------------|
| Preconstruction (design/engineering, etc.) Non Federal | \$15.00 per linear foot |
| Preconstruction (design/engineering, etc.) Federal..... | \$30.00 per linear foot |
| Concrete Trail..... | \$7.00 per square foot |
| Bridges (metal)..... | \$1,000.00 per linear foot |
| Bridges (timber)..... | \$850.00 per linear foot |
| Culvert Crossings | \$2,500.00 per crossing |
| Boardwalk..... | \$300.00 per linear foot |
| Rest Areas | \$3,500.00 each |
| Primary Trail Access Areas..... | \$50,000 to 150,000 each |
| Pedestrian Activated Signal / At-grade Crossing | \$25,000 to 30,000 each |
| Signs..... | \$800.00 each |
| Trash Receptacles..... | \$250.00 each |
| Benches..... | \$400.00 each |
| Landscaping, seeding and strawing | \$6.00 per linear foot |
| Contingency..... | \$5.00 per linear foot |

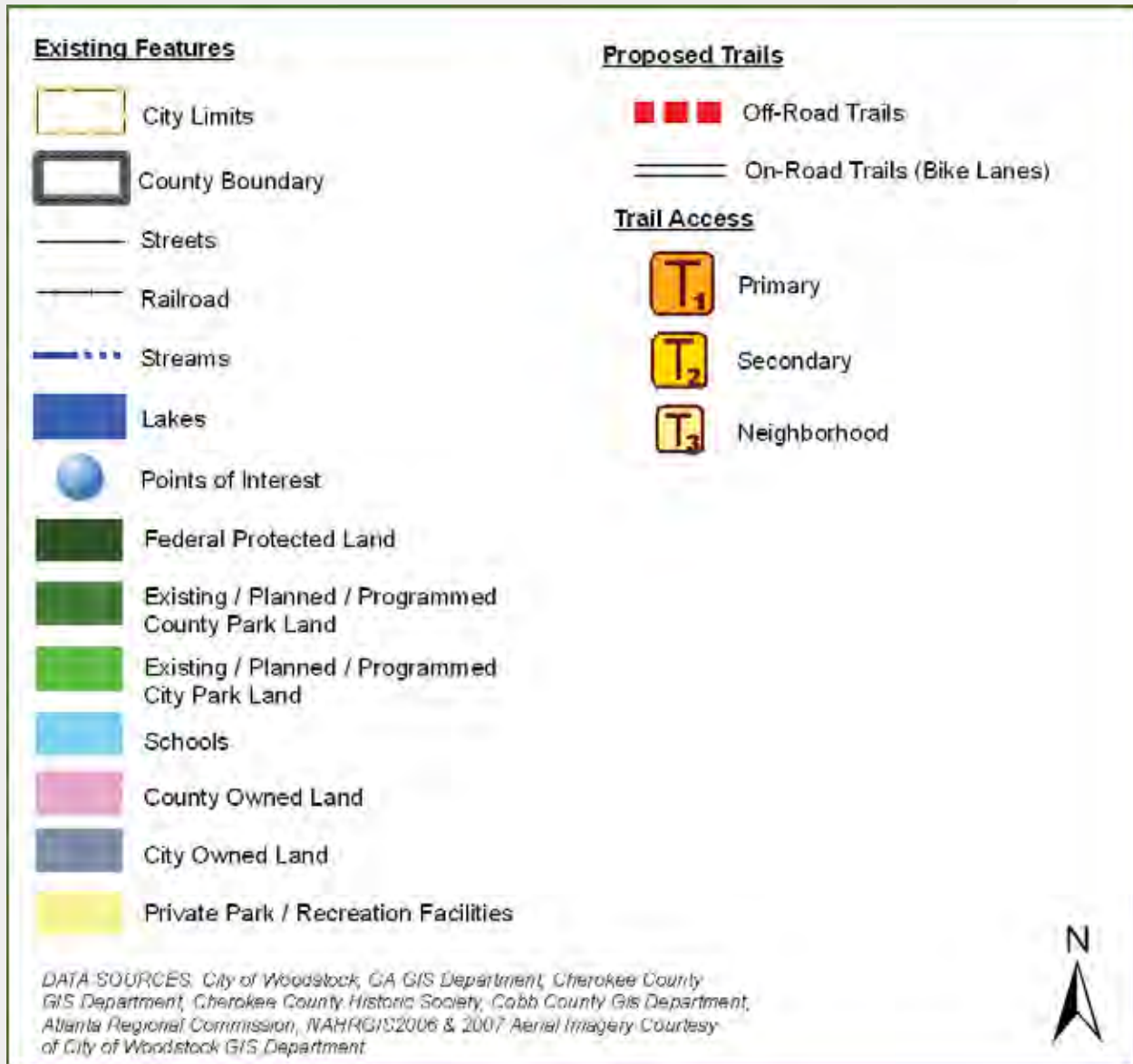
Details regarding the materials and specifications used to compile these estimates are included under Model Design Standards.

The unit costs above represent an average cost. Culverts vary in length, bridges vary in width, and amenities vary at rest areas. This data is presented in order to form preliminary estimates for the purpose of prioritizing implementation and fundraising. The cost of each trail segment may vary significantly from the data presented as planning and design progress.

Individual Trail Maps

Individual trail segments for the Woodstock Greenprints Trail System are presented on the following pages organized by the level of implementation priority. Below is the legend used for all trail maps.

Greenprints Plan - Proposed Connectivity Legend



Proposed Connectivity - High Priority

Downtown Depot Greenway

Starting in the historic district of Woodstock, the Downtown Depot Greenway will run parallel to the Georgia Northeastern Railroad south along Main Street to Serenade Lane. Once it crosses Serenade Lane the trail will travel east, crossing Rubes Creek into Springfield Park. The trail will become a boardwalk through the wetland area at Springfield Park. A spur trail will connect the trail segment to the adjacent neighborhood east from Springfield Park and a neighborhood trail access area will be located at the end of the spur trail.

While within Springfield Park, the trail will be within the floodplain of Rubes Creek and a boardwalk should be considered. From Springfield Park the trail will travel north and will cross Rubes Creek for a second time. Running parallel to the west side of Rubes Creek, the trail will continue north along the Woodstock Water Treatment Facility property and within the existing utility easement to Arnold Mill Road.

Traveling east-west along Arnold Mill Road, the trail will be adjacent to the north side of the road from Woodstock City Park at Main Street to the crossing of Arnold Mill Road and Rubes Creek. At this point the trail segment will connect to the Bridget Hammond Trail within J.J. Biello Park to the north and to the Dupree Park Connector Trail segment to the south.

- **Links:** Woodstock City Park to Springfield Park
- **Points of Interest:** Downtown Woodstock, Woodstock City Park, City Hall, Woodstock Senior Center, Downtown Core Restaurants and Shopping, Georgia Northeastern Railroad, Springfield Park, and Rubes Creek
- **Approximate Length:** 2.9 miles
- **Estimated Cost (not including acquisition):** \$1,843,520.00
- **Trail Amenities:** two bridges, +/-1500 linear feet of boardwalk, three rest areas, and one neighborhood trail access area
- **Comments:** The railroad right-of-way width needs to be determined in order to identify land acquisition needs from Fowler Street to Springfield Park. Assessment of the flood plain elevations at Springfield Park will need to be conducted in order to determine extent of boardwalks and bridges.



Fig. 23 - Railroad Corridor Adjacent to Main Street
Courtesy of: Ecos

Fig. 24 - Historic Downtown
Courtesy of: Ecos

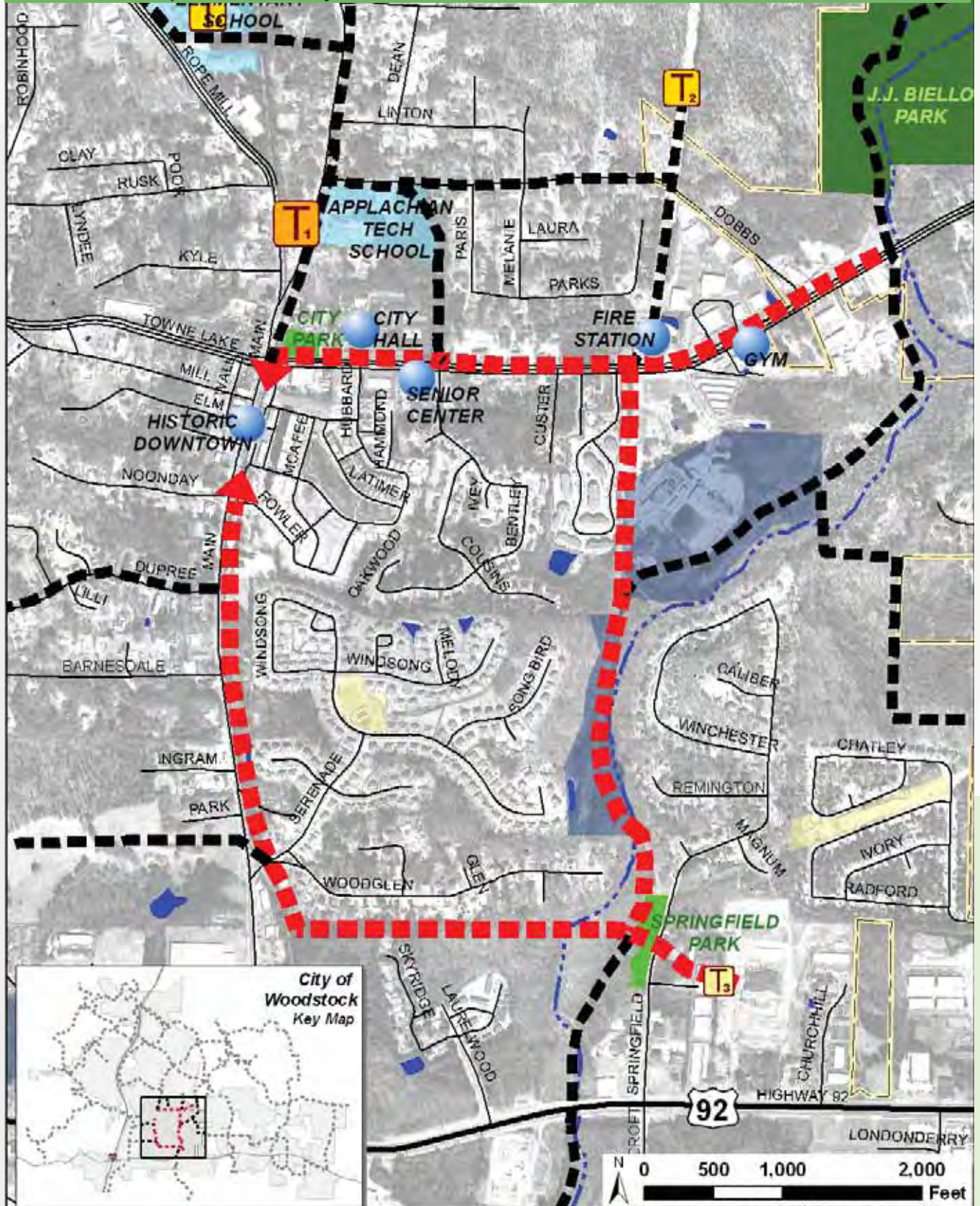
Fig. 25 - Woodstock City Park
Courtesy of: Ecos

DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA

Downtown Depot Greenway



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity - High Priority

Towne Lake Pass

The Towne Lake Pass will parallel the north side of Dupree Road from Main Street to Noonday Creek where it will follow Noonday Creek along the sewer easement and cross under I-575. A secondary trail access area will be located off Dupree Road at Noonday Creek. A spur trail segment will be located off Noonday Creek and connect to the proposed development at Elm Street, providing neighborhood access.

Once under I-575, the trail will bridge across Noonday Creek and will running parallel with Towne Lake Parkway on the south side of the creek, the trail will cross under Stonebridge Parkway as it follows the existing sewer easement along Noonday Creek and will follow the creek as it goes under Towne Lake Parkway. A spur trail will provide a connection to a secondary trail access at Legacy Walk and Towne Lake Hills Drive on the south side of Towne Lake Parkway.

As the trail crosses under Towne Lake Parkway, it will parallel the west side of Noonday Creek and end at a secondary trail access point at Towne Lake Parkway. At this point the trail segment will connect to the Noonday Creek Trail that runs between the Towne Lake, Deer Run and Brookshire neighborhoods.

- **Links:** Historic Downtown to Towne Lake
- **Points of Interest:** Noonday Creek, Woodstock High and Middle Schools
- **Approximate Length:** 3.23 miles
- **Estimated Cost (not including acquisition):** \$1,568,124.00
- **Trail Amenities:** two neighborhood access areas, one secondary trailhead, two bridges over Noonday Creek, and four rest areas
- **Comments:** This trail segment offers a great opportunity to provide access and enjoyment of the natural area along Noonday Creek which is currently not accessible. The trail route will take advantage of the existing cleared sewer easement along Noonday Creek.



Fig. 26 - Sewer Easement along Noonday Creek
Courtesy of: Ecos

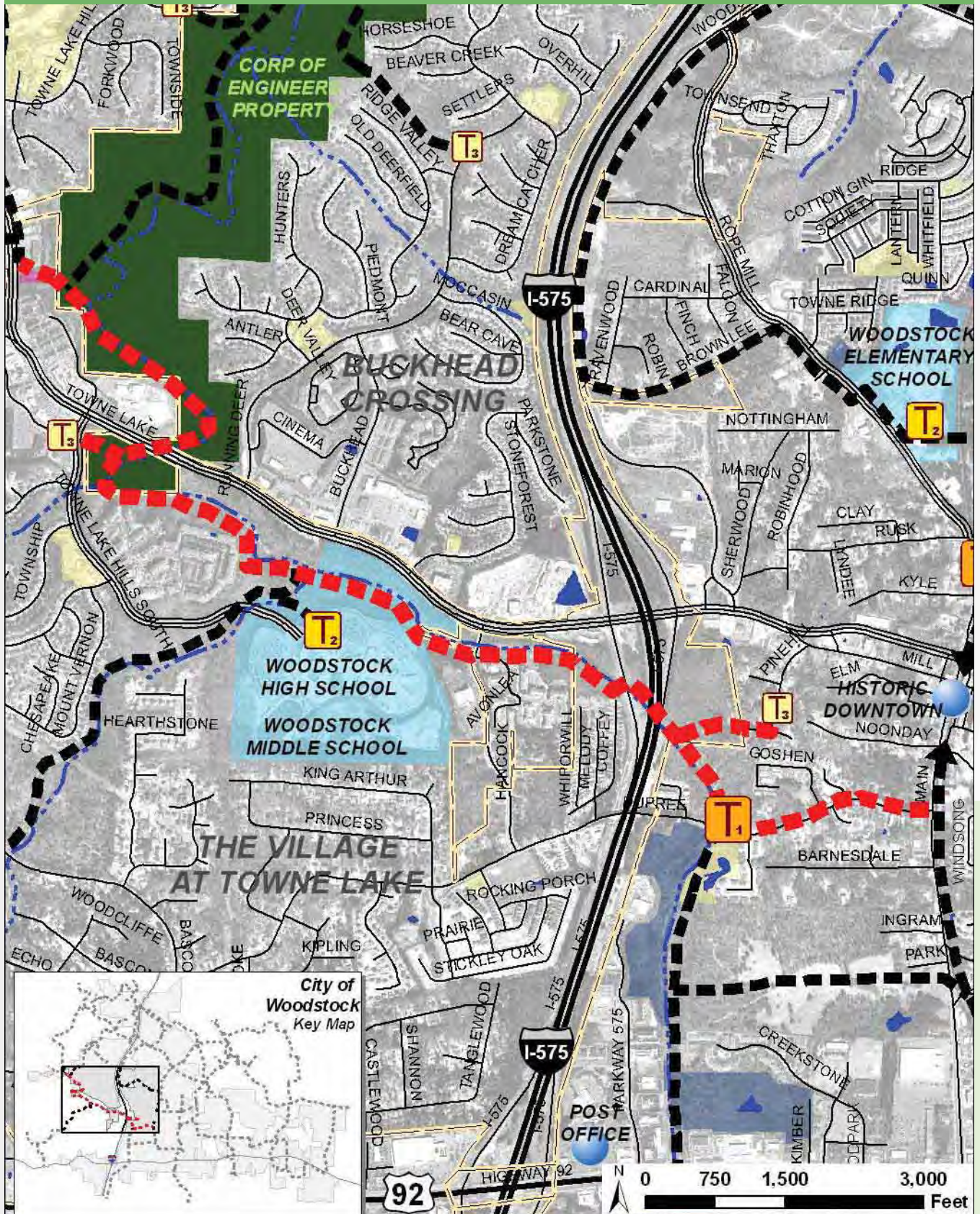


Fig. 27 - Woodstock High School
Courtesy of: Flickr / Kendrick Shackelford



Fig. 28 - I-575 Bridge over Noonday Creek
Courtesy of: Ecos

Towne Lake Pass



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity - High Priority

Old Rope Mill Trail

Beginning at Main Street and Linton Street, the Old Rope Mill Trail will run west from Main Street to Rope Mill Road by bridging over the Georgia Northeastern Railroad track along the southern boundary of the Woodstock Elementary School property. Once the trail reaches Rope Mill Road, it will parallel the road on the east side to the entrance of the school and will have an at-grade crossing of Rope Mill Road where it will parallel the west side of the road and travel north to Brownlee Road. Brownlee Road will be used for the trail and will connect the trail from Rope Mill Road to Woodstock Parkway.

The trail will parallel the east side of Woodstock Parkway from Brownlee Road to Ridgewalk Parkway where it will cross and follow Ridgewalk over I-575 to the Brookshire Neighborhood. A secondary trail access area will be located at the intersection of Woodstock Parkway and Ridgewalk within the new mixed use neighborhood. An interchange is proposed for Ridgewalk and I-575. The design of the interchange will need to incorporate a safe crossing of the interchange for the trail.

- **Links:** Main Street to Woodstock Elementary School to the Brookshire Neighborhood
- **Points of Interest:** Brownlee Road, Georgia Northeastern Railroad, Woodstock Elementary School
- **Approximate Length:** 2.52 miles
- **Estimated Cost (not including acquisition):** \$1,267,976.00
- **Trail Amenities:** one secondary trailhead, one at grade crossing (pedestrian activated signal), one bridge over the railroad, and three rest areas
- **Comments:** This trail segment is part of the connection from Historic Downtown to Blankets Creek.



Fig. 29 - Georgia Northeastern Railroad
Courtesy of: Ecos

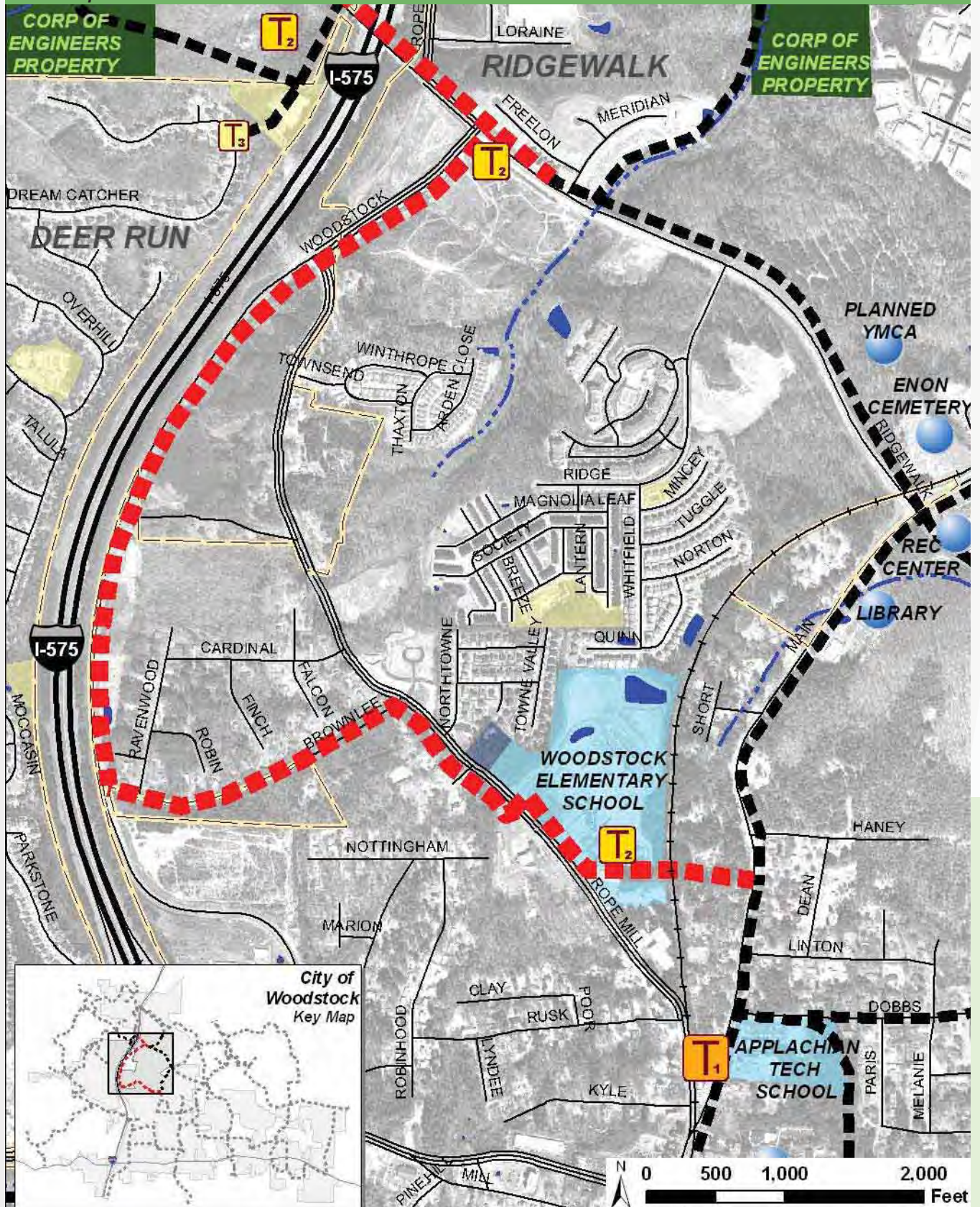


Fig. 30 - Brownlee Rd. connection between Rope Mill Rd. & Woodstock Pkwy.
Courtesy of: Ecos



Fig. 31 - Woodstock Elementary School
Courtesy of: Cherokee County

Old Rope Mill Trail



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity - High Priority

River Run Trail

With a spur trail to a neighborhood trail access area at Deer Run's Field of Dreams, the River Run Trail runs along Ashland Parkway on the west side of I-575 connecting the Deer Run and Brookshire neighborhoods and the Army Corp. of Engineer's property along the Little River to Olde Rope Mill Park.

The trail stays primarily on the southwest side of the Little River and will bridge across the river to allow for a connector trail spur to the existing Blankets Creek Trail system along Lake Allatoona. A connection under I-575 along an existing roadbed will allow connection to Olde Rope Mill Park.

- **Links:** Deer Run and Brookshire neighborhoods to Blankets Creek's Mountain Biking Trails
- **Points of Interest:** Field of Dreams Park, Little River, Olde Rope Mill Park, and the Army Corp. of Engineer's property
- **Approximate Length:** 2.17 miles
- **Estimated Cost (not including acquisition):** \$1,249,396.00
- **Trail Amenities:** three neighborhood access areas, one bridge over the Little River, one bridge over a tributary to the river, one at grade crossing (pedestrian activated signal), and three rest areas
- **Comments:** This trail segment is part of the connection from Historic Downtown to Blankets Creek.



Fig. 32 - Existing Road through the Corp of Engineers Property
Courtesy of: Ecos

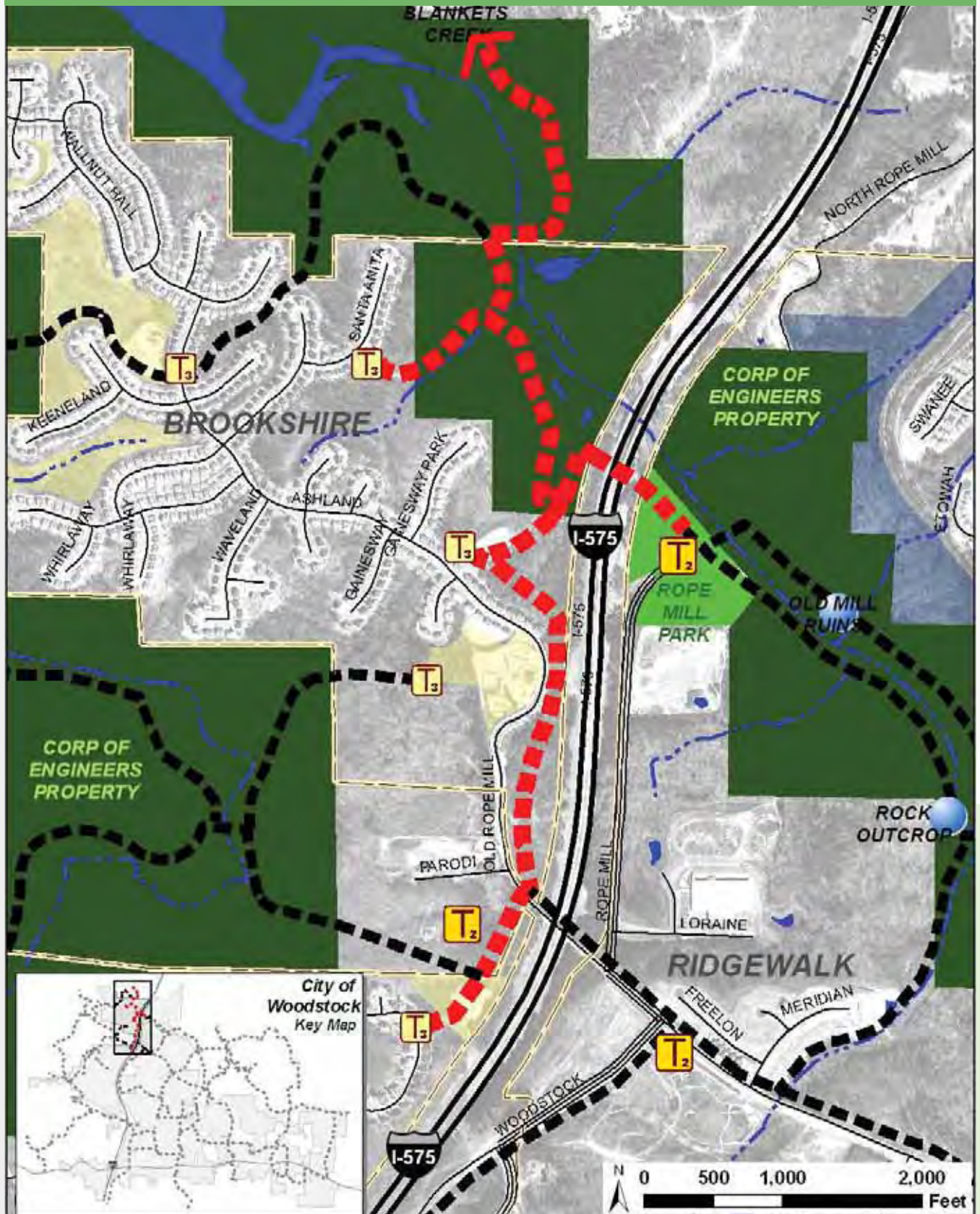


Fig. 33 - Blankets Creek Trail
Courtesy of: www.sorbawoodstock.org



Fig. 34 - Existing Access for Trail under I-575
Courtesy of: Ecos

River Run Trail



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity - High Priority

Trestle Rock Trail

The Trestle Rock Trail will connect the existing and proposed trails within Olde Rope Mill Park and will utilize the existing parking area as a secondary trail access area. A portion of the trail is already under construction within Olde Rope Mill Park and will include the Taylor Randall Mountain Biking Trail. Interpretive opportunities exist along the trail at the old mill ruins and the rock outcrops. The trail will be located along the Army Corp of Engineers' Property as it travels along both sides of the Little River between Olde Rope Mill Park and the Georgia Northeastern Railroad Trestle Bridge.

As the trail passes under the existing railroad trestle, it will bridge over the Little River and intersect to travel northwest back along the Little River and southeast towards Old Highway 5 and J.J. Biello Park. A spur trail connection will branch off of the trail segment from a rock outcrop area along an existing sewer easement to Ridgewalk. The spur trail will connect the Ridgewalk Neighborhood and Road.

- **Links:** Olde Rope Mill Park, J.J. Biello Park, and the Ridgewalk Neighborhood.
- **Points of Interest:** Little River, Georgia Northeastern Railroad Trestle Bridge, and Olde Rope Mill Park, rock outcrops and old mill ruins.
- **Approximate Length:** 2.77 miles
- **Estimated Cost (not including acquisition):** \$1,595,176.00
- **Trail Amenities:** three rest areas, two bridges over the Little River, one bridge over a tributary to the river, and one secondary trail access area
- **Comments:** This trail segment allows connectivity to existing trail within Olde Rope Mill Park and points of interest such as the old mill ruins, the rock outcrops and the trestle bridge.



Fig. 35 - Old Mill Ruins at Little River
Courtesy of: Picasa

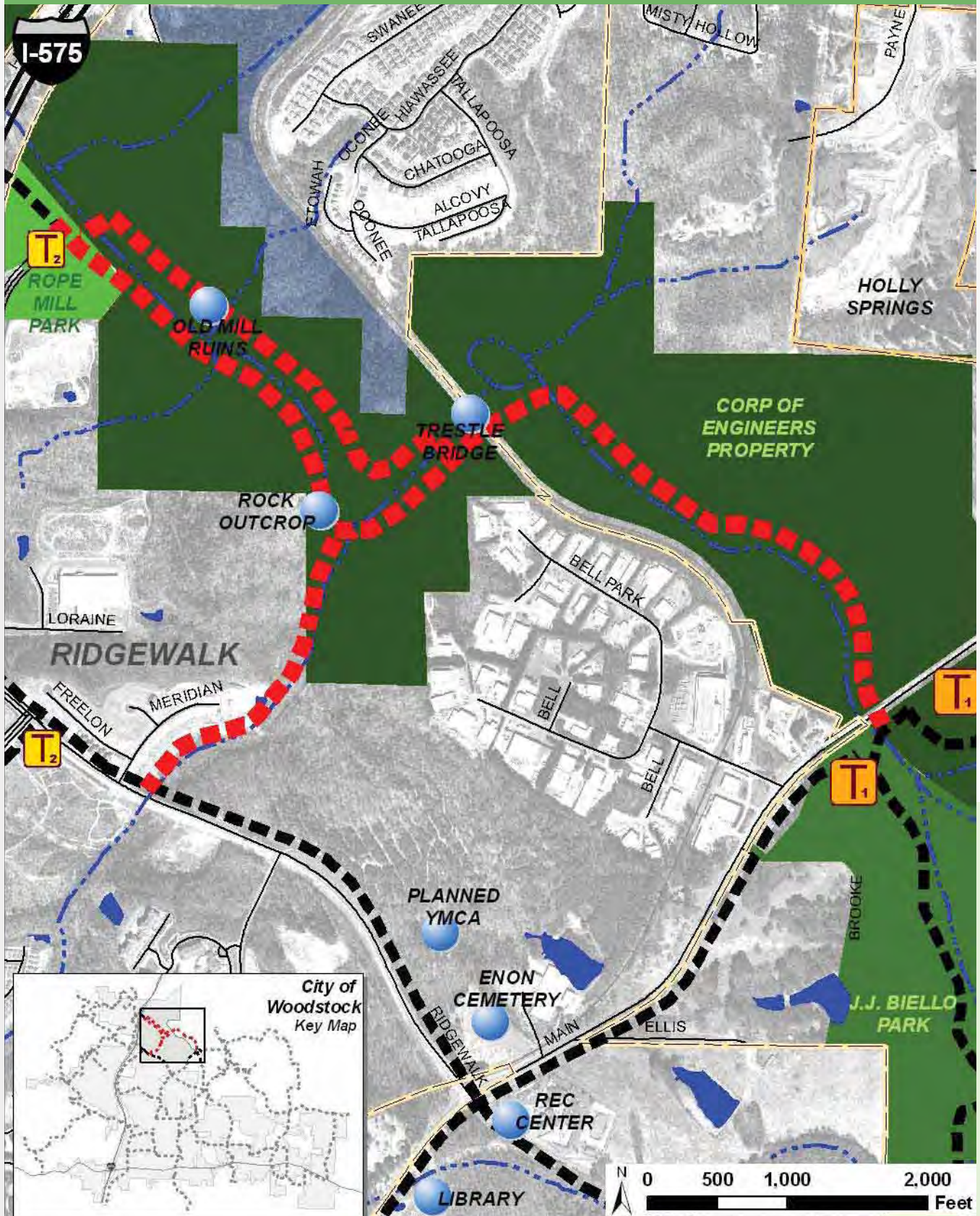


Fig. 36 - Trestle Bridge
Courtesy of: Ecos



Fig. 37 - Sewer Easement within
Corp of Engineers Property
Courtesy of: Ecos

Trestle Rock Trail



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity - High Priority

Bridget Hammond Trail

The Bridget Hammond Trail incorporates all proposed trails for the J.J. Biello County Park with two primary trail access areas on each side of the Little River at Old Highway 5. The northern portion of the trail segment will run along the north side of Mill Creek and connect to the Southern Cherokee Recreation Association property. The trail will follow the Army Corp. of Engineers' property back to the Little River where it will bridge across to connect to J.J. Biello Park and traveling on both sides of the river to Arnold Mill Road.

The eastern portion of the trail will run along Rubes Creek from the Little River to Arnold Mill Road. The western portion of the trail will run along the western boundary of the park property. The trails come together and cross under the proposed Arnold Mill Connector. An additional portion of the Bridget Hammond Trail segment will follow the proposed Arnold Mill Connector from Ridgewalk Parkway – Main Street Intersection to Arnold Mill Road.

- **Links:** The trail segments along the Little River, existing and proposed trails within J.J. Biello Park, and the trails along the proposed Arnold Mill Connector. This segment connects to the downtown loop at Arnold Mill Road.
- **Points of Interest:** J.J. Biello Park, Southern Cherokee Recreation Association, Cherokee County Recreation Center, Mill Creek, Rubes Creek and the Little River.
- **Approximate Length:** 6.78 miles
- **Estimated Cost (not including acquisition):** \$3,762,864.00
- **Trail Amenities:** two bridges over the Little River, three bridges over creeks, and two primary trailheads
- **Comments:** This trail segment allows for connectivity between various existing park and recreation facilities. It provides an opportunity for access to the natural areas along Mill Creek, Little River and Rubes Creek.
This trail is in memory of Bridget Hammond, a teacher and the wife of Keith Hammond, Director & CEO of Cherokee County Recreation & Parks Agency.



Fig. 38 - J.J. Biello Park
Courtesy of: Cherokee County

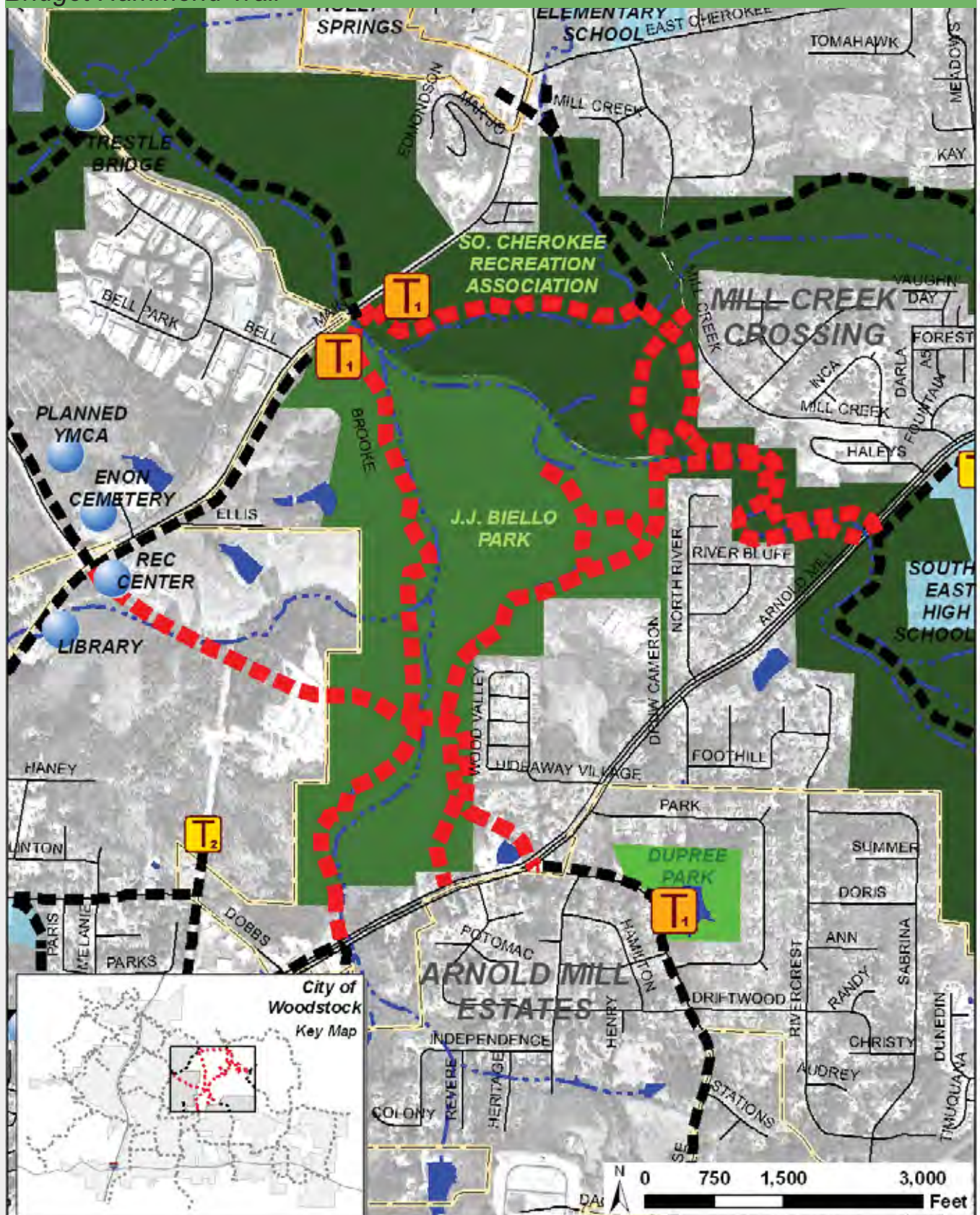


Fig. 39 - Recreation Center
Courtesy of: Cherokee County



Fig. 40 - South Cherokee Recreation Association
Courtesy of: SCRAsoftball

Bridget Hammond Trail



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity - Medium Priority

Trail B1 & B2

Noonday Creek Trail (B1)

This trail route will be on the Army Corp. of Engineers property along Noonday Creek from Towne Lake Pass Trail to the River Run Trail. The Noonday Creek Trail will connect the neighborhoods of Deer Run, Towne Lake and Brookshire with a series of five neighborhood trail access areas. The current route will have approximately five bridges over Noonday Creek and its tributaries in order to connect the adjacent neighborhoods.

- **Approximate Length:** 6.63 miles
- **Estimated Cost (not including acquisition):** \$3,500,640.00

Education Connector Trail (B2)

This trail route will follow Main Street from Arnold Mill Road to J.J. Biello Park and will follow Ridgewalk Parkway from Main Street to Woodstock Parkway. An additional spur trail will follow Dobbs Road along the Appalachian Technical College property and the Woodstock City Hall property to the Downtown Depot Greenway at Arnold Mill Road. Other than the spur portion of this trail segment, the trail will be adjacent to the road within the right-of-way. Currently, a portion of this trail segment is constructed from Haney Road to the pedestrian bridge north of the Woodstock Public Library.

- **Approximate Length:** 2.83 miles (2000 linear feet currently constructed)
- **Estimated Cost (not including acquisition):** \$1,294,240.00



Fig. 41 - Army Corp. of Engineers property adjacent to the Towne Lake neighborhood
Courtesy of: Ecos



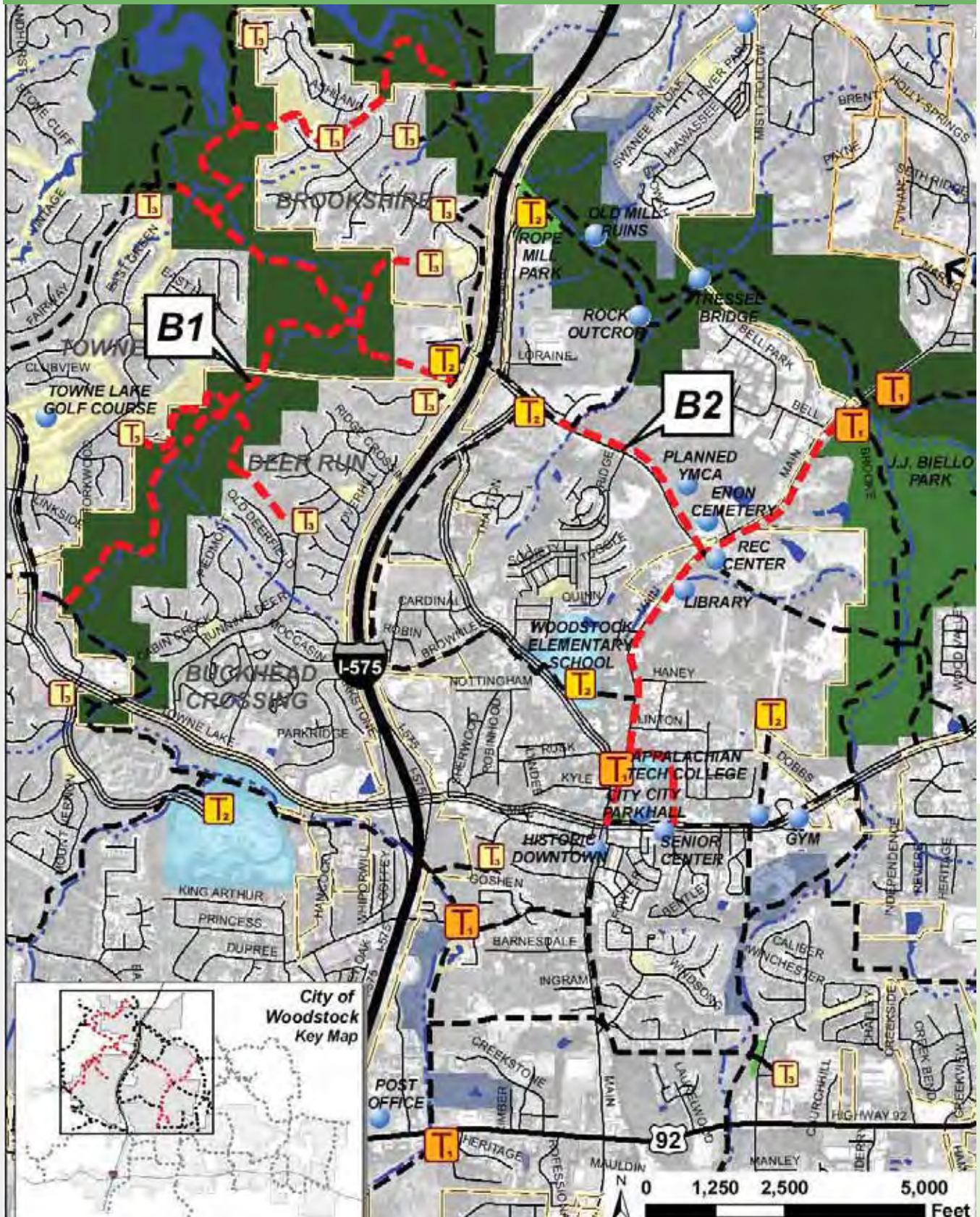
Fig. 42 - Trail and pedestrian bridge along Main Street north of the library
Courtesy of: Ecos

DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA

Trail B1 & B2



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity - Medium Priority

Trail B3 & B4

Dupree Park Connector Trail (B3)

This trail route will follow Neese Road from Arnold Mill Road to US 92. On Neese Road, north of Executive Drive, the trail route will have a spur trail to the west and will connect to Rubes Creek where it will follow the creek and connect the Kidzstock Playground, the surrounding neighborhoods, Dupree Park, and tie into the Downtown Depot Greenway. At US 92 the trail will parallel the north side of the road and tunnel under the road adjacent to the perennial stream to tie into the Trickum Hills neighborhood.

- **Approximate Length:** 4.17 miles
- **Estimated Cost (not including acquisition):** \$2,201,760.00

Little River Trail (B4)

This trail route will follow the north side of the Little River from Arnold Mill Road to Trickum Road. The trail will spur to the Southeast High School on Arnold Mill Road and to the Little River Elementary School on Trickum Road.

- **Approximate Length:** 1.8 miles
- **Estimated Cost (not including acquisition):** \$950,400.00



Fig. 43 -Gravel roadbed along Rubes Creek south of US 92
Courtesy of: Ecos

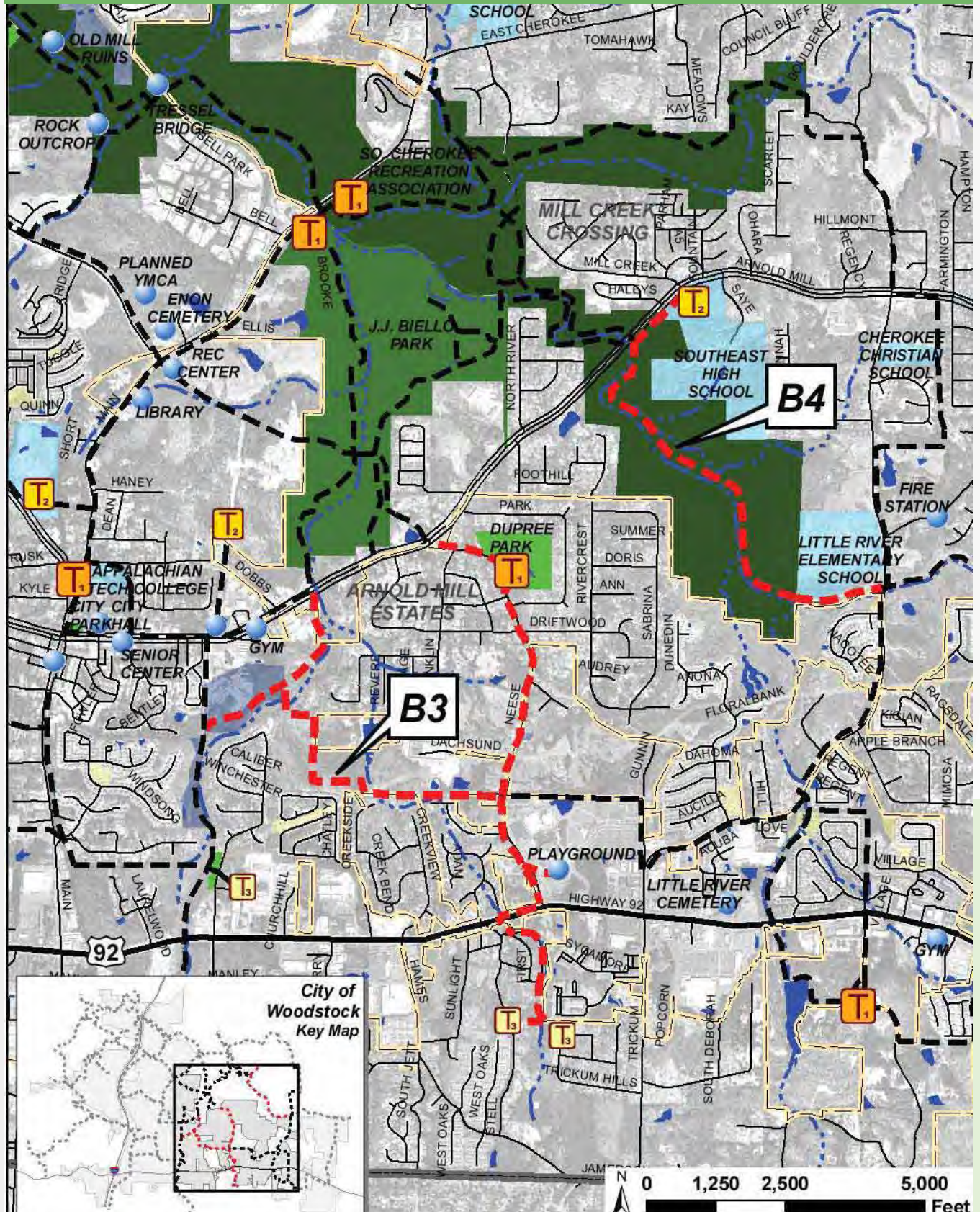


Fig. 44 - Kidzstock playground
Courtesy of: Ecos



Fig. 45 - Dupree Park playground
Courtesy of: Ecos

Trail B3 & B4



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity - Low Priority

Trail C1, C2, C3, C4 & C5

Towne Lake Extension Trail (C1)

This trail route will connect the Towne Lake Pass to a secondary trail access area at the Etowah High School, ET Boothe Middle School and Chapman Intermediate School campuses. The trail will follow Towne Lake Parkway north from Eagle Drive to north of Towne Lake Hills East where the trail will follow an easement through the Towne Lake Hills Golf Club neighborhood to connect to the Army Corp. of Engineer's property and Lake Allatoona. An addition trail segment will run within the Army Corp of Engineer's property north of the Brookshire neighborhood with a connection to the River Run Trail and the Noonday Creek Trail.

- **Approximate Length:** 4.61 miles
- **Estimated Cost (not including acquisition):** \$2.5 million.

Posey Branch Trail (C2)

This trail route will follow the Posey Branch Creek with a connection from the Towne Lake Pass at Woodstock High School / Middle School to the Dixie Speedway and the Carmel Elementary School. A neighborhood trail access point will be located at US 92 south of the Dixie Speedway. Secondary trail access points will be located at Carmel Elementary School and Woodstock High School / Middle School.

- **Approximate Length:** 2.76 miles
- **Estimated Cost (not including acquisition):** \$1.5 million

Noonday Creek Regional Connector Trail (C3)

This trail route will follow Noonday Creek from the Towne Lake Pass' primary trail access area along Dupree Road south to US 92. The trail will tunnel under the US 92 road bridge over Noonday Creek, connect to a primary trail access area, and continue south to connect to Cobb County's trail system. The area south of US 92 will need to be studied to determine whether a boardwalk will be necessary. An additional trail segment will connect through the proposed development off of Main Street south of Ingram Street. This segment will connect the Noonday Creek Regional Connector Trail to the Downtown Depot Greenway and the Historic Downtown Woodstock.

- **Approximate Length:** 2.31 miles
- **Estimated Cost (not including acquisition):** \$1.2 million.

Rubes Creek Trail (C4)

This trail route will follow Rubes Creek south from Springfield Park and tunnel under US 92 to Rubes Creek Park and connection to Cobb County's trail system.

- **Approximate Length:** 1.34 miles
- **Estimated Cost (not including acquisition):** \$700,000.00.

Dobbs Trail (C5)

This trail route will follow Dobbs Road from the Education Connector Trail to the existing utility corridor where the trail will follow the corridor south to Arnold Mill Road connecting to the Downtown Depot Greenway and north connecting to proposed greenspace.

- **Approximate Length:** .77 miles
- **Estimated Cost (not including acquisition):** \$400,000.00.



Fig. 46 - E.T. Booth Middle School
Courtesy of: Cherokee County

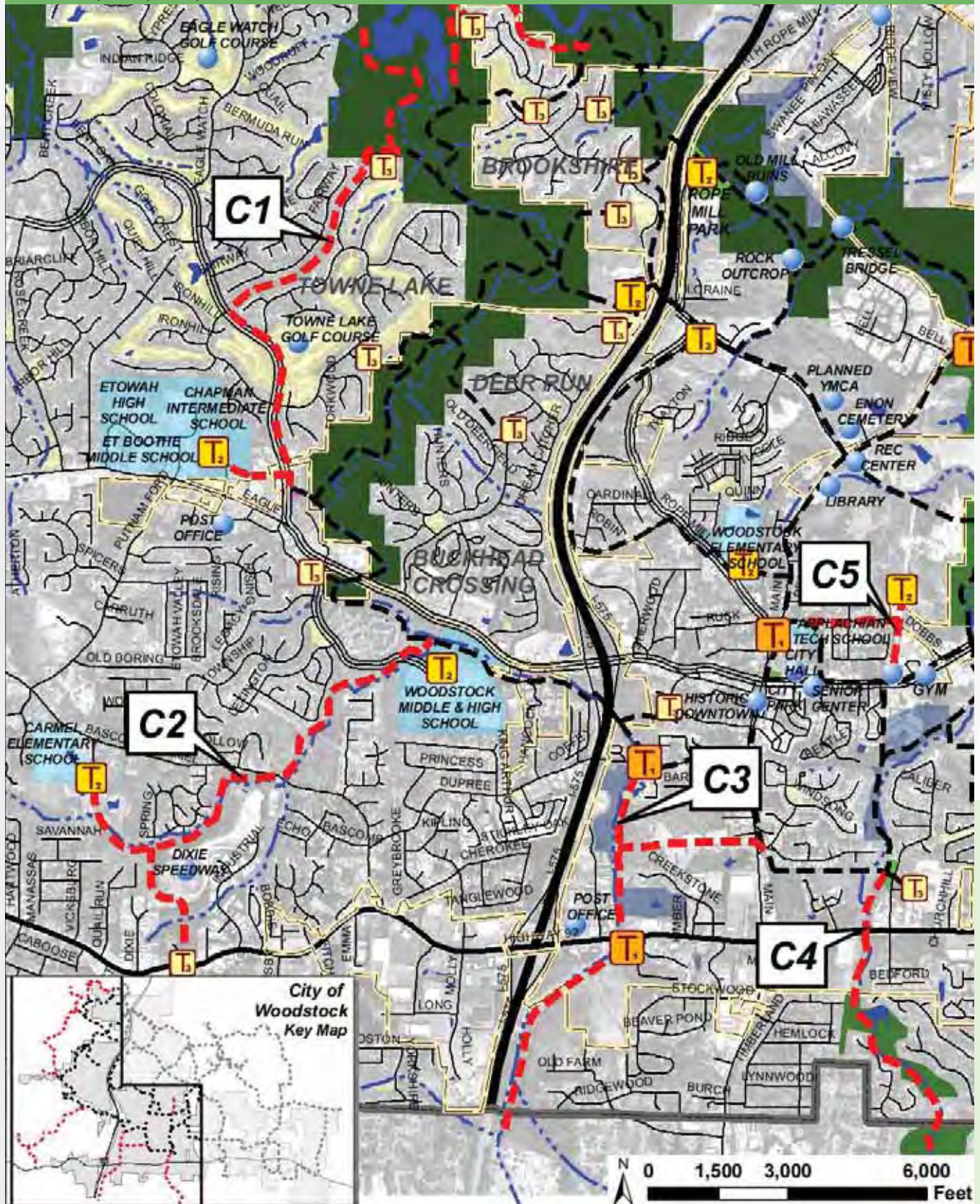


Fig. 47 - Towne Lake Parkway
at Eagle Drive
Courtesy of: Ecos



Fig. 48 - Sewer easement at
Woodstock Middle and High School
Courtesy of: Ecos

Trail C1, C2, C3, C4 & C5



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity - Low Priority

Trail C6 & C7

The Woodlands Trail (C6)

This trail route will provide connectivity throughout the southeastern portion of the City of Woodstock. Connecting from the Dupree park Connector Trail, The Woodlands Trail follows Usufruct Ave., Gunnin Road and Trickum Road to the Little River and follows the river east to Woodlands Park where the trail will spur to the Arnold Mill Elementary School & Riverchase Park in Cherokee County. A secondary trail access area is located in Woodlands Park. From Woodlands Park the trail will follow a sewer easement and an existing footpath through the Woodlands Neighborhood to US 92. The remainder of the trail segment will take advantage of proposed development along South Cherokee Lane. A primary trail access area is proposed off of South Cherokee Lane.

- **Approximate Length:** 8.19 miles
- **Estimated Cost (not including acquisition):** \$4.3 million.

Mill Creek Connector Trail (C7)

This trail route will follow Trickum Road from the Little River north past Arnold Mill Road to Mill Creek where the trail travels west within the Army Corp. of Engineers' property along Mill Creek to the South Cherokee Recreation Association and connects to the Bridget Hammond Trail.

- **Approximate Length:** 4.28 miles
- **Estimated Cost (not including acquisition):** \$2.2 million.

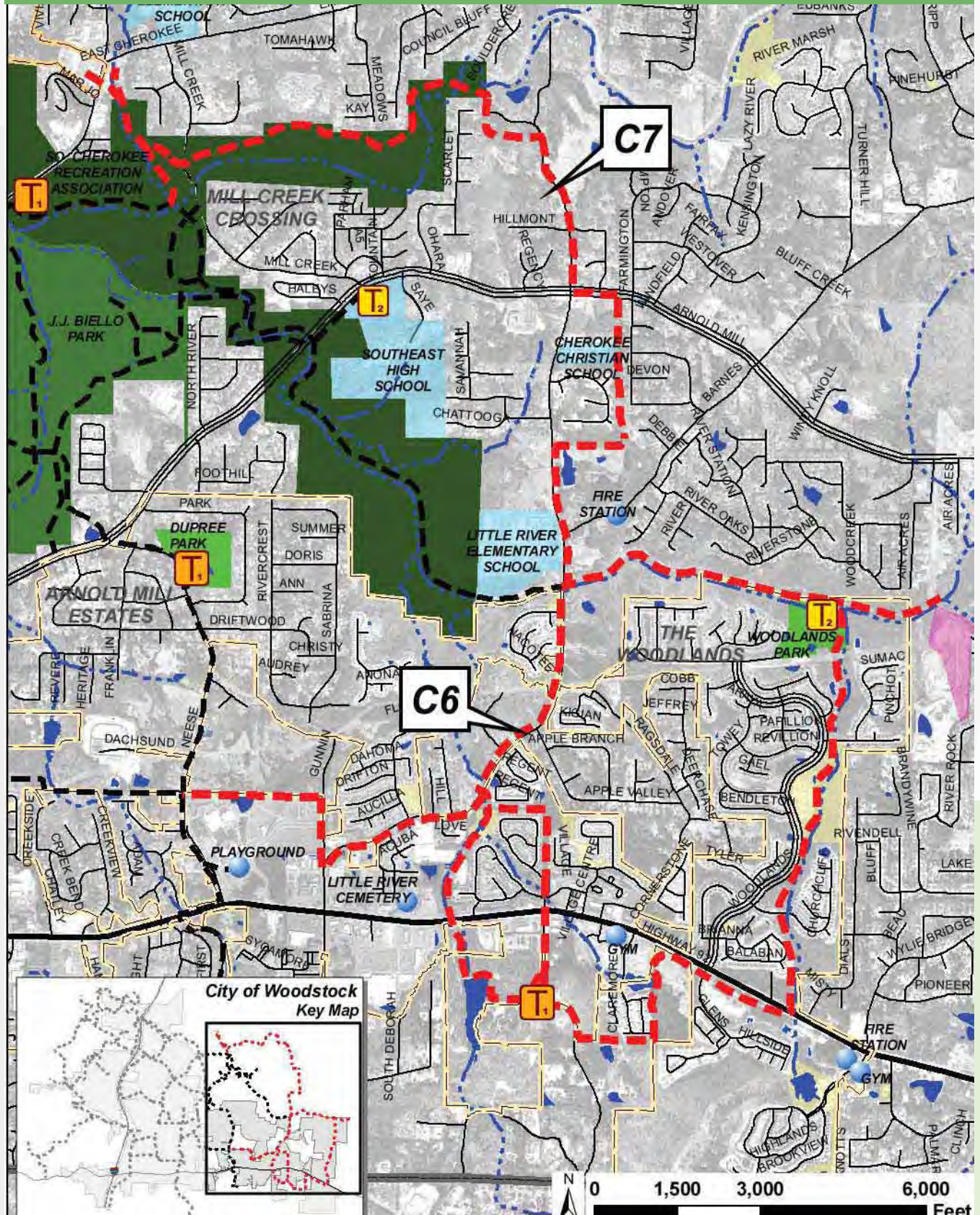


Fig. 49 -Sewer easement along the Little River
Courtesy of: Ecos



Fig. 50 - Road bridge over the Little River
Courtesy of: Ecos

Trail C6 & C7



What is the Greenprints Process?

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

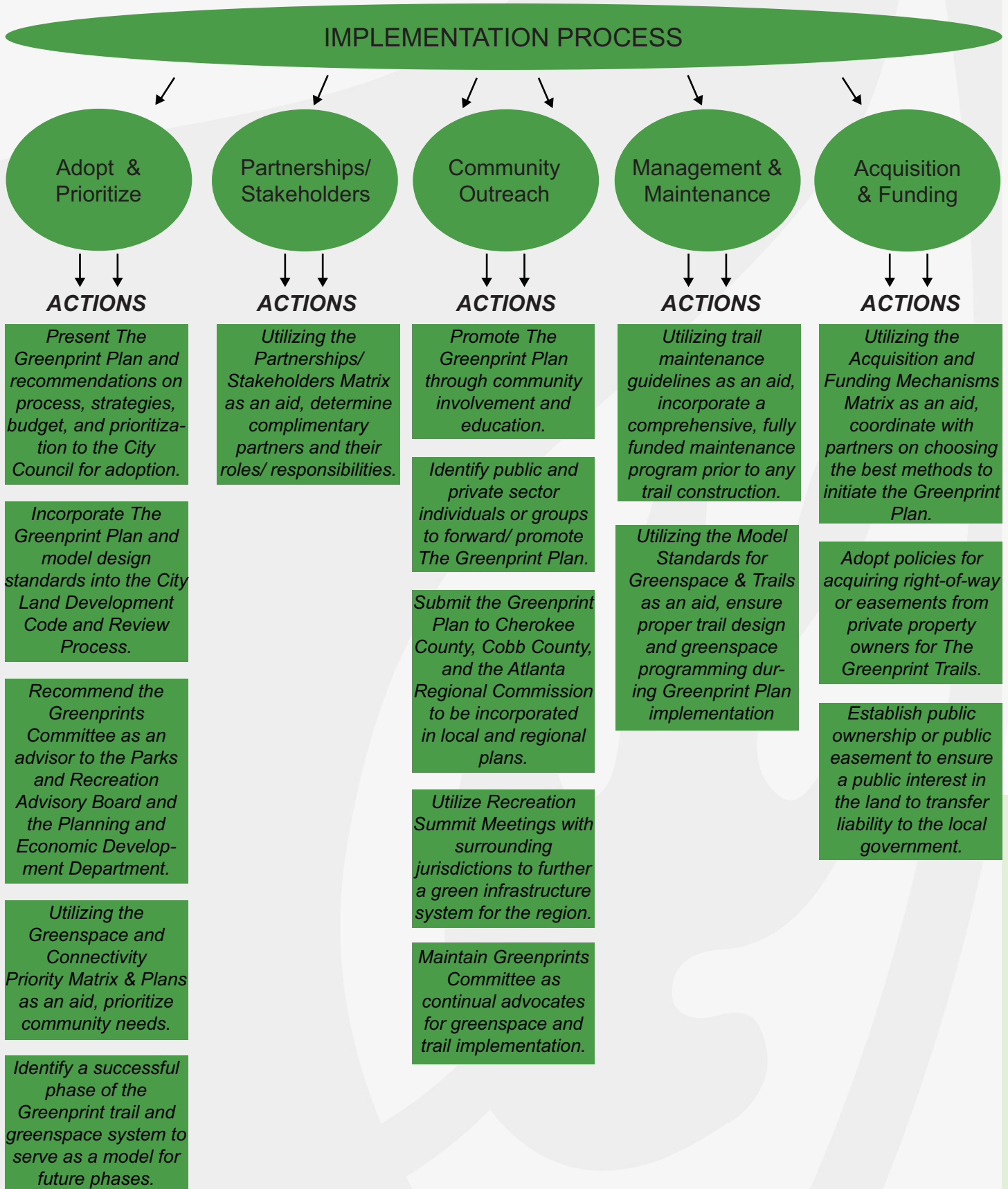
IDENTIFY IMPLEMENTATION STEPS

Proposed Connectivity

Summary of Proposed Trail Segments

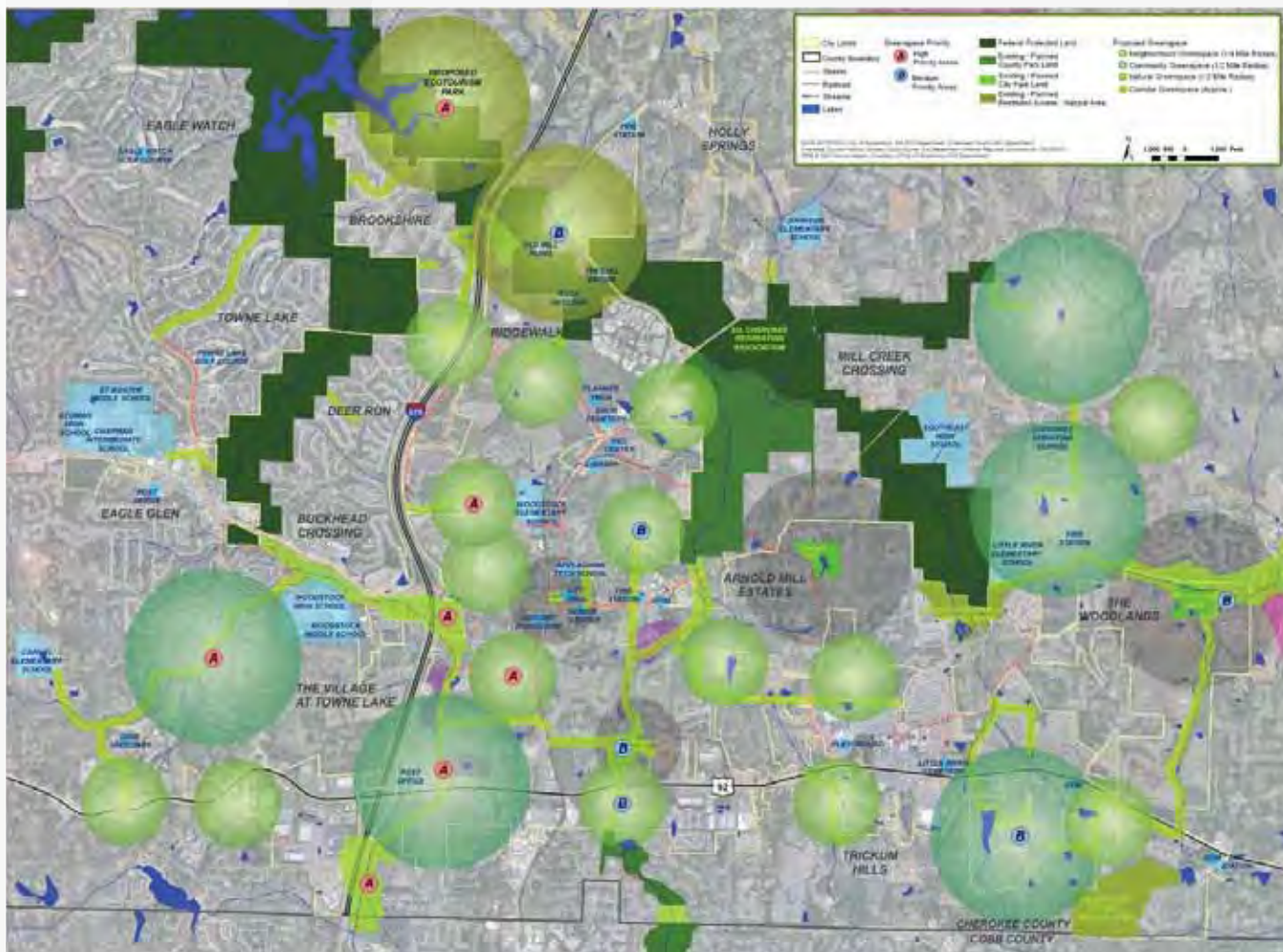
| Trail Segment | Estimated Length (Miles) | Estimated Length (Linear Feet) | Preliminary Cost Estimate |
|---|--------------------------|--------------------------------|---------------------------|
| Downtown Depot Greenway | 2.9 | 15312 | \$ 1,843,520.00 |
| Towne Lake Pass | 3.23 | 17054.4 | \$ 1,568,124.00 |
| Old Rope Mill Trail | 2.52 | 13305.6 | \$ 1,267,976.00 |
| River Run Trail | 2.17 | 11457.6 | \$ 1,249,396.00 |
| Trestle Rock Trail | 2.77 | 14625.6 | \$ 1,595,176.00 |
| Bridget Hammond Trail | 6.78 | 35798.4 | \$ 3,762,864.00 |
| Noonday Creek Trail (B1) | 6.63 | 35006.4 | \$ 3,500,640.00 |
| Education Connector Trail (B2) | 2.83 | 14942.4 | \$ 1,494,240.00 |
| Dupree Park Connector Trail (B3) | 4.17 | 22017.6 | \$ 2,201,760.00 |
| Little River Trail (B4) | 1.8 | 9504 | \$ 950,400.00 |
| Towne Lake Extension Trail (C1) | 4.61 | 24340.8 | \$ 2,434,080.00 |
| Posey Branch Trail (C2) | 2.76 | 14572.8 | \$ 1,457,280.00 |
| Noonday Creek Regional Connector Trail (C3) | 2.31 | 12196.8 | \$ 1,219,680.00 |
| Rubes Creek Trail (C4) | 1.34 | 7075.2 | \$ 707,520.00 |
| Dobbs Trail (C5) | 0.77 | 4065.6 | \$ 406,560.00 |
| The Woodlands Trail (C6) | 8.19 | 43243.2 | \$ 4,324,320.00 |
| Mill Creek Connector Trail (C7) | 4.28 | 22598.4 | \$ 2,259,840.00 |
| TOTALS | 60.06 | 317116.8 | \$ 32,243,376.00 |

Identify Implementation Steps



Adopt & Prioritize

Greenspace Priority Map



High priority and moderate priority greenspaces have been determined for each type of greenspace. Determination is based upon Greenprint Committee feedback, City of Woodstock Future Development Map, park gap analysis, and high priority conservation areas illustrated on the Composite Conservation Priorities Map. Each greenspace type is listed below with corresponding description of priorities.

- **Neighborhood:** High priority neighborhood parks are located to the northwest and southwest of downtown due to the need to have a larger central gathering space for City residents and to provide greenspace opportunities within ongoing redevelopment. Moderate priority neighborhood parks are located between downtown and J.J. Biello Park and in a sensitive riparian area south of highway 92 that would provide connectivity and access to Rubes Creek Park.
- **Community:** High priority community parks are located in the southwest quadrant of the City along environmentally sensitive riparian corridors where current development and residents are in need of recreation facilities. A moderate priority community park is located south of highway 92 in the southeast quadrant of the city where a future activity center is planned.
- **Natural Area:** A high priority natural area is planned along the Little River west of Interstate 575 for a proposed eco-tourism park. Just east of Interstate 575, interpretive opportunities at the historic mill ruins plus additional city owned land create potential for additional natural areas and specialized trails.
- **Corridor:** High priority corridors are focused on unprotected areas of Noonday Creek. Moderate priority areas are focused on expanding existing park spaces to encompass additional sensitive riparian habitat along Rubes Creek and Little River.

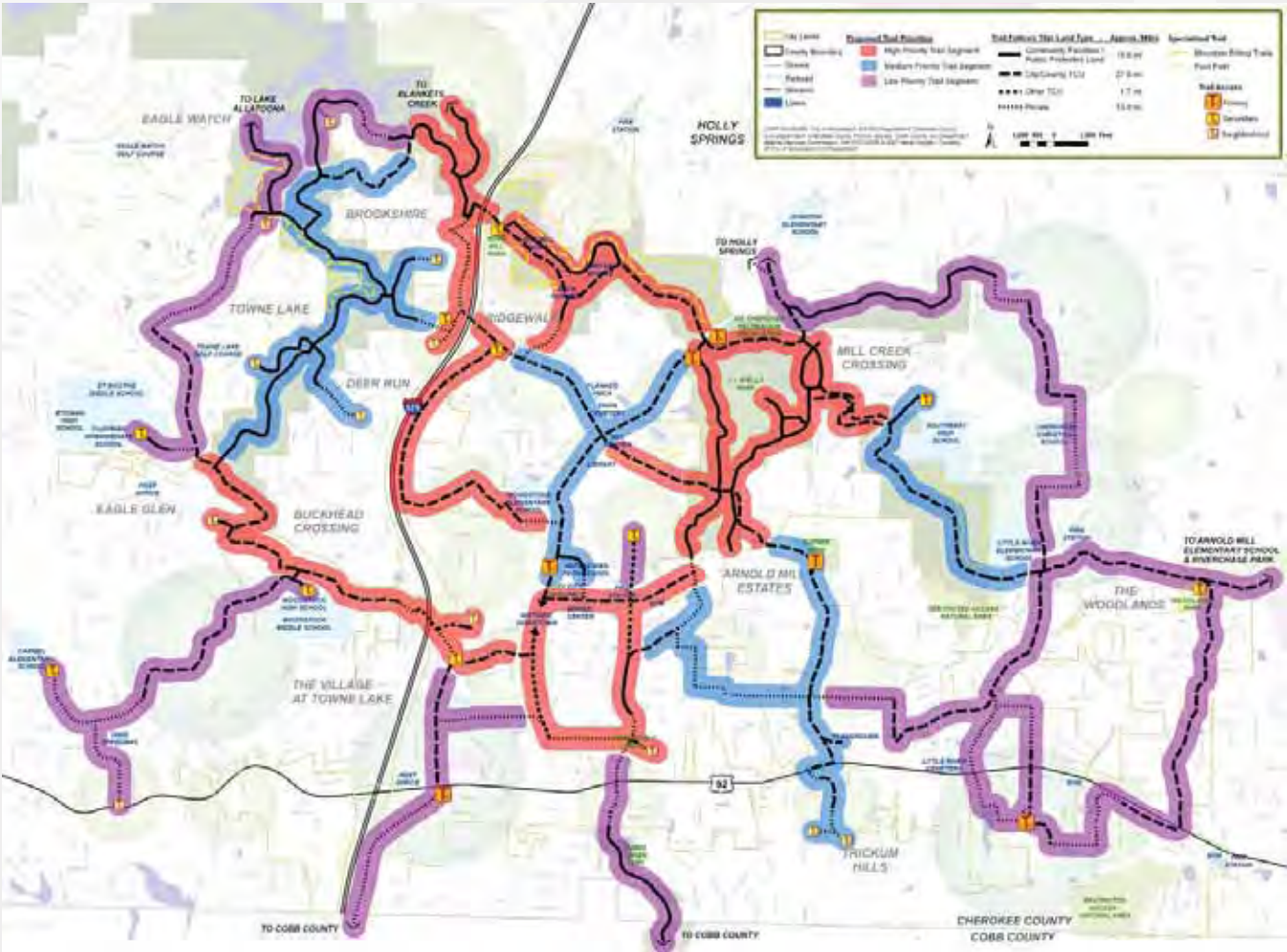
What is the Greenprints Process?

DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA

Connectivity Priority Map



High, medium and low priority trail segments have been determined in order to suggest an approach to implementation of Woodstock’s 60 mile trail system. Determination was based upon community feedback, number of individual property owners along the trail segment, and connectivity to the city’s natural areas, park land, and greenspace. The map above illustrates trail priority levels as well as the type of land use the trail is running along, represented by different line types. These different land use types include private lands, city/county TCU, other TCU and community facilities / public protected lands. Forty-seven percent of the off road trails are within city or county owned road right-of-way or already cleared sewer easements, while twenty-seven percent are within community facilities or public protected land. Below is a summary of the priorities.

- High Priority: The high priority trail segments create a downtown Woodstock loop and connect the Historic Downtown to Blankets Creek trails, the Towne Lake area, J.J. Biello Park, Rope Mill Park and the Little River. Seven trail segments were identified as high priority.
- Medium Priority: The medium priority trail segments will create extensions of the high priority segments to connect through the Army Corp. of Engineers natural area along Noonday Creek, Rubes Creek, and the Little River. In addition the trails along Main Street and Ridewalk Road were chosen as medium priority to provide additional connections to the high priority segments, planned YMCA and future developments.
- Low Priority: The low priority trail segments were the segments identified on the perimeter of the project area. The segments are critical to make the regional connections from Woodstock to the surrounding neighborhoods, cities and counties.

What is the Greenprints Process?

Partnerships / Stakeholders

Partnerships / Stakeholders Matrix

| Potential Partners and Stakeholders | Potential Role in Implementation Process | | | | | | Application for Greenspaces | Application for Connectivity |
|--|--|------------|--------------------|----------------------------|-------------------------|---|-----------------------------|------------------------------|
| | Adopt | Prioritize | Community Outreach | Management and Maintenance | Acquisition and Funding | | | |
| Volunteers, Bicycle Organizations, Equestrian Organizations | | | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Developers, Homeowner Associations | | ✓ | ✓ | ✓ | | | ✓ | ✓ |
| Philanthropic Organizations, Foundations, and Corporations | | ✓ | | | ✓ | | ✓ | ✓ |
| Woodstock Downtown Development Authority, Woodstock Visitor's Center, Cherokee County Historical Society | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Board of Educations, Library Systems | | | ✓ | | ✓ | | ✓ | ✓ |
| City of Woodstock Departments and Surrounding Cities (Holly Springs, Kennesaw, Marietta, etc...) | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Cherokee County Departments and Surrounding Counties (Cobb, Fulton, Paulding, etc...) | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Sewerage Authority | | | | ✓ | | | | ✓ |
| Atlanta Regional Commission | | | ✓ | | ✓ | | | ✓ |
| Georgia Department of Natural Resources- Division of Parks, Recreation and Historic Sites | | | | | ✓ | | ✓ | ✓ |
| Georgia Environmental Facilities Authority and Georgia Land Conservation Council | | | | | ✓ | | ✓ | ✓ |
| Georgia Department of Transportation | | | | ✓ | | | | ✓ |
| Corp of Engineers | | | | | ✓ | | ✓ | ✓ |
| PATH Foundation | | ✓ | ✓ | ✓ | | | ✓ | ✓ |
| Park Pride | | | ✓ | | | | ✓ | |
| The Trust for Public Land, The Nature Conservancy, The Conservation Fund, and other Georgia Land Trusts | | ✓ | | | ✓ | | ✓ | ✓ |

The following is a list of potential stakeholders and how each stakeholder can be involved in a variety of roles to assist in implementing the Greenprints Project.

Community Outreach

Greenprints Committee & Community Meetings



Fig. 51 - Greenprints Committee Meeting
Courtesy of: Ecos



Fig. 52 - Community Meeting
Courtesy of: Ecos



Fig. 53 - Greenprints Project Website
Courtesy of: City of Woodstock

Activities in the Region



Fig. 54 - Blankets Creek Trail
Courtesy of: fbcmensministry.com



Fig. 55 - Rider along Silver Comet Trail
Courtesy of: Bellsouthpwp

DETERMINE NEEDS AND PRIORITIES

DEVELOP THE GREENPRINTS PLAN

IDENTIFY IMPLEMENTATION STEPS

What is the Greenprints Process?

Management & Maintenance

Introduction to the Model Standards

The Greenprints project vision is “A Sustainable Greenspace and Trail Network that defines and enhances the City of Woodstock’s community, natural and economic resources for all generations.” This vision statement meets all of the goals for the Greenprints Project established by the community and Greenprints committee members.

While the Greenprints Master Plan differentiates between four different types of Greenspace, there are Model Standards that should be followed for all types of greenspace. The Model Standards for greenspace are written as a guideline to help execute the Greenprints Project vision and provide information for parks, open space and greenway planning.

The ***Greenspace Programming Standards*** section describes these model standards for all park types. Standards are set for each stage of the design process to insure that the vision and goals are satisfied.

With sixty miles of off road trails planned for the City of Woodstock, the Model Design and Maintenance Standards for trails have been compiled to establish guidelines for the Woodstock Greenprints Trail System. All standards should be used as a guide for the design and construction of the proposed off road trails. Implementation of these standards will ensure that all aspects of the Greenprints vision are met through design.

The ***Trail Design and Maintenance Standards*** section describes these model standards for off road trails, on road bike lanes, specialized trails, trail access, and sustainable strategies for trail design.

Who is this Guide For?

- Developers, Landscape Architects and planning officials will utilize this guide during the design process. This guide defines the standards that trails and greenspace must uphold in the City of Woodstock
- Parks and Recreation Advisory Board, Planning Department and Public Works to understand and execute the standards for all greenspace and trails in the City of Woodstock.
- Key stakeholders, decision makers and City of Woodstock residents.

Design Process

• **Site Inventory and Analysis**

Site inventory and analysis is a beneficial process on all sites to guide the development of goals and strategies for conservation, prioritization and management of natural resources. All inventory and analysis should be documented in the form of maps, lists and/or text. Computer programs such as GIS can be a useful tool for the creation of inventory and analysis maps.

• **Natural Resource Inventory**

All natural resources on site should be comprehensively assessed and documented in the form of maps, lists or descriptions for the following features:

- significant landforms
- bedrock and geology
- soil types
- hydrology, water quality, drainage patterns and aquatic features
- Land cover including all areas to preserve and enhance the urban forest.
- All significant vegetation (Legacy trees, rare species, etc...)
- native plant communities
- other native plant and animal species

• **Cultural Resource Inventory**

- Provide historic context of site (if applicable) in the following formats:
- Literature searches and/or personal interviews to gather information on the site's natural history?
- Historic land use history documented through maps and/or description.

• **Community Values Inventory**

- Coordinate the inventory process with community participation or visioning process in which local people are identifying the importance they place on natural resources. Allow community members to identify the recreational needs for their community.

• **Resource Analysis**

- Assess the quality of all natural resources on site and delineate on a map.
- Assess the adjacent lands for potential recreational connections or natural corridors.
- Analyze existing habitats for particular wildlife, habitat restoration opportunities,
- Analyze existing and future land use of adjacent lands.
- Conduct a viewshed analysis to maximize building orientation for efficiency and possible solar energy opportunities.
- Perform slope analysis for the entire site.
 - Delineate that would not be suitable for certain types of recreation due to slope
 - Delineate areas that would be suitable for specific types of recreation due to slope.
- Analyze soil survey for development of recreation areas and facilities.
- Analyze floodplain data for areas that would not be suitable for recreation.
- Identify priorities for natural resources and site specific issues based inventory and analysis results.

Management & Maintenance

Greenspace Programming Standards

• Design Development

• Environmental Education / Interpretation

- Promote innovative programming and education techniques within the community open space network, such as wireless technology, guided tours with podcasts, etc...
- Where applicable, provide amenities to educate all ages to diverse and unique habitats.
- educational component with physical activity opportunities
- interpretive and educational opportunities integrated into park elements

• Sustainable Infrastructure

- Promote the importance of the community's environmental resources through interpretation/ education, incorporation of LEED- green development principles, and habitat restoration.
- Expand community sustainable opportunities, such as recycling, composting, and gardening and recommend/ provide incentives for these activities/ amenities be included in future development.
- Establish dark sky compliant practices and standards that permit nighttime lighting for safety, minimize glare and obtrusive light, conserve energy (promote solar lighting), and incorporate lighting curfews.
- Structural stormwater controls should be implemented only after all site design and nonstructural options have been exhausted. Encourage structural stormwater solutions to be multi-purpose and be aesthetically integrated into a site's design- i.e. multi-purpose detention areas.
- Promote community farming/ gardening initiatives and economically sustainable open air markets.
- Promote low impact development sites by integrating site planning, architecture, engineering and construction; minimizing directly connected impervious area; daylighting stormwater; utilizing split flow method to separate storm events; incorporating stormwater function into landscape and parking areas; and recycling materials.
- Establish provisions for the design, installation and maintenance of water efficient landscapes in new projects as well as for management practices in established landscapes, including the following: eliminate use of potable water and utilize rain water harvesting for irrigation; group plants by water usage into hydrozones; utilize native plant material; reduce heat island effect.
- Utilize local / regional suppliers as well as environmentally friendly / recycled materials for construction materials and site amenities.
- integrate park elements and design into existing topography such as water quality features in low areas, amphitheater carved into hill side
- community gardens and associated equipment storage

Greenspace Programming Standards

- **Circulation, Site Amenities and Greenspace Character**
 - small gathering spaces that promote social interaction
 - clearly defined hierarchy of trails/access
 - soft surface flexible space from open meadows for bird watching to open lawns for active play or outdoor theater
 - hard surface flexible space such as plazas for open air markets
 - variety of seating opportunities integrated into park design, such as seat walls, embanked earth, open lawn, benches, steps, planters, curbs
 - each park to highlight its unique features, preserve piece of its history, tell a story
 - welcoming elements at street level especially at street corners (gateways)
 - preservation of trees and establishing/ highlighting Legacy Trees
 - sequencing
 - Utilize scenic viewsheds
 - activities for all ages- passive oriented with unorganized active opportunities
 - multi-functional
 - exercise trail with stations- interpretive and recreation stations along trails
 - signage- wayfinding
 - integrate character of surrounding area/ neighborhoods
 - level of vehicular access- on-street, off-street, shared, internal drives

Management & Maintenance

Trail Design Standards

Off Road Trails

- Multi-use greenway trails can serve both as a recreational amenity and a transportation facility. In order for a trail to be considered a multi-use greenway trail, it has to be physically separated from motor vehicle traffic by open space or a barrier. In this document, multi-use greenway trails are referred to as *Off Road Trails*. Off road multi-use trails are recreation corridors intended for the use of non-motorized alternative forms of transportation. This is not intended to exclude motorized wheelchairs, which are permitted for equal accessibility. The city may also choose to permit other forms of use, such as, segways on a regulated basis.
- The City of Woodstock's proposed trail system is designed to provide many opportunities for access to greenspace throughout the city's natural and built environments. Access to these natural areas will allow for monitoring of woodland conditions and identification of management problems. Design and construction of the City of Woodstock's trail system will meet the standards set by The Americans with Disabilities Act (ADA) and the American Association of State Highway and Transportation Officials (AASHTO).



Fig. 56 - Trail under Railroad Trestle
Courtesy of: Flickr

Trail Standards Reference List

Below is a summary list of the City of Woodstock's trail system design standards

- Width = 10' recommended (12' in high traffic areas)
- Clearance = 8' minimum (10' tunnels)
- Clear Zone = 2' minimum
- Design Speed = 12 mph
- Cross Slope = 2%
- Curves = 36' radii minimum
- Grades = Follow AASHTO Standards=
 - 5-6% for up to 800 feet
 - 7% for up to 400 feet
 - 8% for up to 300 feet
 - 9% for up to 200 feet
 - 10% for up to 100 feet
 - +11% for up to 50 feet



Fig. 57 - Typical Off Road Trail Section Along Roadway

DETERMINE BENEFITS & TRENDS

INVENTORY AND ANALYZE RESOURCES

ESTABLISH VISION, GOALS & CRITERIA

Trail Design Standards

- **Trail Surface**

- Off Road Trails will have a firm and stable surface to insure use by a wide range of trail users. Surface materials may be:
 - Concrete
 - Asphalt
 - Recycled hard surface material
 - Porous hard surface material
 - Boardwalk

- **Trail Width**

- The recommended minimum tread width for Off Road Trails is 10 feet wide with a 2 foot clear zone on either side of the trail. The recommended vertical clear zone is 10 feet. In high traffic areas, 12' trail width is recommended.

- **Trail Grades**

- All trails will be designed to meet ADA standards for Accessible Design. Refer to AASHTO standards for options to mitigate excessive grades if existing conditions require the trail to exceed 5% grade. To insure positive drainage across the trail, all trails will be designed with a 2% cross slope.

- **Trail Markings**

- For all trails, a centerline stripe will be used to avoid conflicts among multiple user groups on the trail system.

- **Trail Intersections at Roads**

- At approaches to intersections, a stop-bar striping will be used along with red concrete to alert the trail users to crossing traffic. The use of bollards and rail fencing will be used at intersections to limit vehicular access to the trail. A rumble strip will be formed into the concrete at vehicular crossings to assist the visually impaired. The concern for the trail users' safety increases when trails cross roads. Crossings of roads will be straight and level approaches and will be kept to a minimum. When the site distances from the trail to the road are good, the trail alignment can cross the road at an angle other than 90 degrees.



Fig. 58 - Typical Trail/Road Intersection
Courtesy of: PATH Foundation

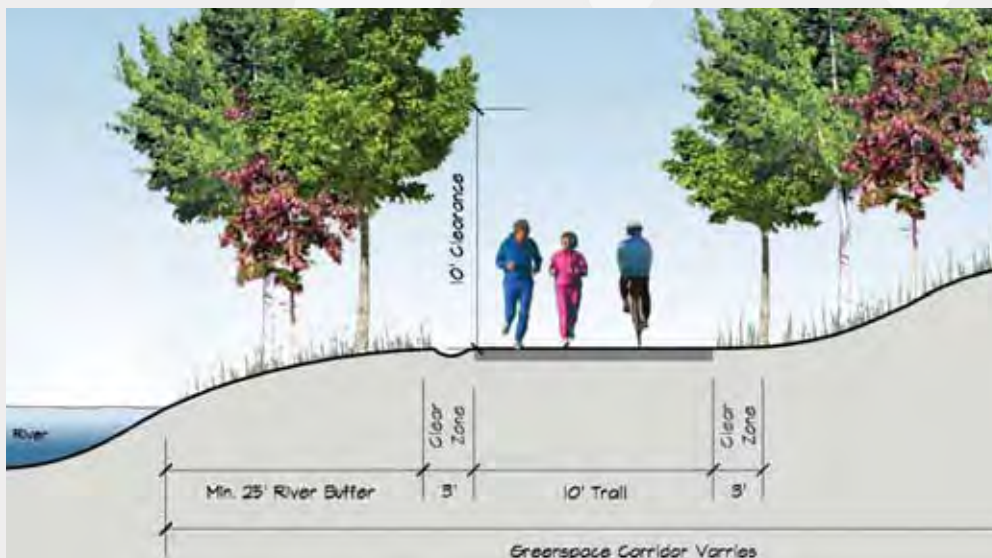


Fig. 59 - Typical Off Road Trail Section Along River

Management & Maintenance

Trail Design Standards

• Rest Areas

- The frequency of rest areas will vary within the trail system depending on the terrain and the trail's intended use. When access points to the trail system are further than one mile apart, a rest area will be designed to allow the trail user an opportunity to stop and be able to sit and rest once every mile. Opportunities to enhance the natural features of an area will be considered in the design of each rest area. Amenities for consideration in the design of the rest areas are benches, trash receptacles, signage, and bike racks.

• Bridges

- When designing off road trails that cross streams, the number of crossings will be kept to a minimum. Bridges will be located where the crossing has its shortest length and are away from bends in the stream with unstable soils. Bridges will be placed above the ordinary high water mark and cabled so they can swing away during a flood.
- Prefabricated metal bridges will be used for major crossings over rivers, large tributaries, railroads, and highways. They will accommodate small vehicles and span up to two hundred feet. During installation, these bridges will require access for large cranes, other heavy equipment, and concrete deliveries. The prefabricated metal bridges require little maintenance and will become exciting amenities for the trail system.
- When environmental factors are a concern, clear spans of 12 to 48 feet from the Bridgetek Bridge System can alleviate detrimental impacts from stream intrusions and bridge footings. These bridges are three sided precast concrete structures that have the benefits of fast installation, reasonable cost, and a long life cycle.

• Boardwalks

- Boardwalks constructed of pressure-treated timber or recycled plastic timber will be utilized in ecologically sensitive areas such as wetlands. The boardwalks can be constructed without the use of heavy equipment and offer unique educational opportunities.

• Tunnels

- Tunnels will be considered to avoid conflicts between trail users and existing transportation facilities. These facilities might be roads with large traffic counts and/or high speed railroads. In order to consider a trail tunnel during design, the existing terrain will need to allow for a ten foot by ten foot (10' x 10') concrete box culvert under the existing facility. The tunnels must have lighting for safety and security.



Fig. 60 - Boardwalk with Outdoor Classroom
Courtesy of: PATH Foundation



Fig. 61 - Primary Trail Access Area
Courtesy of: PATH Foundation



Fig. 62 - Trail Identity Signage
Courtesy of: PATH Foundation

- **Signage**

- All signage for the Woodstock Greenprints Trail system will be consistent with the Municipal Uniform Traffic Code Division (MUTCD) for bicycle facilities <http://mutcd.fhwa.dot.gov/>. In addition, mile/kilo/elevation designation markers will be posted at a recommended increment of ½ mile. Trail etiquette, directional, and regulatory signs will be designed for the trail system in order to establish an identity for the trail system. The trail system will incorporate a naming system for its various trail segments onto the mile markers in order to provide clear direction for the trail user in emergency situations.

- **Maintenance**

- Prior to building the Woodstock Greenprints Trail system, a fully funded maintenance program will need to be established. It is necessary to identify the authority or groups responsible for maintaining the trails and the budget necessary for maintenance. Below is a list of maintenance items, their cost, and frequency of occurrence.

- **Standard Trail Maintenance**

- Maintenance activities that need to be conducted on a bi-weekly basis throughout the entire year are considered standard trail maintenance items. Standard trail maintenance is typically contracted on an annual bases with a cost based on the trail's square footage. The cost of an annual contract for standard trail maintenance, based on 2008 costs, is \$.28 to \$.30 per square foot of trail. Below is a list of standard trail maintenance items:

- Mowing
- Edging
- Weed Eating
- Blowing
- Pruning Shrubs (up to 15 feet)
- Spraying edge
- Removing Trash

- **Miscellaneous Maintenance**

- Additional trail maintenance activities will be necessary based on the weather, location, trail amenities, number of trail users, etc. The following items should be considered in an overall maintenance budget:



Fig. 63 - Mowing along the trail's clear zone.
Courtesy of: Flickr

| Maintenance Activity | Frequency of Each Activity | Cost of Each Activity |
|----------------------|--|--|
| Bush hogging | Random | Based on an hourly rate with a min. of 4 hours = \$1000.00 |
| Portable restrooms | +/- once a week - depending on number of trail users | \$100.00 to \$150.00 per month |
| Fallen trees | Random | Minimum of \$500.00 to \$2,000.00 |
| Pet stations | Monthly | \$50.00 per month |

NOTE: The unit costs above represent an average cost. The cost of each trail segment may vary significantly from the data presented as planning and design progress.

Management & Maintenance

Trail Design Standards

On Road Bike Lanes

The AASHTO *Guide for the Development of Bicycle Facilities* defines a bike lane as “a portion of a roadway which has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists.” Refer to the below links and to the City and County standards for design and maintenance guidelines for On Road Bike Lanes:

- http://safety.fhwa.dot.gov/ped_bike/univcourse/swless19.htm
- <http://wwwb.dot.ga.gov/dot/plan-prog/planning/projects/bicycle/index.shtml>

Specialized Trails

- Specialized Trails include:
 - Mountain Biking
 - Equestrian
 - Hiking Trails / Foot Paths
- Refer to the following organizations for specialized trail design and maintenance information:
 - Southern Off-Road Bicycle Association
<http://www.sorba.org/>
 - Georgia Horse Council
<http://www.georgiahorsecouncil.com/>



Fig. 64 - On road bike lanes
Courtesy of Flickr - Little Stevie Wonder

Trail Access

- **Primary**
 - With acquisition of greenspace for the trail system, areas for primary trail access need to be considered. It is important to design a primary trail access area for every 10 miles of trail. These areas provide full access for all trail users to get to the trail system.
 - Parking for trail users only
 - Restrooms
 - Picnic areas
 - Bike racks
 - Drinking Fountains
 - Signage (trailhead name, trail map, and trail rules)
- **Secondary**
 - When the trail system follows existing developments, a secondary trail access point can be considered. The secondary trail access will utilize existing surface parking lots to allow for trail users to drive and park to access the trail. Areas to consider are commercial developments, schools, and churches. Amenities include:
 - Existing parking
 - Signage (outlining the hours of use for the secondary trail access, trail map, and trail rules)
 - Trash receptacles
- **Neighborhood**
 - Connectivity to adjacent neighborhoods along the proposed multi-use trail route is designed through Neighborhood Trail Access points. These entry points are simple in design. They provide access for trail users who either are walking on sidewalks or biking on roads to get on the trail. These areas do not accommodate parking for trail users who desire to drive in order to access the trail system. Neighborhood trail access should be considered wherever the desire and opportunities exist. Amenities include:



Fig. 65 - Primary trail access area
Courtesy of: Ecos

Trail Design Standards

- Signage (trail name)
- Maintenance and emergency access through a gate or removable bollard
- Trash receptacle
- Small rest area or meeting area for trail users



Fig. 66 - Transition to boardwalk
Courtesy of: Ecos

Sustainable Strategies

• Trails within Floodplains and Wetlands

- Construction of trails within a floodplain should consider the frequent inundation of the trail and the unique drainage of the area following a flood. Trail construction within the floodplain will provide a permanent surface to eliminate the potential for erosion of the trail surface and wash away during a flood event.
- Boardwalks are required for trails within wetlands. The boardwalks will be constructed without the use of heavy equipment and will utilize EPA/EPD compliant pressure-treated timber or recycled plastic lumber. Boardwalks will typically not support motor vehicles and will not be proposed where maintenance and emergency vehicles must enter.
- To mitigate the impact of trail construction within the floodplain and wetlands, vegetated stormwater filtration swales will be designed between the trail and water bodies. The swales will allow stormwater to be collected from the trail and to be held so it can naturally infiltrate during small storm events. When possible the buffer area between the trail and the adjacent water body will be enhanced with native vegetation. All trail construction will respect state and local stream buffer requirements during construction. If the trail location falls within the state and local stream buffer, proper variance approval will be required.

• Minimizing Environmental Impacts

- The following procedures will be followed during the development of the Woodstock Greenprints Trail system to minimize environmental impact:
 - Promote environmental interpretive and educational opportunities.
 - All applicable federal, state, and local ordinances and regulations governing work near streams, floodplains, and wetlands will be followed.
 - Plant rescue operations will be encouraged to move desirable native species from the areas proposed for construction.
 - The least invasive equipment will be utilized during all phases of work.
 - All vegetative debris will be mulched and recycled near the trail corridor.
 - Where possible, trails will be constructed in areas previously cleared for roads, fences, utilities, etc.
 - Timber bridges and boardwalks will be built from the top, rather than with equipment alongside.
 - Native species will be planted to strengthen existing buffers for the creeks and rivers.
 - Construction drawings for each trail segment will include specific plans to protect specimen trees, rock outcroppings, valued plants near the trail, etc.
 - A standard erosion and sedimentation control plan that meets or exceeds state and local standards will be imposed on all contractors.
 - Follow low impact development practices and design ideas such as the use of cisterns, bioretention cells, bio-soils, infiltration cells, permeable concrete, permeable pavers, recycled materials, soil amendments, and geogrids.
 - Utilize proper stormwater management practices to insure improved water quality.

Acquisition & Funding

Landowner Based

What is the Greenprints Process?

The following matrix outlines strategies for acquisition and funding mechanisms at both the landowner based perspective and city based perspective. The matrix provides brief description and more importantly recommended actions for each acquisition, funding, and regulatory mechanism.

| Acquisition/ Funding Mechanisms | Mechanisms Description | Mechanisms Status (Current, Recommended Action, Contact/Key Partner) | Application for Greenspaces | Application for Connectivity |
|--|--|---|-----------------------------|------------------------------|
| LANDOWNER BASED | | | | |
| Bargain sale | <ul style="list-style-type: none"> Part donation/part sale—property is sold at less than fair market value. Eligible for tax benefits. Landowner retains ownership until death, then donates to public entity. | <ul style="list-style-type: none"> Current: Community members and land owners can access information about The Greenprints Project and link to resources from partners at www.thegreenprintsproject.com. Recommended Action: With overwhelming community support shown on the Greenprint Community Survey, the City to coordinate with partners on providing additional information and fact sheets to landowners, as well as links to resources and applications from The Greenprints Project Website. Contact/Key Partner: Georgia Land Conservation Program (www.glcp.org), Department of Natural Resources, Local Tax Assessors Office, Georgia Land Trusts | ✓ | ✓ |
| Bequest | | | ✓ | ✓ |
| Conservation Easement | <ul style="list-style-type: none"> Legal agreement a property owner makes to restrict the type and amount of development that may take place on his or her property. A partial interest in the property is transferred to a qualified nonprofit, land trust, or governmental entity either by gift or purchase, in exchange for a tax savings. As ownership changes, the land remains subject to the easement restrictions. Landowner donates during lifetime but has lifetime access. Eligible for tax benefits. | | ✓ | ✓ |
| Donation with retained life estate | <ul style="list-style-type: none"> Landowner donates during lifetime but has lifetime access. Eligible for tax benefits. | | ✓ | ✓ |
| Easements with a Mitigation Bank | <ul style="list-style-type: none"> Mitigation banking is the restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands for the express purpose of providing compensation for unavoidable wetland losses in advance of development actions, when such compensation cannot be achieved at the development site or would not be as environmentally beneficial. A landowner may offer wetlands on his property to a mitigation bank for protection and/or restoration. Eligible for compensation and tax benefits. | | ✓ | |
| Federal Taxpayer Relief Act of 1997 | <ul style="list-style-type: none"> Rewards landowners who put conservation easements on their property with a 40% estate tax exemption up to \$500,000 for qualified properties. | | ✓ | ✓ |

Landowner Based

| LANDOWNER BASED | | | |
|---|--|---|---|
| Fee Simple Acquisition | <ul style="list-style-type: none"> Land is sold at its fair market value. | ✓ | ✓ |
| Georgia Land Conservation Tax Credit | <ul style="list-style-type: none"> Available to individuals or corporations that donate land or a conservation easement to a government entity or qualified non-profit organization. | ✓ | ✓ |
| Land exchange | <ul style="list-style-type: none"> Exchange of developable land for land with high conservation value. | ✓ | ✓ |
| Lease | <ul style="list-style-type: none"> Short-or long-term rental of land. | ✓ | ✓ |
| Outright donation | <ul style="list-style-type: none"> A donation by landowner of all interest in property. Eligible for tax benefits. There may be income, estate and property tax benefits for donating land, donating a conservation easement, or selling the property as a "bargain sale" at below market value. The amount and type of tax benefits depends on a variety of factors, including the legal tool used to protect the land, the value of the donation, the landowner's income level and the total amount of the estate. | ✓ | ✓ |
| Tax incentives: Estate tax, income tax, property tax | <ul style="list-style-type: none"> Federal Income Tax Benefits: Allows a deduction of up to 30% of adjusted gross income (AGI) for qualifying donations. State Income Tax Benefits: See Georgia Land Conservation Tax Credit- provides for a credit on Georgia state income tax of 25% of the donated value for qualifying lands. Estate Tax Benefits: Donating property or conservation easement will likely reduce value of estate, and thereby reduce or even eliminate estate taxes for heirs. Property Tax Benefits: Assessed value of property may be reduced after placement of conservation easement, and thereby reduce property taxes. | ✓ | ✓ |

Acquisition & Funding

City Based - Acquisition Oriented

| Acquisition/ Funding Mechanisms | Mechanisms Description | Mechanisms Status (Current, Recommended Action, Contact/Key Partner) | Application for Greenspaces | Application for Connectivity |
|---|---|---|--------------------------------|---------------------------------|
| | CITY BASED- Acquisition Oriented | | | |
| Agency transfer | <ul style="list-style-type: none"> Certain government agencies may have surplus property inappropriate for their needs that could be transferred to a parks agency for public use. | <ul style="list-style-type: none"> Current: City is working with Corp of Engineers to expand land lease agreement for additional public accessible greenspace. Recommended Action: City and public utilities to explore utilizing and managing sewer easements, power easements, and excess right-of-way for linear recreational opportunities. Contact/Key Partner: City and County Departments, Georgia Power, Georgia Department of Transportation, Cherokee County Water and Sewerage Authority | ✓ | ✓ |
| Greenspace Stewardship Program | <ul style="list-style-type: none"> Recognizes good stewards in a public manner rewarding them for their dedication to land conservation practices. Notifies landowners of important resources on their properties. | <ul style="list-style-type: none"> Current: Recommended Action: City to implement program to provide public recognition/notification and coordinate with partners on providing additional services and incentives to land owners preserving their land. Contact/Key Partner: City and County Departments, Georgia Land Trusts | ✓ | ✓ |
| Purchase of development rights (PDR) | <ul style="list-style-type: none"> An agreement in which a landowner sells the right to develop his property to a qualified nonprofit, land trust, or government agency. An easement is placed on the property permanently protecting the property from development. | <ul style="list-style-type: none"> Current: Recommended Action: City to explore opportunity for a partnership with land trust or other qualified non-profit. Contact/Key Partner: Trust for Public Land, The Nature Conservancy, The Conservation Fund, and other Georgia Land Trusts | ✓ | |
| Transfer of Development Rights (TDR) | <ul style="list-style-type: none"> A transfer of development rights (TDR) enables landowners in an area planned to remain as open space "sending zone" to sell their development rights for use in "receiving" areas of the community where higher density development is acceptable or desirable. Buying these additional development rights allows developers in the "receiving" areas to build at a higher density than would otherwise be allowed. | <ul style="list-style-type: none"> Current: The City Comprehensive Plan identifies appropriate locations for "receiving areas". Recommended Action: City to explore opportunity to partner with Cherokee County in implementing TDR. Contact/Key Partner: City, Cherokee County | ✓ | |

City Based - Funding Oriented

| Acquisition / Funding Mechanisms | Mechanisms Description | Mechanisms Status (Current, Recommended Action, Contact/Key Partner) | Application for Greenspaces | Application for Connectivity |
|---|--|--|-----------------------------|------------------------------|
| CITY BASED- Funding Oriented | | | | |
| Atlanta Regional Commission (ARC) Programs | <ul style="list-style-type: none"> Transportation Improvement Program (TIP) | <ul style="list-style-type: none"> Current: Recommended Action: City to submit The Greenprint Plan to ARC for incorporation in regional planning efforts, including TIP, RTP, and Regional Bike and Ped Plan. Contact/Key Partner: Atlanta Regional Commission | ✓ | ✓ |
| Budget appropriation | <ul style="list-style-type: none"> A dedicated funding line in the operation budget. | <ul style="list-style-type: none"> Current: Recommended Action: City to explore allocating additional funds toward parks and recreation. Contact/Key Partner: City Council and Departments | ✓ | ✓ |
| Development Impact Fees | <ul style="list-style-type: none"> One-time fee paid by developer to local government to offset costs of providing infrastructure to new development. Developer can be required to pay a fee to provide parks and recreational space within the development. | <ul style="list-style-type: none"> Current: City has completed an Impact Fee Methodology Report for The City of Woodstock Impact Fee Program (includes park and recreation facilities and road improvements) Recommended Action: City to adopt Impact Fee Ordinance and maintain provisions for parks and recreation facilities. Contact/Key Partner: City Council and Departments | ✓ | ✓ |
| General obligation bonds/ bond referendum | <ul style="list-style-type: none"> Loan taken out by a city or county against the value of the taxable property that allows for immediate purchase of open space. | <ul style="list-style-type: none"> Current: Recommended Action: With community support shown on the Greenprint Community Survey, City to explore opportunity to use bond to purchase greenspace at current prices and distribute acquisition cost over time. Contact/Key Partner: City Council, City Departments, Community | ✓ | ✓ |
| Georgia Department of Natural Resources Programs | <ul style="list-style-type: none"> Recreational Trails Program: Provides funding for trail construction, trail maintenance and trail education. Awards grants to city governments, county governments, federal agencies, authorized commissions, as well as state agencies. Land and Water Conservation Fund | <ul style="list-style-type: none"> Current: Recommended Action: City to identify qualifying greenspace and trail projects based upon Greenprint Plan priorities and submit appropriate applications. Contact/Key Partner: Trails and Greenways Section of Georgia DNR Parks, Recreation and Historic Sites Division (www.gastateparks.org) | ✓ | ✓ |

What is the Greenprints Process?

Acquisition & Funding

City Based - Funding Oriented

| Acquisition/ Funding Mechanisms | Mechanisms Description | Mechanisms Status (Current, Recommended Action, Contact/Key Partner) | Application for Greenspaces | Application for Connectivity |
|--|---|---|--------------------------------|---------------------------------|
| CITY BASED- Funding Oriented | | | | |
| Georgia Department of Transportation Programs | <ul style="list-style-type: none"> Safe Routes to School Program Transportation Enhancement (TE) Program Congestion Mitigation and Air Quality (CMAQ) Improvement Program | <ul style="list-style-type: none"> Current: City has obtained TE Program funds for two planned trail segments near Rope Mill Park and Springfield Park. Recommended Action: City to identify qualifying trail and bike route projects based upon Greenprint Plan priorities and submit appropriate applications. Consider timeframe of GDOT approval process. Contact/Key Partner: Georgia Department of Transportation, PATH Foundation | ✓ | ✓ |
| Georgia Land Conservation Revolving Loan Fund Program | <ul style="list-style-type: none"> Provides low interest loans to cities, counties, and authorities selected by the DNR to purchase lands or conservation easements on lands with high conservation value and a water quality benefit. | <ul style="list-style-type: none"> Current: Recommended Action: City to explore obtaining low interest loans when necessary to act quickly to preserve a key tract of land when it becomes available rather than risk losing it. The grant program is very competitive, however the loan program has high success rate. Contact/Key Partner: Georgia Land and Conservation Program (www.glcp.org), Georgia Environmental Facilities Authority | ✓ | |
| Dedicated Open Space Non-profit Group | <ul style="list-style-type: none"> Seek Private Grants and Funds from Philanthropic Agencies, Donor Programs, Capital Campaigns, Foundations, Corporations | <ul style="list-style-type: none"> Current: Recommended Action: City to support establishing a non-profit group or commission dedicated to partnerships and alternative funding. Contact/Key Partner: Mayor, City Council, City Departments, Greenprint Committee, Park Pride | ✓ | ✓ |
| Public/private partnerships | <ul style="list-style-type: none"> Can be an extremely effective means of acquiring funding or assistance. | <ul style="list-style-type: none"> Current: Recommended Action: City to explore multiple partnerships utilizing The Greenprint Project Potential Partnerships/ Stakeholders Matrix. Contact/Key Partner: City and County Departments, PATH Foundation, Georgia Land Trusts, Volunteers, Developers, Park Pride | ✓ | ✓ |

City Based - Funding Oriented

| CITY BASED- Funding Oriented | | | |
|--|--|--|--|
| Special Purpose Local Option Sales Tax (SPLOST) | <ul style="list-style-type: none"> An optional 1% special purpose tax used to finance specific projects for a time period not to exceed five years. | <ul style="list-style-type: none"> Current: Recommended Action: With overwhelming community support shown in The Greenprint Community Survey, City to collaborate with County on allocating SPLOST funds toward City greenspaces and trails. Contact/Key Partner: City Council, County Commissioners, City and County Departments, Community | <ul style="list-style-type: none"> ✓ ✓ |
| Tourism Related Taxes | <ul style="list-style-type: none"> Hotel/Motel tax or bed tax and rental car tax | <ul style="list-style-type: none"> Current: Recommended Action: As an outdoor and leisure travel attraction, City to explore feasibility of tourism related taxes being allocated to greenspaces and trails. Contact/Key Partner: | <ul style="list-style-type: none"> ✓ ✓ |
| Tax Allocation District (TAD) | <ul style="list-style-type: none"> A designated area in which improvements, usually related to infrastructure or environmental problems, are carried out by a local government in order to make a site viable for development. The local government typically issues bonds to pay for the improvements, and the added tax revenues that the project eventually generates are used to pay off the bonds. | <ul style="list-style-type: none"> Current: Downtown Woodstock Tax Allocation District Recommended Action: City to include public greenspaces and multi-use trail network as identified in The Greenprint Plan. Contact/Key Partner: City Departments, Woodstock Downtown Development Authority | <ul style="list-style-type: none"> ✓ ✓ |
| User Fee | <ul style="list-style-type: none"> Intended to cover the cost of providing goods or services. Typically, the fees are collected from any user, although local governments can also create special districts and charge user fees for services provided to people in a defined area. | <ul style="list-style-type: none"> Current: Recommended Action: With community support shown in The Greenprint Community Survey, City to explore entry fees, program registration fees, and parking fees to primarily assist in offsetting operating expenses. Contact/Key Partner: City Departments, Park and Recreation Advisory Board, Cherokee County Parks and Recreation | <ul style="list-style-type: none"> ✓ ✓ |

What is the Greenprints Process?

Acquisition & Funding

City Based - Regulatory Oriented

What is the Greenprints Process?

| Acquisition/ Funding Mechanisms | Mechanisms Description | Mechanisms Status (Current, Recommended Action, Contact/Key Partner) | Application for Greenspaces | Application for Connectivity |
|--|---|--|-----------------------------|------------------------------|
| CITY BASED- Regulatory Oriented | | | | |
| The Greenprint Plan | <ul style="list-style-type: none"> Green infrastructure planning with this Vision for Woodstock: A sustainable greenspace and trail network that defines and enhances the City of Woodstock's community, natural and economic resources for all generations. Serves as the blueprint for local governments to outline land use goals, growth patterns, and infrastructure placement. Also provides the policy framework for implementation tools. | <ul style="list-style-type: none"> Current: Undergoing community and resource based planning process. Recommended Action: City to adopt and incorporate The Greenprint Plan and model design standards into the Comprehensive Plan, Land Development Ordinance and review process as appropriate. Contact/Key Partner: Mayor and City Council, City Departments, Parks and Recreation Advisory Board, The Greenprint Committee Current: The 2008 Update identifies the need for balance between the built and natural environment through the integration of green infrastructure and green architecture into the fabric of development and the recommendation that future development should provide appropriate public and private open spaces at different scales and purposes. Recommended Action: City to incorporate the Greenprint Plan into the Comprehensive Plan and the Future Development Map as appropriate. Contact/Key Partner: Mayor, City Council, City Departments | ✓ | ✓ |
| Comprehensive Plan | | | ✓ | ✓ |
| Cluster/Open Space Zoning | <ul style="list-style-type: none"> Commercial, residential or mixed use development in which a significant portion of the site (e.g. 40% or greater) is set aside as undivided, permanently protected open space, while the buildings (houses, shops, etc.) are clustered on the remainder of the property. | <ul style="list-style-type: none"> Current: Land Development Ordinance of the City of Woodstock provisions for Performance Zoning provides Open Space Standards, Cluster Housing Developments, and Conservation Subdivisions. The Ordinance provides provisions for traditional neighborhood design in the Downtown District, including requirements for bike parking and 20% public or private open space. Recommended Action: With overwhelming community support, City to continue to use zoning to restrict what can be built on undeveloped land deemed a high priority for conservation/ recreation/ water quality; moreover, City should work with developers in implementing greenspaces and trails. City to incorporate model design standards in the Greenprint Plan into the Land Development Ordinance and encourage implementation of Greenprint Plan elements. City to consider requiring all major new developments to provide for alternative transportation features and facilities, wherever appropriate, as a supplement to, or replacements for automobile facilities. City to require greenspaces and trails to be publicly accessible when corresponds to the Greenprint Plan. Contact/Key Partner: Atlanta Regional Commission, Georgia Department of Community Affairs, Mayor and City Council, City Departments, Developers | ✓ | ✓ |
| Incentive Zoning | <ul style="list-style-type: none"> The practice of granting developers extra elements they want (most often density increases) in exchange for providing amenities such as greenspace. A density increase is called a "density bonus." | | ✓ | ✓ |
| Performance Zoning | <ul style="list-style-type: none"> The amount of sewage capacity available or the acceptable volume of storm water runoff, for example, in an area determines the uses permitted. Incentive Zoning | | ✓ | ✓ |
| Traditional Neighborhood Design (TND) | <ul style="list-style-type: none"> Typically include small lot single-family homes, multifamily residences, and neighborhood commercial developments, all within easy walking distance of one another. | | ✓ | ✓ |

| Acquisition/ Funding Mechanisms | Mechanisms Description | Mechanisms Status (Current, Recommended Action, Contact/Key Partner) | Application for Greenspaces | Application for Connectivity |
|---------------------------------------|--|---|--------------------------------|---------------------------------|
| | CITY BASED- Regulatory Oriented | | | |
| Low Impact Development | <ul style="list-style-type: none"> Encourages environmentally friendly ways to develop. Manages stormwater, by collecting and draining or evaporating it onsite, rather than routing it into a typical stormwater collection system. LID techniques include bioretention, permeable pavers, tree box filters, rain barrels, disconnected downspouts, narrower streets, infiltration swales, rooftop meadows, bioretention cells and rain gardens. | <ul style="list-style-type: none"> Current: City utilizes the latest edition of the Georgia Stormwater Management Manual (GSMM) as their stormwater management design manual. Recommended Action: City to review the latest edition of the US Housing and Urban Development Report "The Practice of Low Impact Development" and determine if any content needs to be added to the Land Development Ordinance to supplement the GSMM. Contact/Key Partner: City Departments | ✓ | |
| Riparian Buffer | <ul style="list-style-type: none"> Requires strips of land (25' state mandated) along both banks of streams and rivers be set-aside from development and left in their undisturbed, natural state as a vegetative barrier. These buffers protect water quality by slowing and filtering stormwater runoff before entering the stream. | <ul style="list-style-type: none"> Current: Land Development Ordinance of City of Woodstock provides provisions for Stream Buffer Protection Zone, including 50' City undisturbed stream buffer and 75' City impervious surface setback. Recommended Action: City to ensure Stream Buffer Protection Zone allows for encroachment of impervious hard surface multi-use trails identified in The Greenprint Plan outside of the 25' state mandated stream buffer. Contact/Key Partner: City and County Departments | ✓ | ✓ |
| Tree Protection | <ul style="list-style-type: none"> Requires preservation of a significant portion of the trees on a development site, particularly larger, more mature specimens. | <ul style="list-style-type: none"> Current: Land Development Ordinance of the City of Woodstock provides provisions for Tree Preservation Standards. Recommended Action: City to continue current process of revising standards to enhance protection of significant and specimen trees, to discourage mass grading, and to provide provisions for the implementation of multi-use trails. Contact/Key Partner: City and County Departments | ✓ | |

1. Sources for Acquisition and Funding Mechanisms include: Green Infrastructure Toolkit by Atlanta Regional Commission, Local Greenprinting for Growth Workbook by The Trust for Public Land and The National Association of Counties, The Georgia Land and Conservation Program.

What is the Greenprints Process?

Resources

Resources for Greenprints Project

1. "A toolkit for the evaluation of land parcels for green space planning" The University of Georgia.
2. "Bike Ped – Atlanta Regional Bicycle Transportation & Pedestrian Walkways Plan" Prepared for The Atlanta Regional Commission, Prepared by Sprinkle Consulting, Inc. June 2007
3. "Chattahoochee Hill Country Regional Greenway Trail Master Plan", the PATH Foundation, September 2003.
4. "Cherokee County Community Agenda" Cherokee County. February 2008
5. "Cherokee County Community Assessment" ROSS+Associates, McBride Dale Clarion, Day Wilburn Associates, Robert Charles Lesser & Company. January 2007
6. "Cherokee County Comprehensive Transportation Plan". Carter Burgess. March 2007.
7. "Cherokee County Greenspace Protection Plan". 2007.
8. "Cherokee County Recreation & Parks Authority Comprehensive Master Plan" Lose & Associates, Inc. 2005.
9. "City of Woodstock Impact Fee Program – Impact Fee Methodology Report" Ross & Associates. May 2007.
10. "City of Woodstock – Comprehensive Town Plan 2030" The City of Woodstock. December 2007.
11. "DeKalb's Greenway Trails". The PATH Foundation. January 2000.
12. "Economic Benefits of Land Conservation" The Trust for Public Land. 2007.
13. "Economic Benefits of Open Space Protection" Land Trust Alliance. Spring 2003.
14. "Economic Benefits of Trails and Greenways" Rails-to-Trails Conservancy.
15. Environmental Systems Research Institute, Inc. (ESRI). Knowledge Base, User Forums & Virtual Classroom Training.
16. Georgia Horse Council, Inc. www.georgiahorsecouncil.com
17. Georgia Statewide Comprehensive Outdoor Recreation Plan (SCORP). Prepared by The University of Georgia.
18. "Green Infrastructure Toolkit" Atlanta Regional Commission, Georgia Conservancy, Trust for Public Land.
19. "Greenprint for King County". The Trust for Public Land, Jones & Jones and The Point Wilson Group. March 2005.
20. "Guide for the Development of Bicycle Facilities"; American Association of State Highway and Transportation Officials, 1999 http://safety.fhwa.dot.gov/ped_bike/docs/b_aashtobik.pdf
21. "Guidelines for Developing Public Recreation Facility Standards", Ministry of Culture and Recreation, Sports and Fitness Division
22. Minnesota Department of Natural Resource - *Natural Resource Guidance Checklist - Natural Resource Inventory and Analysis for City or County*
23. Minnesota Department of Natural Resource - *Natural Resource Guidance Checklist - Natural Area Management Plan*
24. National Recreation and Parks Association (NRPA) www.nrpa.org
25. "People Places – Design guidelines for Urban Open Spaces"; Department of Architecture and Landscape Architecture, University of California, Berkeley.
26. "Rockdale River Trail Master Plan". Prepared By The PATH Foundation & Ecos Environmental Design, Inc. 2005.
27. "Source Protection Handbook - Using Land Conservation to Protect Drinking Water Supplies" The Trust for Public Land & American Water Works Assoc.
28. The American Association of State Highway and Transportation Officials (AASHTO) <http://www.transportation.org/>
29. "The Neighborhood Model: Building Block for the Development Areas", County of Albemarle, Department of Planning and Community Development; Torti Gallas and Partners, Dodson Associates, Centers for Watershed Protection & McGuire Woods Battle and Boothe, LLP.
30. The Southern Off-Road Bicycle Association (SORBA) www.sorba.org
31. "The Travis County Greenprint for Growth". Prepared By The Trust for Public Land. October 2005 – October 2006.

32. *"Trails for the Twenty-First Century – Planning, Design and Maintenance Manual for Multi-Use Trails"* Rails-to-Trails Conservancy; Charles A. Flink, Kristine Olka, Robert M. Searns. 2001.
33. *"Wake County Consolidated Open Space Plan"*. The Trust for Public Land. September 2006.
34. Geographic Information Systems (GIS) Resources:
 - a. City of Woodstock, GA GIS Department
 - b. Cherokee County GIS Department
 - c. Cherokee County Historic Society
 - d. Cobb County GIS Department
 - e. Atlanta Regional Commission
 - f. NAHRGIS - Georgia's Natural, Archaeological, and Historic Resources GIS
 - g. FEMA
 - h. NWI
 - i. Georgia Clearinghouse
 - j. Cherokee County Historical Society
35. Image Database References:
 - a. Congress for New Urbanism— Image Bank: <http://www.cnu.org/search/imagebank>
 - b. Pedestrian and Bicycle Information Center— Image Library: <http://www.pedbikeimages.org>
 - c. Project for Public Space— Image Collection: <http://www.pps.org/imagedb>
 - d. Flickr - Photo Search: <http://www.flickr.com/search/>