DESIGN WITH VALUES: EAST ATHENS PARK GREENWAY EXTENSION

by

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(Under the Direction of Gregg Coyle)

ABSTRACT

The goal of this thesis is to use potential greenway values to guide the design of a future North Oconee River Greenway extension. This is done by first outlining the potential values that greenways can provide, including economic, ecological and social values. The history of the North Oconee River Greenway is then summarized from its early beginnings to the present day. The history and current conditions of the site of the future East Athens Park Extension are then detailed in order to identify potential values that could influence the design. Finally, value-based design recommendations are then made and a concept plan for the site is presented. The goal of the thesis is to create a method of value-based design that can be used for the East Athens Park Extension, future North Oconee River Greenway extensions, and greenways and greenway extensions in general.

INDEX WORDS: Greenways, Greenway Development, Economic Values, Ecological Values, Social Values, East Athens Park, Oconee Rivers Greenway Commission North Oconee River Greenway, Cook and Brother Armory, Chicopee Complex, Value-based Design,

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DEDICATION

To Charles Aguar, a mentor whom I never met, and to his wife Berdeana, who I have been lucky enough to know.

ACKNOWLEDGEMENTS

I would first like to thank my entire family for the steadfast support and encouragement. I would also like to thank all of my professors, especially those that have gone through this process with me. Dexter, David, and Chris: thanks for teaching me outside of the classroom where the real learnin' happens. Everyone who is, or has been involved, in making Charlie's greenway dream become a reality, has shown me that people make things happen. Finally, I would like to thank my wife, Danielle, who has been my motivation and support from the beginning.

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Introduction

Purpose of Thesis Study

Developing the North Oconee River Greenway has been a complex process that has been in progress for over thirty years. What began as a coordinated volunteer effort has grown to become an Athens Clarke County Unified Government's (ACC) ongoing projects. The success that the greenway has had is a clear indication of the high value that it holds for the people of Athens-Clarke County. Greenways have been shown to be valuable for communities, and with proper design, the potential values that a greenways offer can be maximized. As the North Oconee River Greenway continues to grow and develop, potential values should be explored and addressed during the design phase of development.

The ultimate purpose of this thesis is to create a design for the greenway that uses potential values as a guide. Documented values of greenways, as well as an in-depth study of the history of the North Oconee River Greenway, will first be explored. The findings will then be synthesized to generate a design for the planned East Athens Community Park Extension. The resulting design can be used as a starting point in order to receive community input and feedback and will hopefully assist in generating support for the entire project. It can also serve as a demonstration project to be observed, adjusted, and researched over time. The knowledge gained from success or failure for this planned corridor could be used to help guide future development and management of the Oconee River Greenway system.

Organization of Thesis

The documented values of greenways will be examined in the second chapter by outlining the most influential values that greenways can offer to communities. In the chapter, the values will be divided into three primary categories: economic, ecological, and social. Economic values include increased property values, spending by residents and tourists, commercial uses, and indirect values. In the ecological values section, the importance of corridors, wildlife and habitat, and riparian protection will be discussed. Social values include recreation, education, cultural, and transportation. All of the documented values will be used to aid in the final design of the East Athens Community Park Extension.

In order to design for the future, a clear understanding of the past is extremely important. In the third chapter, the history of the greenway system in Athens will be discussed at length. It will outline its rise from a mere concept, to an accepted plan, to the completion of several portions. Through this discussion the reader will see that many of the values outlined in the second chapter have been core principals since its inception. The history of the greenway ends at the present time and the East Athens Community Park Extension will be one of the next projects to be undertaken.

The fourth chapter introduces the project site and documents the existing conditions. A site analysis will include significant cultural, ecological, and physical elements that exist on the site. The chapter will go on to make specific recommendations about possible economic, ecological, and social values that the corridor may be able to bring to the greenway and the community.

In the fifth chapter, the analysis from the previous chapters will be used to create a design for the site. A concept plan illustrates the overall design and each design component will also be described in greater detail.

The sixth chapter will summarize this experience. The thesis will conclude with thoughts concerning the design process and outcome.

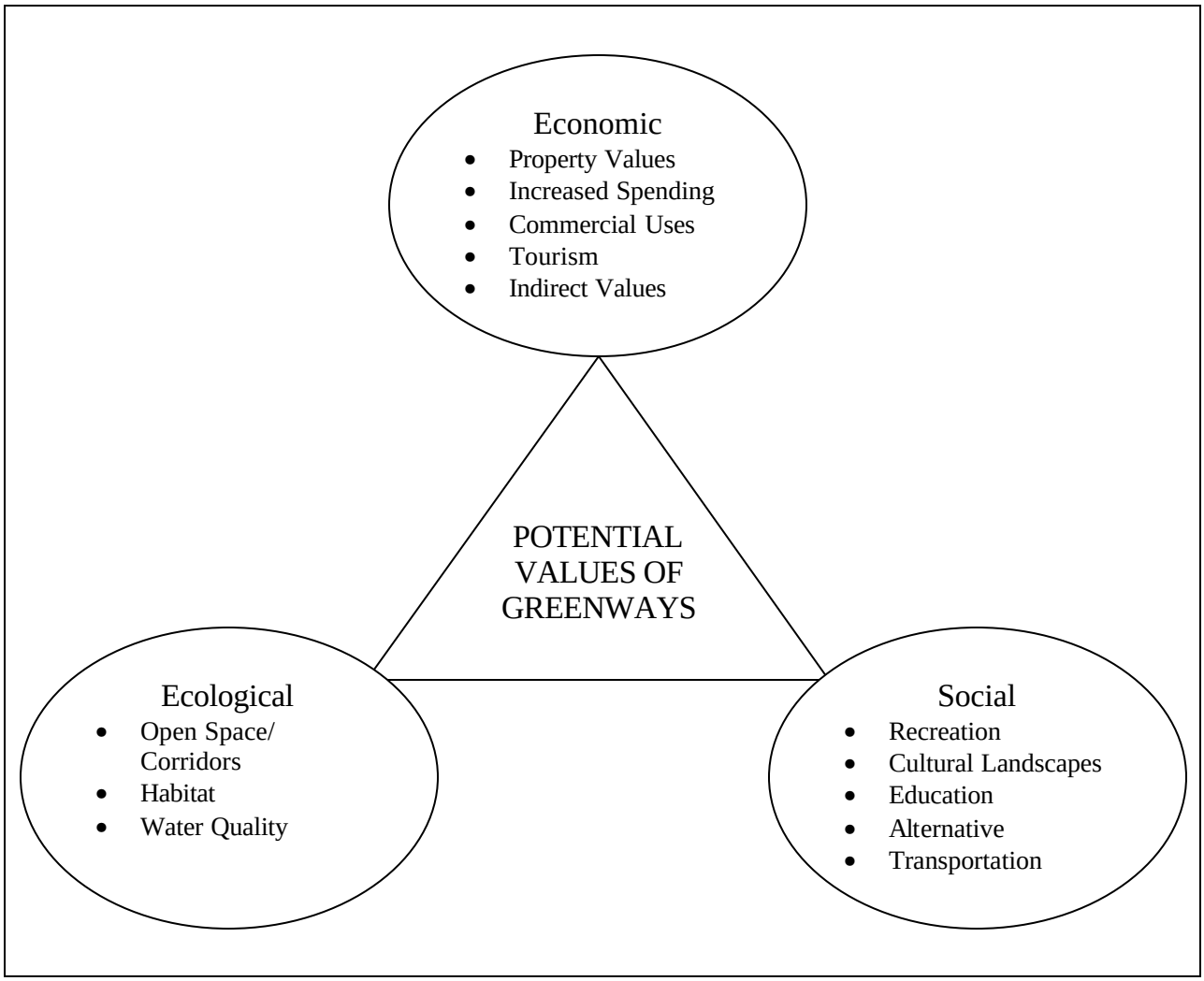
Chapter 2

The Values of Greenways

Introduction

Understanding the complex set of values that greenways can encompass, how they relate to each other, and how they can be used separately is vital in understanding how and why greenways are important. The values are an intricate web that can be used as an outline for advocating for greenways, as guidelines for design and construction, and as strategies for managing and expanding them. Using a combination of economic, environmental, and social values (Table, 1) can create a strong platform for their promotion, and each of those values can also be used in various combinations that are applicable to a greenway network, a single trail, or even a small expansion segment. Every greenway is made up of various parts all with different points of significance and interest. A cemetery, for instance, could have economic values in that it is a draw for historical tourism, and social values in that it is historically significant, it could also be used as an educational resource, and it could have a value for alternative transportation if it can serve as a link between two distinct parts of a community. A wetland on the other hand could be of economic value because of its flood mitigation potential, ecological value as habitat and as a filtration mechanism, and at the same time could be used for environmental education and interpretation. Using combinations of values to create strong reasons for the protection, development, and management of trails and greenways is extremely important in their ultimate success.

Table, 1 – Diagram of potential greenway values



Economic Values of Greenways

Over the past 20 years, planners and landscape architects have increasingly looked to greenways as additional greenspace that can supplement and connect more traditional parks and open land. Just as with parkland, the primary justification for greenways may not be financial, but financial justification for acquiring the land and creating the infrastructure is always required (Crompton, 62). Because creation of greenways is a relatively new phenomenon, there is not an exorbitant amount of quantitative evidence as to their economic values, but research has begun, and trends have emerged that indicate that greenways have positive economic impacts on the communities where they are developed. The 1995 National Park Service study the *Economic Impact of Protecting Rivers, Trails and Greenway Corridors* is the most comprehensive study of the Economic Values of greenways to the Community. It asserts that greenways can have a beneficial impact on the community's economy by increasing expenditures by residents, boosting related commercial uses, and by increasing tourism to the area. They have also been shown to reduce costs to the public and to increase expenditures by agencies that are charged with creating and maintaining. The amenities that are provided by greenways have also been shown to increase nearby property values which, in-turn, increases the local tax base and offsets costs incurred by communities where they are developed (National Park Service, VI). Although economic values may not be the most important value of trails and greenways, it is a major component of an overall value system that can encourage their creation.

- Increase in adjacent property values has been a conventional justification for the creation and development of traditional parks and open spaces, and it is becoming increasingly evident that developing greenways has a similar effect. Greenways and trails provide

amenities such as preserved open space, increased aesthetic quality, and access to recreation and alternative transportation that are important to consumers and can result in increased adjacent property values. Charles little, in his seminal book *Greenways for America,* asserts that "…this is almost beyond argument since the value of land for office buildings and apartment houses or condominiums will be enhanced to some degree by adjacency to any public amenity of this sort" 185). Several surveys, including *The Impact of rails to Trails* by the National Park Service and Pennsylvania State University (1992), a study completed by the Office of Planning in Seattle, Washington (1987), and a survey of adjacent landowners along the Luce Line rail-trail in Minnesota (1988), have shown that there are perceived increase in property values by property owners and real estate professionals (National Park Service, 1-7). In "Analysis of Economic Impacts of the Northern Central Rail Trail" prepared for the Maryland Greenways Commission found that "…the most significant economic finding… is that the 1993 budget to provide the trail to the public was $191,893, the direct economic inputs to the State via tax revenue alone were $303,750 (I-1). "Benefits of Greenways: A Pennsylvania Study (2002) also demonstrates that the Pittsburgh to Cumberland Trail Corridor showed a demonstrative increase in both property values and real estate sales (10). The National Park Service study also shows that "[a]n increase in property values generally results in increased property tax revenues for local governments," citing a study of the impacts of greenbelts on neighborhood property values in Boulder, Colorado (1-8). Although the available information is far from being conclusive, and there appears to be a time lag before property values are increased, it becoming clearer that trails and greenways do have a

positive effect on nearby property values and other economic indicators including expenditures by residents.

- Spending by local residents on greenway related activities helps support recreation related business, employment, and businesses patronized by greenway and trail users. It has been shown that spending on recreation is becoming an increasing priority and that local residents who use greenways spend money to get to and from the site, on supplies and equipment to pursue their recreation experience, at on-site concessions and events, and nearby attractions (National Park Service 2-5). The report for the Maryland Greenways Commission found that trail users who had purchased goods for use on the trail spent an average of $203 in 1993, and users who purchased soft goods (food etc.) before or after using the trail spent an average of $6.30 per visit (I-3). Trail related activities including walking, jogging, biking, skating has become increasingly popular and expenditure on equipment, transportation, and related activities by local residents on such has a beneficial impact on local economies (National Park Service, 2-8). Spending by local residents along with related commercial uses and tourism have a combined effect on local economies that lend additional economic values to the creation and development of trails and greenways.
- Commercial uses as they relate to greenways have been shown to have positive economic effects on the communities in which they are built. Commercial uses including on-site concessions, permittees, partnerships between the managing agency and other groups, as well as special events, can add to the economic values of urban trails and greenways. Concessions, permittees, and licensees are privately operated entities that operate on public land by authorization of the managing agency or group and can include private

vendors, the leasing of land, or easements for private utility companies (National Park Service, 3-3, 3-4). Special events, including races, benefits, and entertainment, can generate revenues for the community, individual organizations, and for the greenway it self, while at same time promoting the greenway to visitors and residents alike (National Park Service, 3-4 – 3-6). Fairmount Park in Pennsylvania conducts festivals and special events such as Family Farm Day, and Sheep Shearing Day and Sunday tours which are open to the public and bring over 10,000 visitors a year to the Pennypack Greenway (Pennsylvania Greenways Partnership Commission, 6).

- Tourism can be increased by the implementation of successful greenway which generates expenditures on lodging, food, and recreation related services. Greenways can attract tourism by serving as travel destinations in themselves, by encouraging area visitors to extend their stay, and can also enhance business and pleasure visits. Travelers are increasingly attracted to educational-oriented experiences provided by cultural and historic sites. Along with recreation and beautiful natural sites, tourists cite cultural heritage as one of three major reasons they travel to specific locations (U.S. Travel Data Center, 1991). Projects including Elroy-Sparta Trail in Wisconsin, Missouri Wild and Scenic River, and Lewis and Clark National Historic Trail in Montana, and the San Antonio Riverwalk in Texas have all shown positive economic impacts from tourism (National Park Service, 5-6) Because tourists spend money in the community and add relatively little stress to infrastructure or to public institutions, creating low cost amenities such as greenways that will attract tourism makes economic since for most communities.
- Indirect values including such public cost reductions as reduced public service requirements, hazard mitigations, pollution control, and health care can result in reduced

costs to public agencies. By preserving open space and controlling sprawl governments can save money by not having to invest in additional utilities and infrastructure. In the City of Boulder, Colorado, the cost of maintaining open space was found to be less than three percent of the public cost for maintaining developed areas that require utilities, flood control, transportation, and subsidiary governmental entities' costs are included (National Park Service, 8-4). A study in Culpepper Virginia concluded that for every dollar of tax revenue collected from residential land uses in 1987, $1.25 was spent on county service, and for every dollar collected from farm, forest, and open space lands, only $0.19 was spent on services (Vance and Larson, II-7). Developing greenways in environmentally sensitive areas, including sites vulnerable to flooding, slope instability, and earthquakes, can reduce potential property damage costs and loss of life. "In 1958, Gilbert White estimated that for every six dollars in potential damages reduced each year by new flood protection measures, at least five dollars in additional damages resulted from development in floodplains. Steve Hanke calculated the same ratio of dollars spent in flood control to dollars of damage in 1972. Flooding accounted for larger annual property losses than any other single geophysical hazard" (National Park Service, 8-6). Furthermore, Charles Little asserts that in "…Tucson's linear park system, local government studies showed a substantial savings in establishing a greenway, even if it required relocating some of the residents away from the floodway, in contrast to the projected cost of later mitigation" (185).

Another indirect economic benefit of greenways is that by creating them, municipalities can meet imposed pollution control measures while at the same time providing desirable amenities for the public. Research has shown that the natural

properties of plants and trees help mitigate water, air, and noise pollution and Greenways help conserve such plants and trees and provide a valuable contribution toward pollution control. Pollution can be further decreased by encouraging people to walk or bicycle rather than drive automobiles (National Park Service 8-7). Furthermore, by providing facilities that encourage physical fitness, health care costs, which have been traditionally shared by health services, employers, and individuals, can be reduced. According to a Corporate Wellness Study for the city of San Jose, Department of Recreation in 1988, people who exercise regularly have 14 percent lower claims against their medical insurance, spend 30 percent fewer days in the hospital, and have 41 percent fewer claims greater than $5,000 (National Park Service 8-10). Indirect cost reductions such as these can be used as further economic justification for the creation and development of Greenways, as they demonstrate duel functions that protected corridors can serve.

Agency expenditures, as they relate to greenways, can also serve multiple functions by supporting local economies and by creating jobs within communities. The managing agency supports the economy by providing jobs and purchasing supplies and services to develop, operate, and maintain the greenway and related improvements (National Park Service, 4-3). The agency can provide jobs directly by hiring people to manage and to provide maintenance and upkeep the greenway. It can also provide jobs indirectly by hiring people to perform various aspects of work on the greenway, including design and construction, repairs and improvements, and even design and research of interpretive materials. The 1993 operations budget for the North Central Rail Trail in Baltimore County, Maryland reached almost $192,000. These state expenditures provided for salaries, maintenance, contractual services and utility bills (Maryland Greenways

Commission, 1994). The managing agency can also benefit the local economy by purchasing goods and supplies that are used for regular maintenance The economic benefits provided by the managing agency are enhanced by hiring and purchasing within the local community. By advocating for greenways, communities can be proactive in creating employment and by supporting local businesses, and taken with the other economic benefits, can be proactive by stimulating local and regional economies as well.

Any economic benefit taken alone may not be justification for creating a greenway, but taken together, and specifically targeting appropriate values, communities can not only economically justify greenways, but can challenge critics to explain their reasons for opposing them. As trails and greenways become even more widespread, successful, and complete, more research and data will prove these economic values and discover other ones. Just as it has become easier to justify traditional parks, greenways, with all of their variations and complexities, will be proven to be vital aspects of planning and design.

Ecological Values of Greenways

As with traditional parks and natural open spaces, greenways can serve the ecological function of maintaining ecological regimes and by providing habitat for plants and wildlife. Greenways, however, by the nature of their linearity tend to have different ecological functions, than traditional natural areas. Because they tend to be narrow corridors their effect on the environment touches on many aspects of landscape ecology. Greenways also have particular implications for wildlife including providing habitats and acting as conduits. Because many greenways follow rivers, the also tend to have specific effects maintaining natural functions of

riparian zones. As landscape ecology has emerged as a leading school of ecological thought, greenways demonstrate many of the guiding principals.

- Natural Corridors play an important role in the field of Landscape ecology which views nature in a broad geographic scale that changes and evolves over time. "Landscape ecology has become an increasingly important part of greenway planning because it melds human and natural considerations and influences in real-world landscapes" (Flink and Searns, 123). Greenways fit into the field of landscape ecology because they can function as corridors in the larger landscape. Greenways can also serve an important habitat function by protecting a large range of habitat types (Smith and Hellmund, 31). They can act as conduits in the landscape, which can help species escape danger, colonize new areas, and in finding mates, food, habitat, and shelter (Flink and Searns, 123). Greenways can also serve as barriers to movement of species and could, for example, dissuade animals such as deer from entering into urban or more populated areas. Natural corridors can also serve as filters, restricting the flow of plants and animals, absorbing chemicals and fertilizers out of storm water run-off, and trap by trapping erosion before it can affect natural hydrologic regimes. As humans continue to develop land, protected areas including greenways, can serve as natural sources for vegetation and animal populations to spread throughout the landscape. Greenways can also serve as ecological sinks, by trapping and containing elements that enter into it (Smith and Hellmund, 32). Just as there are beneficial elements to all of these corridor effects, there can also be negative outcomes, such as the spread of exotic-invasive species, the blocking of beneficial elements moving through the landscape, and increased edge effects. This is why design of greenways is something that should be taken very seriously, and choices

made could have long-term positive or detrimental effects on the land and the wildlife that live with in it.

- Habitat for plants and wildlife can be benefited by greenways as they serve the two major purposes of providing habitat and by serving as a conduit. The effectiveness of greenways as habitat tends to be dependent on the greenways size and on the development rates that surround it; the larger the size and more development, increases the importance of greenways as habitat. Greenways help to reduce the effects of habitat fragmentation which is "…one of the most serious threats to biological diversity and is a primary cause of the extinction crisis (Fabos and Ahern, 180). Even narrow corridors can be beneficial as habitat for organisms that are adapted to "edge habitats" including rabbits, grackles, and especially riparian species that naturally live in corridor environments (Smith and Hellmund, 45). Although greenways can serve important habitat functions, their greatest value to wildlife seems to be their use as a conduit. Because of increased fragmentation rates, many species "cannot meet their food requirements or successfully breed in the small areas to which they have been relegated" (Flink and Searns, 123). Well designed greenways can serve as corridors for daily and seasonal movements, allowing animals to find food, water, cover, or mates in a reasonably safe way. They can also help to facilitate the dispersal of animals and genetics between habitat patches through direct, long distance movement by a single individual, periodic movement punctuated by pauses, and gene flow through a reproducing population in the corridor (Smith and Hellmund, 48-50). Greenways could also potentially be used as corridors for long-distance range shifts, as it has been suggested that natural habitat corridors, such as those bordering the Appalachian Trail, might

facilitate range shifts for some species. Corridors along riparian zones, which have historically been used as corridors, tend to function very well as greenways and should be examined beyond their use for survival of plants and wildlife.

- Maintaining water quality resources is also a primary ecological function of river based greenways. Throughout the United States, cities were founded because of their close proximity to rivers, but as their usefulness as transportation routes waned, so did their importance to the city. As a result cities often forgot their rivers and relegated them as dumps, for waste water removal, and have even become physical socio-economic barriers (Little, 81). However, their neglect, compounded with flood plane regulations, has left many urban riparian zones undeveloped and protected. This has enabled them to be developed as greenways, and, in turn, has allowed them to carry out natural ecological functions. Flow moderation is a primary function of intact riparian zones because "…they allow floodwater to spread horizontally, to infiltrate soils, and to be released slowly (Smith and Hellmund, 75). Protected open space along riparian corridors can also act as filtration devices, by controlling erosion and sedimentation and through nutrient uptake and removal (Smith and Hellmund, 78). Intact overhanging and near stream vegetation can also help to reduce water temperature and to increase bank stabilization, both of which serve to enhance and improve many types of aquatic habitat. Although many people think of a greenway as the paths that humans use, paths and trails are only one component of greenways, and it is the protected areas around theses paths or corridors that serve the greatest ecological function.

As with any greenway, their ecological benefits are only one component of what makes them valuable, but their unique design causes them to have different values than other types of

protected land. Because they are designed as corridors, they function ecologically in the same way, which landscape ecologists assert is a very important function of overall landscape health. Ecological values need to be taken very seriously by greenway designers, because without planning for ecology from the beginning, and by focusing instead on their social, economic, and cultural values, it is possible to not receive their full ecological benefits.

Social Values of Greenways

The social values of greenways are probably the most well known, but as with all values of greenways, they can be difficult to quantify. Recreation generally tends to be the most accepted value associated with greenways, as they serve a wide variety of interests and activities and are conducive to walking, jogging, skating, bicycling, canoeing, and many other recreational activities. They also tend to have outstanding educational values as they can act as living museums, outdoor classrooms and laboratories, they can promote interaction with natural surroundings, and they can have signs and brochures that inform people about natural or historic features. Greenways can also serve as a means to conserving historical and cultural resources by providing access to buildings of historic and architectural importance, a place to look back at the events and people that shaped the present, and the opportunity to preserve historic assets and archeological artifacts. Greenways can also be of value in their ability to promote alternative transportation, as they can give people the option of not using an automobile to meet all of their daily transportation needs. Out of all the social functions, however, it does tend to be recreation at the core of their development and their recreational values tend to complement and enhance all of the related values.

- Recreation is the primary justification and benefit expected from a greenway system, and an attractive and safe network of trails can attract people for all of its benefits. Recreational greenways, as defined by Little, feature "… paths and trails of various kinds, often of relatively long distance. These are usually based on natural corridors as well as canals, abandoned railroad beds, and other public rights-of-way (4). Greenways can be stand-alone facilities, with parking areas and amenities such as bathrooms, benches, and signage, or they can enhance the existing recreational resources in an area by linking parks, schools and recreation centers. According to the Virginia Greenways and Trails Toolbox, 'Trails designed for fitness activities get heavy use and can attract visitors from outside the area to attend competitive or special events" (1-11, 1-12). Greenways can serve a variety of recreational activities that tend to center around trails or connections between other recreational activities, and just as there are many types of recreation, there are also many types of trails that greenways can have. Some of these include: pedestrian trails, hiking trails, hike-bike trails, equestrian trails, mountain bike trails, multi-use trails, rail-trails, rails-with-trails, toe-paths, and water trials (Virginia Department of Conservation and Recreation, 1-8 – 1-11). As urban populations grow, leisure time becomes more important, health conscious populations emerge, and the need and value of outdoor recreational opportunities become more important to communities. Greenways lend themselves well to these populations in the fact that they tend to connect to a variety of destinations which appeal to active, travel oriented activities , including walking, running, biking, skating, horseback riding, canoeing, and many others. Greenways are also designed for recreation "…because it is the most immediate and tangible benefit for the public and in turn yields a strong and vocal recreation

constituency (Smith and Hellmund, 15). Although greenways major social function may be for recreation they can also serve other important social functions including education.

- Cultural landscapes within greenways can often provide users with the ability to explore and understand the unique character of individual communities by preserving sites and structures that that are significant to earlier people and events. Greenways often follow corridors that have been used by people for other purposes for a significant amount of time, including river valleys, canals, roadways, ridge tops, and rail lines. Because these corridors were often hubs of activity, they can often contain remnants of the past that can be used to expose some of the history of the site. Promoting the preservation and interpretation of culturally significant sites on greenways can lead to the creation of "heritage corridors" that link preserved cultural amenities (Flink and Searns, 167). The Heritage Trail in Dubuque, Iowa is an example a greenway that successfully preserved some of the regions history by preserving a railroad right-of way. In the face of adamant initial opposition, the trail was completed and now users enjoy encounters with wetlands, Indian burial mounds, an 1868 cast-iron truss bridge, sheer, limestone cliffs, lead and iron ore mines, remnants of a stage coach road, and a wealth of other natural and cultural attractions that help to illuminate the history of the region (Little, 43-38). Because many greenways follow established transportation corridors they can often tell the story of change and development in the region, while, at the same time, they can reestablish historical infrastructure as viable alternative transportation routes.
- Education is also an important component of preserved natural areas as they offer opportunities for people to learn and interact with their natural surroundings. Greenways can expand on this component by offering a wide range of educational experiences along

its path. Greenways can teach visitors about the cultural, historical, and natural history of an area, and can even tell interconnected stories about the history and future of a community. Greenways are also able to provide education by serving as outdoor classrooms for related agencies, schools, and other educational facilities. It has been suggested that by having schools become directly involved in the greenway, through such programs as segment adoption, students can receive hands-on experience that goes beyond traditional classroom activities. In Littleton Colorado, for example, schoolchildren receive ongoing environmental education by planting and caring for a wetland along the Arapahoe Greenway (Fabos and Ahern, 75). The Oil Creek State Park Bicycle Trail in Pennsylvania is a greenway that acts as a museum for the past and an interactive stage for environmental learning. Visitors there are provided the combination of enjoying the natural amenities of Oil Creek Valley and examining traces of the oil boom that once dominated that area of Pennsylvania (Pennsylvania Greenways Partnership Commission, 15). Greenways can also serve to educate the general public and recreational users through interpretive signage and areas and through the use of educational pamphlets and websites. Ongoing education can lead to an understanding of the cultural resources of a place that can lead to further preservation of cultural resources.

- Transportation corridors The introduction of widespread automobile use and a well-maintained highway system caused the demise or diminishment of historical transportation corridors. Ironically, it was this phenomenon that has helped the greenway movement to become as successful as it has; it is after all, many of these right-of-ways that are being used for the creation of greenway networks today. Because these routes were developed for transportation, it makes since that they be used again for

transportation in their current application. As greenways grow and become more inter-connected, their value as alternative transportation routes increases. Greenways can provide alternative travel choices by connecting neighborhoods to transit, schools, workplaces, and shopping areas. Alternative travel choices serve a community by reducing congestion, improving air quality, and by providing safe alternatives to residents that wish to bicycle or walk to nearby destinations. Since its opening, the Eliza Furnace trail in Pennsylvania has served as a successful alternative transportation route to downtown Pittsburg and has been shown to successfully reduce the number of motorized commuters (Pennsylvania Greenways Partnership Commission, 20). As the cost of roads, maintenance, and related infrastructure increases, and as fuel prices rise and commutes grow longer, comprehensive transportation strategies that include non-motorized alternatives become more imperative.

Comprehensive strategies for greenways that take into account the wide spectrum of social values that they can encompass is vital to the creation of successful greenway systems. Greenway systems should be complex, inter-connected, and should be sensitive to most of the social values that they can embrace. Recreation, Education, Conservation and preservation, as well as transportation are core social values to greenways, but there are many others as well. The separation of the interconnected value system that goes along with greenways is difficult because it is the combined range of values that make greenways so important. The combination of economic, ecological and social values is where the strength of the movement arises, and understanding how they all work together is necessary when trying to create, design, maintain, and improve greenway systems in all communities.

Summary

When examining the values that greenways can offer, it becomes increasingly obvious that there is strength in numbers. The more values that can be attached to a specific greenway, the better its chances are for successful implementation. Greenways are most successful when they are promoted, designed for, and used by a wide spectrum of interested groups and individuals. Greenway advocates can maximize their strength by promoting their ideas to as many user groups that may be interested. This can build support from many different areas, making it more appealing to politicians and related agencies. Designers should take all values into consideration as to not dissuade any possible user groups, but rather to make it an inclusive project that entire communities can get behind. Managers and users should keep out a diligent eye for new possible uses, users, and values that can enhance and improve existing greenways. It is the complexity of greenways that make them such an appealing planning element. Their effects on local economies, ecologies, and social structures all interact with each other, and a valuable greenway is one that embraces the complexities and uses all of the values together in a way that enhances the community as a whole.

The values that are outlined in this chapter coincide with the values and objectives that are outlined for sustainable design. The objective of sustainable design is to maximize the economic, ecological, and social values that a site or design can deliver. The rest of this thesis will use these values, the history of the North Oconee River Greenway, and the site in order to make sustainable design recommendations for the East Athens Park Extension.

Chapter 3

History of the Oconee River Greenway

Introduction

The values that greenways can have are inextricably tied to their history, and it is therefore important to discuss the history of the greenway itself in order to fully understand the mission and values of the greenway in question. In this chapter the history of the North Oconee River Greenway will be outlined, beginning with its earliest inception and concluding with an up-to-date description of its progress. The first section gives a brief history of the river's past, the earliest plans for a greenway on the river, and will then detail Charles Aguar's efforts of turning an idea into a grass-roots movement. The second section will outline how the greenway evolved from a mere idea into a reality and will emphasize how seriously the greenway has been taken by the citizens of Athens-Clarke County. The final section will bring the reader up to the present status of the greenway and will begin to introduce where the greenway is going next. This chapter thoroughly outlines the greenway's history, and from it, it can be seen that many values outlined in the preceding chapter have been part of the idea from the beginning.

The Beginning

In 1770, the noted naturalist William Bartram first described the Oconee River near Athens as "…that beautiful river" where "[t]he cane swamps, of immense extent, and the oak forests, on the level lands, are incredibly fertile; which appears from the tall reeds of the one, and the heavy timber of the other." Since that time, the rivers in Athens have served many functions but have always remained vital to the town and surrounding area. In 1801, Daniel Easly built a

mill complex on Cedar Shoals and eventually sold 633 acres on the hill above the shoals to University of Georgia trustee John Milledge. As Athens grew into a major manufacturing center of the South, Easly's Mill became the Athens Cotton and Wool Factory in the 1830's and other factories, mills, and accompanying villages sprang up throughout the region. At the same time, the cane breaks and oak forests that Bartram had described had been turned into plantations and cotton fields whose sediment made the "the shimmering waters" of the Oconee Rivers run red with eroded sediment. By the end of the 19th century, the city of Athens had built a waterworks with 16 miles of water mains to carry water directly to resident's homes, and the Athens Railway and Electric Company had constructed hydroelectric dams on the Middle Oconee which provided lighting as well as power for an electric streetcar line. Despite Athens' dependence on the rivers, they continued to be used as dumping grounds for raw sewage until 1962 when Athens built its first wastewater treatment plant on Bailey Street (Stenger, 10/13/96). The beauty and recreational potential of the rivers was not lost on everyone, however Warren Manning, an associate of Frederick Law Olmstead, was able to see past the rivers that had been polluted for decades with human and industrial waste and ran red from cropland erosion. In 1925, he did a complete study of greenways and parks in Athens, and recommended a greenway system that followed the banks along both of Athens' major rivers and their smaller tributaries (Rusk, 1/23/97). The idea for a greenway lay dormant for over half of a century until Charles Aguar, independently of the Manning plans, proposed a greenway system along the North and Middle Oconee Rivers in the early 1970's.

Charles Aguar is generally recognized as being the "father" of the modern Oconee Rivers Greenway system. He conceived the concept and saw it become a reality. The son of Portuguese immigrants, Aguar used the GI bill (from his service in World War II) to receive his bachelor's

degree in landscape architecture and a master's degree in city planning from the University of Illinois in 1950. He worked for 20 years as a governmental planner and as a private consultant before moving to Athens, GA in 1970 to join the faculty of the University of Georgia's School of Environmental Design. Aguar also worked for the University's Institute of Community and Regional Development, where he focused his attention on education and community service. His work on the Georgia Heritage Trust Program, led to an appointment to President Carter's National Heritage Trust Program. When Aguar turned his attention to his concept for the Oconee River Greenway, he also joined a citizen group which developed the Sandy Creek Nature Center. He used his background in governmental planning, as a consultant, and his resources as a professor and community activist to raise awareness and support for the concept of a linear park that would protect Athens' rivers (Aguar, speech outline, 2003 – see Appendix A). Aguar was instrumental in the formation of the Oconee Rivers Greenway Commission, which moved the greenway from a concept to its official ground-breaking in November 1999. The Oconee River Greenway was Charlie Aguar's passion for the entire time he lived in Athens and his determination and persistent advocacy helped ensure that it advanced to the point where it is today.

In his advocacy, Aguar enlisted his students, grassroots organizations, and the cooperation of the Athens' Recreation and Parks Department to help raise community awareness and support for the greenway. Between 1972 and 1975 Aguar and his students talked to local clubs, organizations, and the local media, which resulted in the adoption of the greenway cause by an umbrella organization known as Home And Neighborhood Development Sponsors (HANDS) (Aguar, speech outline, 2003 – see Appendix A). According to his "Brief history of the Oconee Rivers Greenway Concept" written in 1989, Aguar asserted that "…as drafted in

1972 by the HANDS civic organization and the School of Environmental Design (SED), had as its main objective to begin a coordinated effort for protection and development of a scenic corridor along the main two river branches." The primary goals were to protect and conserve the river as well as to provide recreational amenities for the people in Athens-Clarke County (Oconee Rivers Greenway Commission, 4). In October 1973, Aguar's students, including Joe Burnett and Roger Davis, presented detailed studies of one-mile-wide corridors along the Middle and North Oconee Rivers at the Athens Regional library to interested citizens, including a skeptical Mayor Julius Bishop (Steadman, 10/11/73). The greenway received official recognition from the city of Athens' Planning Commission the following month when Aguar was asked to write a lead article in the commission's newsletter and it became a feature of the planning staff's Recreation-Open Space Plan (completed but never adopted) which incorporated several of the student's recommendations (Oconee Rivers Greenway Commission, 5). The planning commission article concluded by saying: "It is time that we stop using [the rivers] as sewers and dumping grounds…focus our eyes on [them] and rediscover the beauty that the Indians and original settlers knew" (Oconee Rivers Greenway Commission, 9). As a result of this sentiment, an event named 'River Day' was held which included such events as a river cleanup contest and a mass downriver 'float trip' (Spears, 4/13/75). River Day was the forerunner of an annual state wide, Department of Natural Resources event known as "Rivers Alive" which attracts hundreds of people each year and was responsible for removing 10 tons of garbage from the North Oconee's banks in 2003 alone ("Rivers Alive cleanup set for Saturday," 10/16/04). Aguar knew that it was this type of widespread community support that would turn the idea of a greenway in Athens into a reality.

The Middle Years

Throughout the late 1970's and into the 1980's persistence and community support began to pay off. With the help of "Model Cities" funding, the first unit of the greenway was built by the Athens' Recreation and Parks Department under Superintendent Daniel Hope III in 1976. The North Oconee River Park established in the area between Water and Willow Streets running East-West and East Broad St. and North Ave. to the North-South just outside of downtown (Aguar, speech outline, 2003 – see Appendix A). In the early 1980's, state and federal grants were obtained to purchase land for a 4-mile-long gravel and boardwalk hiking trail, later named in honor of its builder and active greenway proponent, Dr. Walter Cook that connected Sandy Creek Nature Center with Sandy Creek Park. In 1985, a Future Land Use Plan was adopted by the city of Athens and in this plan, a corridor along both rivers and tributaries shown with a designation for "Parks and Public/Private Open Space." In 1990, an ad-hoc "Task Force" was organized to include members representing Athens Parks and Recreation, Clarke County Parks Department, Clean and Beautiful Commission, Garden Clubs, Downtown Development Authority, The Georgia Conservancy, Students for Environmental Awareness, and news media. As a result of the task force meetings, recommendations were presented to respective government bodies that an official "Greenway Commission" be established. In 1991, the first Oconee Rivers Greenway Commission (ORGC) was established with members appointed by the city of Athens, Clarke County, and the University of Georgia. In 1992, following governmental unification of the City of Athens and Clarke county into the Athens-Clarke County Unified Government (ACC), the ORGC was reorganized, with ten members appointed by the ACC Mayor & Commission and five members appointed by UGA President (Aguar, Historical outline, 1996 – see Appendix B). The ORGC established its mission to protect the floodplain

corridors of the Oconee for ecological functions and recreational activities (Oconee Rivers Greenway Commission, 2). Over 60 years after Warren Manning recommended a greenway system and 20 years since Charlie Aguar's efforts had begun, the establishment of the quasi-governmental Oconee River Greenway Commission began to move the greenway toward reality.

The Greenway got a major boost in 1994 when Athens residents voted for a Special Purpose Local Option Sales Tax (SPLOST), which earmarked $3.8 million for greenway projects. That money was to be spent between Sandy Creek Park, major features between North Ave. and Broad Street, Dudley Park, Oconee Hills Cemetery, and from College Station Road to Whitehall Dam (Postell, 2/26/95). In 1995, Rob Fisher, of Robinson Fisher Associates, Inc. of Athens, asked Charles Aguar to serve as a member of his design team if his firm was selected to conduct the study and develop the plans (Aguar, speech outline, 2003 – see Appendix A). In 1996, Fisher's firm was selected, and they presented a concept proposal for the entire greenway in December of that year (Kinsler, 12/1/1996). The plan was unveiled at two public hearings, one at the Classic Center on December 2nd and the other at Barnett Shoals Elementary School on December 9th and was met with mixed reviews. Some of the affected property owners voiced concerns about property rights, safety, and privacy, while other concerned citizens and environmentalists endorsed the basic concepts of the plan (Kinsler, 12/3/96). During the time allotted for public comment between the original unveiling and when plans would be officially presented to the Athens-Clarke County Commission, landowners who were going to be affected by the greenway intensified their public opposition to the proposed greenway.

Throughout the month following the presentation, several vocal citizens were adamant in their opposition, which caused planners to ultimately alter their original plans for development. Glen Weaver, the owner of the land where the North and Middle Oconee Rivers joined which

was slated to be the end of the first phase of greenway development, stated that he could "…see why they want to put the greenway here. If I didn't live right next door, I'd be all for it." Bill Slack a resident in Red Fox Run subdivision stated that "[t]he trail will go right across my back yard. Someone could see right into our windows from that trail," and his wife reiterated his sentiment, stating that "[w]e'll never be safe again" (Kinsler, 1/9/97). The opposition came to a boil when Ed Mingledorf, the owner of four acres on East Broad and Wilkerson Streets found survey stakes on his property and "…assuming that the surveying was done for greenway purposes – carried his shotgun and pistol along when he went to make a statement on the front steps of the Athens Daily News Building" (Deck, 1/16/97). As a result of the adamant opposition to the proposal the Athens-Clarke County Mayor & Commission asked the greenway commission and Rob Fisher to examine the area north of downtown Athens for the initial construction phase (Kinsler, 1/10/97). As a result of this request, the Oconee Rivers Greenway Commission decided to "…fast-forward the development of a section…between North Avenue and Sandy Creek Nature Center" (Thompson, 1/16/97). This solution appeased the property owners who opposed the initial concept and laid the ground work for the commission to move ahead on further planning and secured extra time in order to make acquisitions of private property along the river corridor.

After the plans were amended, the controversy began to die down and the Greenway received a financial boost when then Governor Zell Miller announced Athens would receive funds from his newly introduced RiverCare 2000 initiative. The RiverCare program was initiated by Miller to provide grant money to acquire historically and ecologically significant land along rivers in Georgia. The Athens-Clarke County government, in cooperation with the Oconee Rivers Greenway Commission and the Oconee River Land Trust (ORLT) applied for $2 million

and were awarded $1.5 million in November, 1997. The announcement by the governor on the bank of the Oconee made Athens the first city to receive RiverCare money, a fitting reward for the years of effort put in by Charles Aguar and countless others who gave their time, energy, and expertise to bring the Oconee River back to prominence. This was underscored by Miller's statement that "[w]e're here because a lot of folks just wouldn't give up" (Thompson, 11/18/97). The grant money was originally intended to buy tracts of land including the Cook and Brother Armory's gun emplacement located between First St. and Martin Luther King Jr. Blvd. and the Rock and Shoals granite outcrop, an ecologically significant tract near the confluence of the North and Middle Oconee Rivers. With new funding and a new mandate to build the first section of the greenway north of town, the greenway was finally becoming a reality.

Once concerns about access, safety, and privacy were addressed, the first stage of the greenway was scheduled to begin in 1999. Using a combination of funding from SPLOST and the federal Transportation Enhancement program (ISTEA) designated to fund non-automobile modes of transportation), the "Heritage Trail" was slated to become the first stage of greenway to be built. The actual construction of the trail was transferred from the Greenway Commission to the ACC SPLOST manager's office (Oconee Rivers Greenway Commission 1999 Annual Report, 2000). Designed to be the center piece of the greenway, the Heritage Trail was to feature historical events and buildings near downtown Athens (Durham, 8/18/98 – Howell, 24 Aug. 1998). On June 8^{th,} 1999, the ORGC gave its final approval to the trail's three sections at a public meeting at the Athens-Clarke County government building. The commission also approved the construction of the first section which connected East Broad St. to the Sandy Creek Nature Center (Soto-Carabello, 6/10/99).

On Monday November 1, 1999, Charles Aguar stood in attendance with over 50 other people, and witnessed the official groundbreaking of his almost 30-year-old dream. Former Lt. Governor Pierre Howard, the key note speaker of the ceremony, echoed the mantra that Aguar had espoused for many years: ''The rivers of America are the lifeline of our society. Without the rivers we don't have any drinking water. Without the rivers we would lose one of the most beautiful resources God ever gave us. We have not been the caretakers that really we ought to have been and I think what you're doing in this county is a wonderful thing" (Soto-Carabello 11/2/99). In February 2000, less than 4 months after the groundbreaking of the greenway, Charles Aguar died, but his legacy of a built greenway was on its way.

Following Aguar's death, a proposal was made to dedicate a portion of the greenway in his honor. A shaded spot near the intersection of E. Broad St. and Willow St. was chosen to become Aguar Memorial Plaza. The Rotary Club of Athens West offered to donate a large portion of the construction expenses and maintenance responsibilities for the memorial. The School of Environmental Design held a competition and many students entered. The winning entry, submitted by Leah Gardner (MLA), left the site much as it was. Her design included a series of non-intrusive paths, some granite benches, and several rocks engraved with Aguar's writing. A program to remove invasive-exotic plant species on site was also proposed. A plaque at the plaza entrance states: "Charlie's volunteer service is reflected in this facility and represents the many others who have contributed to the realization of his vision. It is an example of how one person can make a difference. He is an inspiration to all those who will follow to maintain the Greenway and extend its benefits throughout the country" (Wharton, Memorandum – See Appendix C). When finished, the site will serve as a place for quiet reflection along the

greenway and will recognize Charles Aguar and all of the citizens who made the greenway a reality.

Up to the Present

As the result of a more aggressive policy by the ACC Manager's Office, the greenway made several other important strides in 1999. A property acquisition team was developed which worked aggressively to secure needed parcels of land. The properties that were secured included several parcels along Trail Creek and Poplar Street, an old gas station on Oak Street, the Salvation Army Store on Oconee Street, and several other parcels along the river from north of Broad Street to Sandy Creek. The Greenway Commission's long-time request for a permanent greenway coordinator position for the Department of Leisure Services was also finally granted in 1999. The persons in this position became the permanent face and voice of the 'greenway movement' and have made great strides in advancing its acceptance in the community. While it retained a connection to the Planning Department, this development shifted the primary means of administrative support for the Greenway Commission to the Leisure Service Department. SPLOST 2000, also passed in 1999, contained two greenway acquisition projects: including one to purchase buffer lands around Cooks Trail and one to buy land adjacent to the North Oconee River (Oconee Rivers Greenway Commission 1999 Annual Report, 2000). These funds, in addition to those from RiverCare 2000 set the stage for future greenway development.

On June 3rd 2000, the first phase of the greenway, the1.7-mile section on Willow Street from East Broad Street to College Avenue, was opened to the public for a "Sneak Preview". Because of the steep slopes, it was not built directly on the river bank but, instead, along the road that follows the river, which reduced costs and protected the river's bio-diversity and habitat (*Gallentine*, 6/4/00). The greenway continued to make progress in 2000 as the rights of way

between Dudley Park and Sandy Creek Nature Center were almost completely secured and over two miles of improved trail was completed. The Heritage trail was also designated as a "Millennium Trail" by then First Lady Hillary Rodham Clinton and the Millennium Council (Oconee Rivers Greenway Commission 2000 Annual Report, 2001).

In 2001, the greenway had several setbacks, including the closing of Willow Street between E. Broad Street and North Avenue due to remediation of a site that had been contaminated by an old coal gas plant and a municipal incinerator. Other set backs included delays on installing necessary bridges, and cost overruns that resulted in cutbacks in planned amenities (Oconee Rivers Greenway Commission 2001 Annual Report, 2002).. Despite these, the greenway continued to make steady progress, completing infrastructure and seeing users begin to come to the completed portions of the trail.

Progress continued in 2001 when the Leisure Services Department, the Planning Department, the Manager's Office, and the SPLOST consultants drafted a county wide Greenway Network Plan that focused on creating corridors throughout the county that would link open space and public parks. The plan established "network development guidelines" and goals that include conservation, preservation, transportation, education, and recreation. The plan also includes an infrastructure plan that outlines types of corridors and design standards. The types of corridors included are primary waterways, tributary waterways, destination access and/or wildlife corridors, and supporting destinations. The design standards include descriptions of types of zones, path and trail prototypes, and typical cross sections of common improvements. It also identifies corridor priorities, potential corridors, and the corridor master plan (Athens Clarke County Dept of Leisure Services). The Greenway Network Plan was submitted to the ACC Commission in 2001 and, after a lengthy bureaucratic journey was finally adopted by the

commission in 2003. This marked a great step for greenways in Athens because it signified the direct involvement of ACC government, allowing the ORGC to begin to act as only an advisory commission as it had been originally intended.

On June 14, 2003, an official ribbon cutting and opening celebration was held for the greenway. The final connections between the Oconee St. and Sandy Creek Nature Center included three pedestrian bridges: one across Sandy Creek near the nature center, one over the Oconee River next to the E. Broad St. vehicular bridge, and one over Trail Creek in Dudley Park (Mock, 1/8/03). On hand for the dedication was Mayor Heidi Davidson who proclaimed the day North Oconee Greenway Day in Athens. Also present were Al Ike, the Oconee River Greenway Commission's first chairman and Dick Field, the then current chairman, as well as over 300 supporters and well wishers. The Celebration included a "water festival," hosted by the Oconee Rivers Greenway Commission, the Upper Oconee Watershed Network and the Oconee River RC&D, with water games for children, a Greenway Bike Parade, a dunking booth, as well as river-protection information ("*Greenway to Open with Ribbon Cutting*," 6/8/03, "Greenway is a Go" 6/15/03). The ceremony and the ribbon cutting marked the completion of the first major phase of the greenway and the culmination of over 30 years worth of work.

As with any completion, this also marked a new beginning, and with the Greenway Network Plan as a guide, the greenway has continued to grow beyond the first phase. In 2004, the Williams Street Connector was completed using SPLOST 2000 funding. The connector goes from the Dudley Park to Oconee St. and along Williams St. to connect with the existing UGA bike paths and walkways at the Thomas St. intersection. SPLOST 2000 funding was also used to design and install twenty three interpretive panels on the "Greenway Plaza" section of the Heritage Trail, across from the former Cook and Brother Armory (now the Chicopee Building).

Greenway related proposals were also submitted to the SPLOST 2005 citizen's advisory committee. Only one of the proposed segments was included, after modification, in the SPLOST proposal that was finally approved (Oconee Rivers Greenway Commission 2004 Annual Report, 2005). In 2004, ground was finally broken for the Aguar Plaza, commemorating the visionary who turned the Oconee River Greenway from an idea into a reality.

Summary

The remainder of this thesis will focus on up-coming greenway projects that could use funding from the 2005 SPLOST package, and include the East Athens Community Park Greenway Extension. From this chapter it can be seen that the North Oconee River Greenway has had tumultuous but steady progress, and the lessons learned can be used by future designers and planners to help progress continue more smoothly. By considering the economic, ecological and social values in the design and planning stages of greenways, the managing agency will be able to make a stronger case to the public and governmental decision makers for why the greenway should continue to grow and receive funding. It is, after all, an amenity for the public that should deliver value to all concerned parties.

CHAPTER 4

THE PROJECT SITE

Introduction

The five sections in this chapter will acquaint the reader with the project site and the opportunities for value based design in this particular greenway improvement. First, a brief history of the site is described. Second, the possible greenway amenities are identified and existing conditions are documented with both written accounts and photographs. In the third, fourth, and fifth sections, the possible economic, ecological, and social benefits from developing the East Athens Community Park Extension will be respectively outlined. The findings in this chapter will then be used to create a design for the East Athens Community Park Extension in chapter six.

Cook and Brother Armory Site History

Because most of the East Athens Community Park Extension will be on property that was once part of the Cook and Brother Armory, it is appropriate to discuss a brief history of the site as a whole. Brothers, Ferdinand W.C. and Francis Cook, both English immigrants, founded a small armory in New Orleans, but after the fall of New Orleans to Union forces in 1862, the Cooks moved the armory to Athens with the assistance of Confederate and private loans (Rice, 9/5/01). The Cooks purchased Carr's old grist mill from the Athens Manufacturing Company on Trail Creek with approximately 25 Acres and began building the main factory, outbuildings, and workers housing, costing them approximately $300,000. Although the building faces the Oconee River, it received its power from Trail Creek which once had a fall of 18 feet. To maximize the

power from Trail Creek, a dam created Carr's Mill Pond and a race led off of the pond to power the factory's turbines (Carlisle, 6). The ground floor walls of the building were constructed with two feet of rubble-red-sandstone with rough corner quoins. The second story was set back and built with brick, and the entire façade was articulated with uniformly situated windows composed of nine pane upper and lower sashes. A three-story, octagonal tower with crenulated roofline was built on the center of the South-West facing façade which gave the building the appearance of a fort (Kissane, 9/15/99) (Figure, 3).

The armory opened on Christmas Day, 1862 and produced arms with stocks from local materials and brass scavenged from old andirons, fenders, church bells, etc. (Bush, 6-7). It manufactured infantry rifles, artillery rifles and carbines as well as cavalry horseshoes, bayonets and agricultural machinery. Because workers were at a premium due to their involvement in the war and the armory could employ 200 people, women and slaves supplied most of the manual labor. The lack of skilled labor handicapped production and prevented the armory of ever reaching its projected capacity of 600 rifles per month (Rice, 9/2/01).

Although production never reached full capacity and effective production would stop in 1864, the Cook and Brother Armory is an important part of Athens' history. The Enfield rifles that were produced there were said by a Confederacy ordinance officer to be "superior to any that I have seen of Southern manufacture" (Historical Marker – See Appendix D) (Figure, 4). The armory also produced Athens' one-of-a-kind, double-barreled cannon, which was never used in battle due to its inaccuracy but sits on the grounds of city hall to this day (*New Georgia Encyclopedia*). In order to delay the drafting of essential men, the cooks formed a reserve unit, for the protection of Athens and the armory, which was known as the 23rd Battalion, Georgia Volunteers (Eberhart, 1991). The Cook and Brother's battalion built a gun emplacement, known

as a breastwork, on the hill overlooking the factory and the river (Thompson, 12/28/97). The gun emplacement was a circular, earthen mound that was constructed to house cannon because the Cooks planned for the armory to be the last line of defense in case of an enemy raid (*The Civil War in Barrow County,* 9). The building itself has gone on to play an important role in Athens history, contributing both to Athens rich manufacturing legacy and as part of the educational mission of the University of Georgia.

A shortage of both skilled workers and food continued to hinder production, and it was suggested the Confederate Army buy the Armory to ensure continual operation. This plan never materialized, however, and in 1864 effective production at the armory was terminated when the Confederate government defaulted on payments for manufactured guns and the Cooks were unable to pay the workers (Coleman, 99). The historic building with symmetrical fenestration and a central stair tower, fell into disrepair after the Confederate surrender in 1865 (Rice, 9/2/01). In 1870, the building became part of the first major expansion in Athens textile manufacturing in 36 years when Athens Manufacturing Company purchased the property back, complete with building at a liquidation sale. The property which was valued at close to $200,000 was purchased for only $18,000 and was promptly converted into a weaving plant (Rice, 9/2/01). The armory building became known as the "check" factory, because it was famous for its "ginghams," or stripped cloth. In the 1920's the weaving operation was converted to spinning rayon for tire chords, and it was converted again in the 1930's to produce spun-rayon fabrics for the dress trade. The Athens Manufacturing Company was dissolved in 1947 after a prolonged textile strike over unionization (Rice, 12/2/01).

The building and site was again resurrected as a mill when it was purchased by the Chicopee division of Johnson & Johnson in 1958. Known as Chicopee Mill, cotton textiles,

including surgical gauze, tobacco and print cloth, and diapers, were produced there over the following 20 years. In 1978 the property was deeded to the University of Georgia as a tax write-off, and has since been used for various university departments, including the Small Business Development Center and the Physical Plant operations headquarters (Rice, 12/2/01). The Physical Plant is the department of the university that is responsible for the maintenance and operation of the University's resident physical facilities, grounds, and utilities. Although much of the ornamentation has been removed from the original Cook and Brother Armory, it retains much of its original character and stands as a reminder of Athens' role in the Civil War, and of its manufacturing and educational legacy (Figure, 5).

Project Location and Existing Conditions

The majority of the East Athens Community Park Greenway Extension will be on property that was at one time owned by the Cook and Brother Armory. Most of the land that will be used is now owned by the North Oconee River Greenway, the City of Athens, or the University of Georgia (Figures, 1 – 2). Having minimal land acquisition is a positive for this project because it will keep costs to a minimum and will maximize potential for the open land. The East Athens Community Park Extension will connect the future East Athens Park with the existing greenway at the E. Broad St. bridge. The primary path will follow First St North, turn South on Vine St. and will then follow Trail Creek on an abandoned railroad line to East Athens Park.

A property on first St. was purchased by the greenway in 2004 with the intent of creating access to an existing greenway property. The existing property contains the gun emplacement built to protect the armory, and it is separated from First Street by a row of private residential lots (Figure 2). The newly acquired adjacent property contains a house that was demolished

(Figure 6) in order to create facilities and access to the gun emplacement property. The gun emplacement property has a circular chain link fence protecting the earthwork itself (Figure 7), the remnants of a pecan orchard (Figure 8), and also has a side facing Martin Luther King Jr. Parkway, across from the North Oconee River Park. The majority of the site is wooded except for the lawn of the condemned residence (Figures 9 & 10). These two properties have the potential to add significant public, greenspace areas to the area just east of downtown Athens.

The next portion of the connector includes the area of First Street between the gun emplacement properties and the intersection with Vine Street, Vine Street between the intersection and Trail Creek, and the area of land adjacent to Trail Creek leading to the future East Athens Park. A wooded property between the gun emplacement site and Vine Street is owned by the University and could possibly serve as an off-street trail for the East Athens Community Park Greenway Extension (Figure 11 & 12). Existing bus stops at the Broad Street intersection and at the intersection of Vine and First Streets and (Figures 13 & 14) could be considered for a transportation improvement. A gravel lot that is currently used by the University of Georgia's Support services is on the land adjacent to trail creek (Figure 15). The property adjacent to Trail Creek is otherwise wooded, is approximately on the site of Carr's Mill Pond, and contains an abandoned rail-road bed that once serviced the Armory building (Figure 16). There was a bridge over trail creek that formerly connected the separate parts of Moreland Avenue (Figure 17). An existing sidewalk follows the streets on the site, and can be widened for the greenway trail (Figure 18 & 19). The East Athens Community Park Extension will be a valuable addition to the North Oconee River Greenway, the neighborhoods that it will serve, and to ACC as a whole.

Figure 1 – Project Site Boundaries

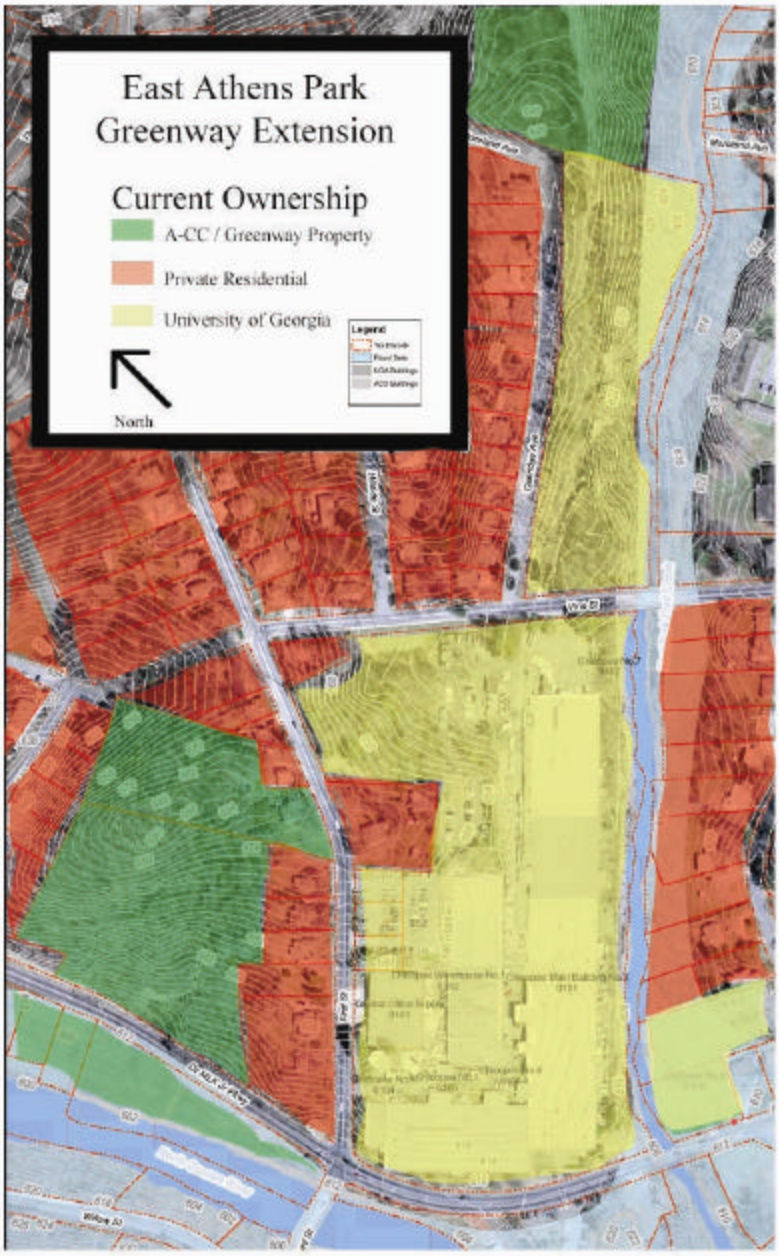


Figure 2 – Project Site Current Ownership

Figure 3 – Historic Photo of Cook and Brother Armory (Rare Books and Manuscripts, UGA Libraries)

Figure 4 – Cook and Brother Historical Marker (Carl Vinson Institute of Government, The University of Georgia)

Figure 5 – Photo of Chicopee Building (former Cook and Brother Armory)

Figure 6 – Remnants of pecan orchard

Figure 7 – Lawn of condemned residence before demolition

Figure 8 – Lawn of condemned residence after demolition

Figure 9 – Fence that surrounds the earthwork

Figure 10 – Wooded character of site with view of downtown in background

Figure 11 – View north on 1st Street from condemned house, wooded area of Chicopee Complex on opposite side of road

Figure 12 – View on Vine Street towards 1st Street, wooded area of Chicopee Complex on left side of photo

Figure 13 – Bus Stop at the Broad Street intersection

Figure 14 – Bus stop at intersection of Vine Street and 1st Street (opposite side of road)

Figure 15 – View of Support Services Parking lot in fence on opposite side of road

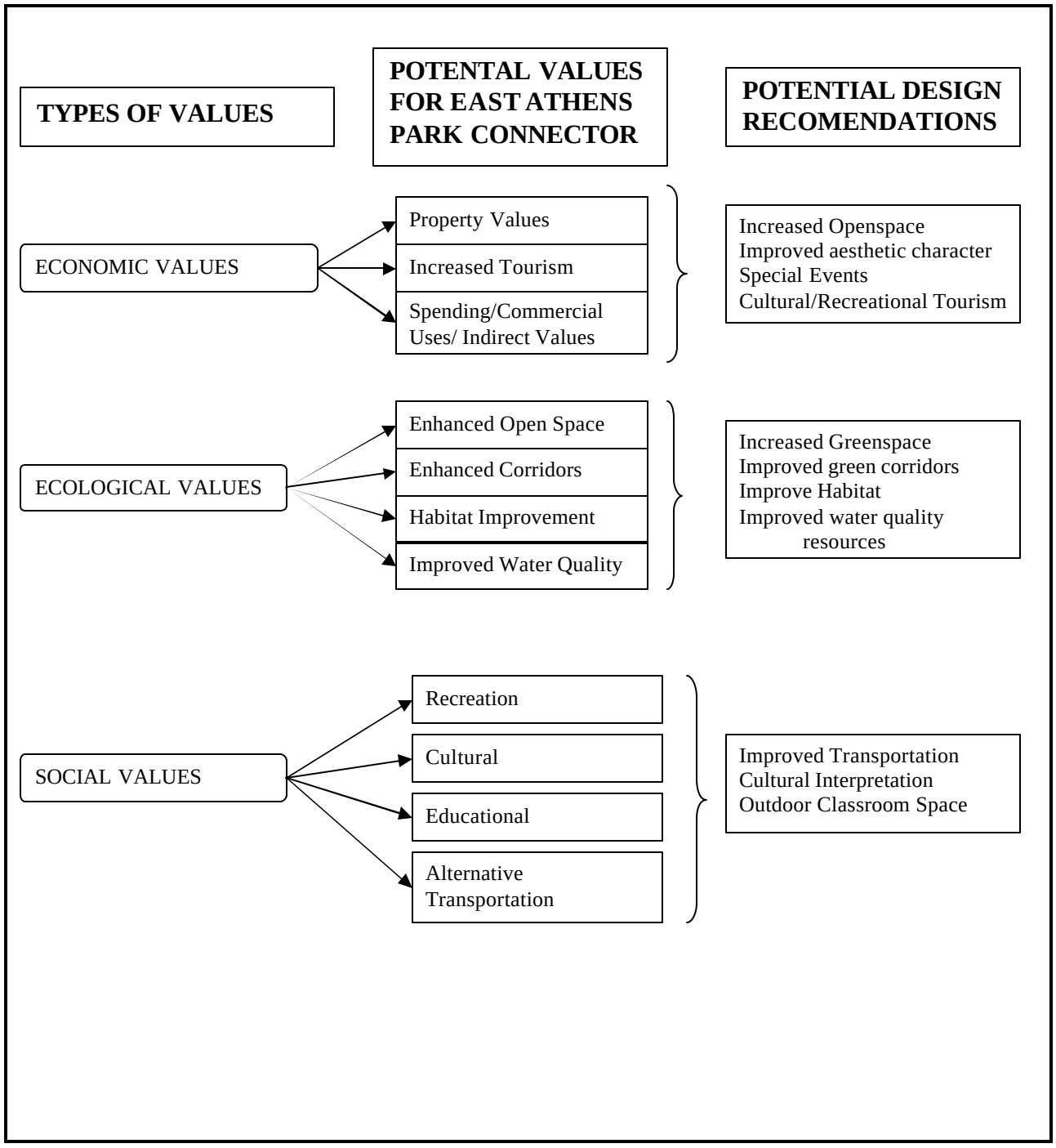
Figure 16 – Current condition of abandoned railroad line

Figure 17 – Abandoned bridge foundations over Trail Creek

Figure 18 – View of sidewalk from Broad Street intersection towards Vine Stereet

Figure 19 – View of sidewalk on Vine Street towards First Street

Table 2: Flowchart of potential values and recommendations for East Athens Park Connector



Opportunities to Create Economic Benefits

The East Athens Community Park Extension has the possibility of bringing economic benefits to the East Athens community and the city in general. East Athens could benefit directly from increased property values which, in turn, would benefit the community tax roles. There would be the possibility of holding special events within the extension, bringing added economic values. This extension would also have the potential to be a draw for tourism which brings economic benefits to the city of Athens as a whole. Examining the potential economic values for the East Athens Community Park Extension as a way to help guide the design can maximize the potential impact that it can have on the community and the city.

As stated in chapter three, a primary economic value of greenways is the effect that they can have on property values in the community. The East Athens Community Park Extension could preserve open space, increase aesthetic quality, and improve access to recreation and alternative transportation within the East Athens community. It has been shown that these amenities are important to consumers and can result in increased adjacent property values. The development of the East Athens Community Park Extension would greatly increase the amount of accessible greenspace by developing the gun emplacement properties, the open space on the Chicopee Complex, and the land adjacent to Trail Creek. This, along with the future East Athens Park, would improve access to recreation resources in East Athens and would provide alternative transportation routes from East Athens to the rest of the greenway and downtown. Overall, the greenway extension could greatly improve the aesthetic character of East Athens by improving sidewalks and developing greenspace which would increase the overall appeal of the community and bring more people in to enjoy it. East Athens is a transitional community and has seen recent

dramatic increases in property values, and the East Athens Community Park Extension could be a driving force in continuing these economic trends.

The East Athens Community Park Extension could further the economic value of the greenway by helping to draw tourism to the Athens-Clarke County area. Recreation and culture based tourism are both important components to bringing visitors to an area, and with the rich and complex history of the site and the recreation opportunities that the extension could generate designing for tourism on the site could increase the potential even further. The cultural complexity of the site, including its agricultural, industrial, civil war, and civil rights (Martin Luther King Parkway), could help to influence design in order to maximize the draw for tourists. The gun emplacement properties could serve as a travel destination by reaching out to "Civil War Tourism" which is becoming an increasingly important and coveted segment of the tourism trade. The remnants of a pecan orchard and the remnant terraces cotton was grown throughout the site could help to bring agro-tourism. There is also much interest in Civil Rights Tourism, and the fact the site is adjacent to Martin Luther King Parkway could help to influence design for this segment of the tourist population. The extension could also be a valuable addition to the existing historic and cultural features on the North Oconee River Greenway and could add to the already developed Heritage Trail. It could enhance business and pleasure visits and offer other incentives for people trying to decide on vacation or professional destinations. Adding to recreational amenities of the community helps to influence people's decisions on travel destinations. Tourists typically spend money in the community without causing excessive strain on existing infrastructure or public institutions, so creating relatively, low-cost amenities such as the East Athens Community Park Extension makes economic sense for the community.

Commercial uses, spending by local residents, and indirect economic benefits should also be taken into consideration when developing the East Athens Community Park Extension. Design considerations could be made to enhance the ability of the site to increase commercial uses such as special events. As stated in chapter 2 special events can generate revenues for the community, individual organizations, and for the greenway, while at same time promoting the greenway to visitors and residents alike. Special events require specific amenities that should be taken into consideration in the original design and doing so will increases their success and viability. Although it is difficult to quantify the amount of spending by local residents on greenway related activities, having amenities that create use in an area will typically increase the amount of spending. The East Athens Community Park Extension could bring residents from other areas into East Athens as a destination and could serve as a transportation route for East Athens residents to downtown and beyond, where there is the increased chance of spending on soft goods. Design could help to aid in realizing indirect economic value from creating this extension by planning and designing it in a way that would benefit the local community as well as the region. By specifying materials and construction methods that are unique to the area, it increases the chances that local business will receive the contracts for construction. Historical and environmental research, the production of interpretive materials, and the purchase of maintenance materials can all help local businesses which, in turn, helps the local economy. Furthermore, through successful planning and design, higher use can result which may enable the managing agency to hire additional staff, especially if revenue is being generated through special events. Through careful consideration and planning, economic values could be realized through design on the East Athens Community Park Extension.

Opportunities to Create Ecological Benefits

The proposed East Athens Community Park Extension has the potential to provide ecological value to the greenway, the city, and to the community, and by considering these potential values during the design and planning phase, the possible values could be expanded. The additional greenspace could provide benefits by acting as a natural, open-space corridor. The extension could also provide valuable habitat for plants and wildlife. In addition, it also could help to maintain and improve water and air quality in the metropolitan Athens area. Outlining possible ecological values that the extension could have and then integrating them into the design can help to make the most out of their potential.

As outlined in Chapter 2, one of the most significant ecological values that greenways can provide is to protect, natural open space and to act as corridors. The East Athens Community Park Extension, with the exception of inevitable street crossings, could act as an unbroken greenspace corridor from the Oconee River in the center of Athens to the perimeter. The extension could act as a connector between the Oconee River and the rest of the greenway, and the East Athens Park, which lies on the perimeter of the city. The open greenspace on the gun-emplacement properties, the Chicopee Complex, the area adjacent to Trail Creek, and the East Athens Park all connect and have the potential to provide a corridor for movement. If designed properly the extension could act as a conduit for movement by wildlife in and out of Athens, providing natural spaces for animal migration and plant dispersal. The greenspace, if properly designed and managed, could act as a source, providing adjacent areas with a seed bank for native plants and as breeding habitat for wildlife. The East Athens Community Park Extension would also have an ecological impact by permanently protecting open space which has a wide range of benefits, including increased viable habitat for plant and animal life and improved water

and air quality. Because the ecological values are interrelated, it is somewhat difficult to separate the functions, but taken together, the extension could have a positive ecological value to the city as a whole.

Greenway corridors can serve as habitat for many plant and animal species, and proper design can help to take full advantage of the available resources. If properly conserved and managed, the extension could act as habitat for a wide range of plant and animal species. The gun emplacement and Chicopee properties could serve as upland piedmont habitat, while the Trail Creek stretch could serve as riparian and aquatic habitat. The design components that would most affect habitat are those decisions that would help to increase the amount and quality of space available. The most important design consideration would be to have the preserved greenspace be as contiguous and large as possible, which would increase both the amount of habitat and the ability of wildlife to move through it. Quality of habitat would be another consideration that could be addressed in the in the design and planning phase of the project; looking into aspects such as the presence of exotic-invasive species and the current health of native species would be important implications to consider in the greenway design. If designed and managed well, the East Athens Community Park Extension could provide valuable habitat for plants and wildlife within the city of Athens.

Proper design and management would also be important considerations in designing for improved water quality. The most important water-quality issue that would have to be taken into account would be the presence of Trail Creek which is a major tributary of the North Oconee River. Proper design of the Trail Creek stretch could serve the duel function of helping to provide flood control and in managing water quality. Flooding has historically been a problem in Athens, and protecting and managing wooded open space along its rivers and tributaries can help

to absorb and filter stormwater. By filtering stormwater before it reaches rivers and their tributaries, surface water is cleaner for both humans who depend on rivers for drinking water and for the wildlife that depend on the water for habitat. Stormwater that moves through wooded, open areas will be slowed or absorbed, both of theses natural functions will help to improve the water quality and reduce the quantity that rivers must absorb. Furthermore, rivers and creeks that are surrounded by wooded open spaces are cooler and healthier than those that aren't which results in improved habitat for the aquatic life that lives within them. Another water quality issue that should be taken into consideration for design would be the use of stormwater technologies, including bio-retention areas and enhanced swales. These technologies could further help to absorb and filter storm water before it reached the rivers, and would negate the necessity to pipe stormwater directly into the river. Stormwater management is a primary value that greenways can offer to their communities, and by considering this aspect carefully in the design phase, these values can be realized to an even greater degree.

Opportunities to Create Social Benefits

The social values of greenways are typically the most well known and accepted, but it remains true that in order to maximize theses values, careful consideration must be given to them in the design and planning stage of development. The first part of this section will outline potential recreational values that could possibly be derived from the East Athens Park Extension. In the second part, the cultural values will be outlined, with special consideration paid to the "layers of history" that can be found on the site. The next part will expand on the cultural values and show how they could possibly be used for educational purposes. The final part of this section will discuss the possible transportation values that the site could provide to the community and

the city. Taken together, the collective social values of the site make the extension an appealing and worthwhile addition to the North Oconee River Greenway.

The site as a whole has great potential to add recreational value to the greenway, the community, and to the city. It has the potential to serve as a recreational destination with stand alone facilities and the gun emplacement properties and the Trail Creek stretch could be used for passive recreation and people could us the length of the path for walking, jogging, or biking. The site also has the potential to enhance existing recreational facilities; the North Oconee River Park is directly across from the Gun Emplacement properties, the Trail Creek Stretch would be next to East Athens Park, and the East Athens Community center could be within walking distance of the new extension. The East Athens Park Extension could also serve to connect users to other recreational areas; users of the East Athens Park would potentially be connected to the rest of the greenway facilities, and users of the existing greenway would have a connection to the east Athens Park Facilities. If developed, the East Athens Park Extension could have high recreational value, and taking these potential values into consideration during design could help to maximize the potential.

Another important social value that the East Athens Park Extension could offer would be the cultural significance of the site itself. Cultural Heritage of a site or greenway is generally thought of in the layers of history that exist within it. The first layer of history of the site is its natural history of being a piedmont forest that may have been used as seasonal hunting grounds for indigenous peoples. It then had an agricultural history as evidenced by the terracing for cotton and the remnants of a pecan orchard. This was followed by the armory and mill history that was discussed earlier in this chapter. Another cultural legacy of the site is that part of it is on Martin Luther King Parkway which could introduce a civil rights layer to the area. Furthermore,

there is an abandoned railroad bed next to trail creek, and the dam that created Carr's Pond on Trail Creek is on the site as well. Although much of this cultural history is discussed at length on the Heritage Trail Section of the greenway, this extension may provide an opportunity to delve more deeply into some of these issues.

Interpretation of the cultural values on the East Athens Park Extension would be a major contribution to the educational value that the site contains. Interpretive signage could explore cultural issues including: the civil war, agricultural heritage, the civil rights movement, and even the relationships between the layers of history on the site. Environmental issues including such issues as the make-up of piedmont forests, the effects of invasive-exotic plant materials, the importance of tributaries, and the effects of agricultural and urban development on the environment. The site could serve further educational value by providing a place for groups to gather to learn about these different issues. Hands-on educational programs could also take place that could include direct involvement with the design, development, and maintenance of the park, local schools, could for instance, adopt a section, help in the design, and then help to maintain it, which can give people the opportunity to become personally involved and learn about the process of greenspace development and care. Education is a very important aspect of greenway development, so it makes sense to consider all of the educational values of a site in the planning and design phase of any project.

An equally important value that greenways can have for communities is the form of alternative transportation that they can offer. Alternative transportation is one value that could be economical, ecological, or cultural, but because of the value that it offers directly to people, it will be discussed here. One of the primary purposes for the East Athens Park Extension is to connect the East Athens Park with the rest of the greenway, which makes it primarily a

transportation corridor. It will be a way for people to get to and from East Athens Park, and East Athens in general. The extension will enable people to get from East Athens to downtown and beyond, allowing access to school, work, and other civic amenities without the necessity of a car. It can also serve as a link between forms of transportation, people will have the opportunity to walk or bike to several bus stops or even the new multi-modal center in East-Downtown Athens. Furthermore, because two active bus stops are on the greenway itself, the opportunity for bus stop improvements is a potential addition to the transportation value that the East Athens Park Extension can offer.

Summary

The East Athens Park Extension will be a valuable addition to the North Oconee Greenway System. It will have the opportunity to bring increased economic activity to the area by helping to raise property values, tourism, increasing spending and commercial activities. The extension will also have the ecological values of preserving and managing natural-open space, providing corridors and habitat, and by contributing to the improvement of water quality. It also has the potential to provide social values including recreational cultural, educational, as well as improving alternative transportation in the area. All of the potential values that have been identified can be taken as design cues and synthesized to make a comprehensive design that is balanced and valuable as possible. By understanding the history of the site, the current conditions, and the potential values, design decisions can be made to maximize actual values of the completed project.

Chapter 5

Design Recommendations

Introduction

This chapter will synthesize the information from the previous chapters into a concept plan for the East Athens Park Extension. The goal of this chapter is to use potential values in order to create a conceptual design as an example of how to apply this method to other sites on the North Oconee River Greenway and other greenways in general. The goal is not to create a finished design plan, but rather, to create a plan that can be used as a starting point to be presented in order to receive community feedback and to encourage discussion of how a greenway can serve communities and their citizens and visitors. All sites will possess different potential values that will not encompass the entire range but only the ones that most apply to the specific conditions of the project. At its best, the results from value-based design will be integrated and cohesive, unifying the greenway project site. All of the values should inter-relate within the site and the larger project in order to produce the best possible product. By focusing on primarily one set of values (i.e. economic, ecological, or social), other potential values that may have been able to be incorporated without major modification to the plan itself will be missed. For this reason it is important to know the history and goals of an existing greenway in order to fit new additions seamlessly into the overall plan and to avoid overlap of design goals from past or future projects. Designing with values requires an integrated approach with the goal of creating a project that will appeal to and benefit the entire community.

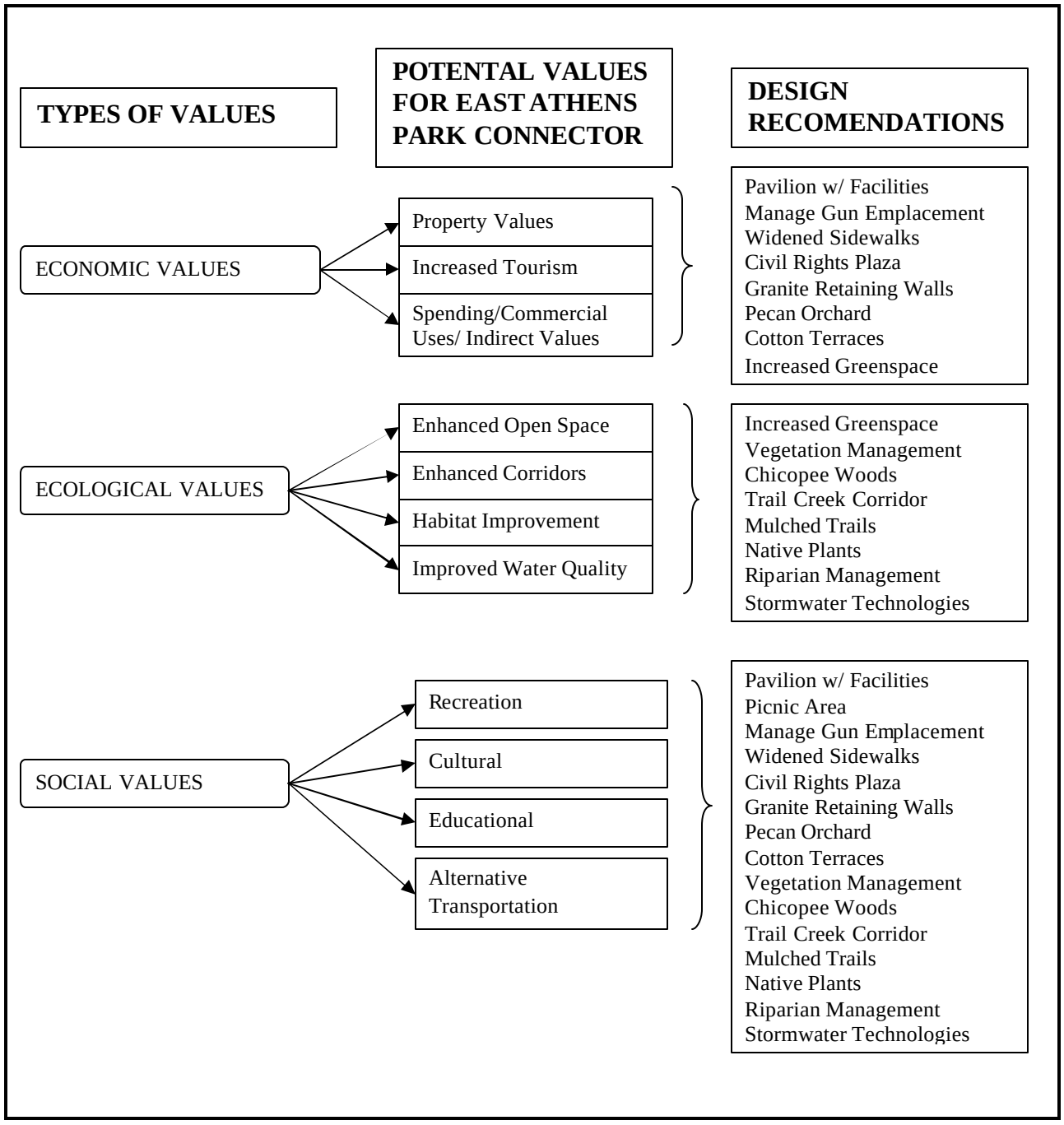
This chapter will begin by presenting design recommendations that are intended to maximize potential economic, ecological and social values within the site (Table, 2). It will go on to illustrate how all of the design recommendations fit together within the site with a written description of each major design element. The chapter will conclude with an illustrative design that show how all of the elements fit together into a cohesive whole

Design Recommendations for Economic Values

This section will use the opportunities to create economic benefits that were established in the previous chapter to make recommendations for the East Athens Park Extension. It will focus on the potential to increase property values, tourism, spending, commercial uses, and indirect values. The recommendations made in this section will in many ways serve functions that also relate to other potential values, which is a primary goal of integrated value-based design.

Improved aesthetics, transportation, and the expansion of greenspace are the primary ways that greenways can help to increase property values, and the East Athens Park Extension has the potential to accomplish all of these objectives. By widening the sidewalks, building the greenway's typical granite retaining walls, and planting street trees the overall streetscape appeal of this part of the city will be improved which serves a duel function of improving aesthetics and alternative transportation. By protecting, developing, and managing the gun emplacement properties, the Chicopee area, and the Trail Creek are, the amount of greenspace in the surrounding community will be greatly increased. At the same time, access to and from the East Athens Park, downtown, the new multi-modal transportation center, and the rest of the greenway will be dramatically increased. With these new amenities and the existing lure of a close proximity to downtown, the property values in this part of town should continue to rise steadily.

Table 3 – Flowchart of values and design recommendations for East Athens Park Connector



Designing for recreational, cultural, and historical tourism requires creating amenities that appeal to different segments of the overall tourist population. The design should be seen as a part of a larger strategy that encourages specified user groups to choose to come to the area. Because Civil War tourism is a growing segment of this population and the site contains a unique feature of Athens' Civil War history, the gun emplacement could be used as an opportunity to interpret the history of the Civil War. To this end, the remnants of the gun emplacement and the site as a whole should be managed under the National Park Service implementation and management plan for "Implementing a Management Strategy For Earthworks Under Forest Cover" (see appendix, D). This plan calls for the removal of hazardous trees, mulching bare spots, treating invasive exotic species, and managing the understory all of which will contribute to the preservation and ecological health of the entire site. Agro-tourism is also a growing tourist group and by highlighting the agro-history of the site, it could become a destination for both tour groups and interested visitors. This could be achieved by highlighting the geometry of the pecan orchard, restoring several of the walls from cotton terracing, and having interpretive signage to go with both. Because the site is adjacent to Martin Luther King Jr. Pkwy and the area has a deep African American heritage, it could include a plaza on Martin Luther King Jr. Pkwy that is focused on the civil rights history of both the country and area. Civil Rights tourism is also an important segment of the tourist demographic and it is valuable for a community to discuss this part of its history. It is no accident that these features are highly reflective of the educational and cultural values, because people who participate in these types of tourism are looking for educational and cultural values. The site would also provide extensive recreational opportunities in close proximity to downtown and having such accessible park space can provide additional reasons for people visiting for business or pleasure to come to the area.

Design decisions on the East Athens Park Extension would also have the potential to increase commercial activity, spending by residents, and indirect spending. A design solution that could affect all of these values would be to have a space for special events on the site. Parking facilities with room for buses and a pavilion with bathrooms and running water are recommended because it could be a draw for a wide range of special events. The pavilion could be rented out by the managing agency which would help to generate funds directly. It could also be used be used for special events held by the managing or other related agencies which could generate spending indirectly. By using local materials, such as granite and native plant materials throughout the site, will increase the possibility that contractual spending would go to local companies. Designing the East Athens Park Extension in a way that enhances the community and draws users will increase the potential for many different kinds of spending.

Design Recommendations for Ecological Values

Design, planning, and management of the extension can have a great impact on the overall ecological values of the site. The preservation and expansion of both open space and potential corridors will have a significant effect on these values. Design for habitat management of plants and animals are other important considerations. Furthermore, designing for improved water quality can have an significant impact on the overall ecological health and function of the site and the area as a whole. Having an understanding the potential ecological values of greenways and of the specific site can enable designers to maximize the values that any project can have.

The East Athens Park Extension has the potential to preserve important open space and to create ecological corridors. The majority of the land is presently wooded and in an undeveloped state, so designing to preserve and enhance this characteristic is one of the most important

ecological factors to be considered. One of the most important ecological design recommendations is to preserve the wooded area of the gun emplacement properties, the Chicopee Complex, and Trail Creek in order to increase the size and connectivity of the ecological corridor that connects the river and the town's perimeter. A second important ecological corridor is that of the Trail Creek tributary. At this time, due to property and economic challenges, it is impractical to develop the section of trail creek that runs trough the Chicopee Complex to Dudley Park and the Oconee River as a recreational or pedestrian corridor. It should however be preserved as an ecological corridor that will enhance Trail Creek's ability to function as a healthy tributary that will help to reduce flooding and increase its viability of plant and animal movement. Developing the site in a non-intrusive manner with minimal disruption of the land should also be of the highest priority. To this end, many of the pedestrian trails that are not part of the primary transportation corridor will be developed with as little cut and fill as possible and will be of a porous material such as hardwood mulch. The preservation of greenspace in an ecologically sensitive manner provides many different types of values to urban areas.

Another important ecological value to be addressed through planning, management, and design is preservation and improvement of plant and animal habitat. This can be done by encouraging natural functions to increase the overall ecological health of the project site. The design should take vegetation management into consideration by specifying the removal of exotic-invasive plant materials. Invasive-exotic that are currently found on the site should be removed which will help to open space for native plants to grow. Native plants should be specified in all planting plans which will help to increase the seed bank, provide food for wildlife, and restore natural functions to the site. Understanding the natural functions of each

area of the site will also help to increase habitat viability. Planting and encouraging riparian plants on Trail Creek and upland plants in the other parts will encourage the return of a healthy, functioning ecosystem.

Understanding of natural functions will also help in designing for water quality issues. Plantings that are in accord with the landscape have the best opportunity to utilize available onsite water resources. Planting and encouraging riparian species along Trail Creek will increase the ability of the land to absorb stormwater before it reaches the creek and the river. At the same time, upland wooded areas will have the ability to absorb water before going into stormwater infrastructure and then the Oconee River. The site has the opportunity to use innovative stormwater management techniques including bio-retention areas and enhanced swales. The area inside the sidewalk on the corner of Martin Luther King Jr. Pkwy and First Street would make an excellent bio-retention area because of the relatively large drainage area it would serve, the natural depression and the existing stormwater infrastructure that could be retrofitted to act as overflow. There are also opportunities to have bio-retention areas in the proposed greenway parking lot islands and along Vine Street that would be similar to those that are proposed on Lumpkin Street. There are also several opportunities for infiltration of water through the creation of enhanced swales that run into Trail Creek. Through proper design and planning, the East Athens Park Extension could provide many ecological values to the natural environment of the site and surrounding area.

Design Recommendations for Social Values

Social values tie the entire design together because these values are the reasons it will be used and appreciated. All of the ecological and economical values fit into social values because

there is also the possibility to use them for recreation, culture, education, or transportation components. Recreational values are those that are most commonly associated with parks and greenways. Cultural and educational values tie directly into the greater economic and ecological values, and transportation values transcend all parts of the greenway. For these reasons it is very important to consider the social values when in the planning and design phase of the project.

The East Athens Park Extension has the potential to serve as draw for both active and passive recreation. In addition to the economic values that can be derived from the proposed pavilion, it will increase the sites recreational value by providing a venue for a wide variety of recreational events. Along with the pavilion, a picnic area is recommended that will draw people for both formal and informal events. People can use the proposed trail and path systems for exercise, strolling, or learning about the cultural and environmental elements of the extension. It could also serve as a connection to and from the East Athens Park and the rest of the greenway and would enlarge and enhance the existing Oconee River Park. The recreational value of the East Athens Park Extension will serve to enhance the recreational value of the North Oconee River Greenway as a whole.

The cultural and educational components of the extension will bring many of the other values together into a comprehensive form. It is after all the educational interpretation of the cultural layers of the site that serves as a draw for certain tourists demographics. Many of the ecological components can also be explained through interpretive signage, including the bio-retention areas and enhanced swales, the importance of tributaries and corridors, management of exotic-invasive species, and the importance of preserved open space in urban areas. Furthermore, the proposed pavilion could serve as an on-site classroom for visiting students and as a starting point to experience the extension, the Heritage Trail, and the rest of the greenway. The proposed

design itself could also be used as an educational tool that begins to get people to think about the potential greenways values. Finally, educational programming could be built into the design by creating opportunities for ecological study and service learning by incorporating study areas and volunteer projects. The educational and cultural values of the extension are very important to the overall design of the site because they are threads that run through the entire design.

The transportation values of the site are also evident in all parts of the design. The extension itself is a transportation corridor that will make moving through East Athens on foot or bicycle easier and more convenient. The improved sidewalk and paths will connect the East Athens Park with downtown and the rest of the greenway. There was a bridge that connected the two Moreland Avenues across Trail Creek that if replaced, would create a direct link to the East Athens Community Center. Improving the existing bus stops would make them more appealing to users and would tie a strong public transportation link into the extension. The improved intersections and crosswalks would make crossing the street safer and easier for pedestrians and bicyclists. Furthermore, there is a plan to extend Vine street, at the First Street Intersection, to connect it to Pearl Street. This would provide an opportunity for the greenway's managing agency to work with the city's transportation agencies to improve the intersection in a way that could improve the bus stop and the intersection to facilitate the eventual Vine Street extension. Promoting alternative forms of transportation has the ecological value of reducing the need for polluting automobile traffic, would have the economic benefits of reducing the need for automobile infrastructure downtown, and the social value of improving health and activity of citizens.

The Concept Plan

This concept plan for the East Athens Park Extension uses the potential values and design recommendations to organize the site into a cohesive whole. The site is divided into three primary components that inter-relate in an attempt to maximize its potential values (Figure 20). The gun emplacement properties are combined to form "Heritage Park," a "transportation corridor" follows First Street to Vine Street, and it connects to the "Trail Creek Tributary Corridor," and each of these components will be described in greater detail throughout the rest of this chapter. Each section of the extension is designed to work together to in order to realize the maximum value for the North Oconee River Greenway and the city of Athens.

Heritage Park

The history of the site that was described in chapter four documents the rich historical and cultural heritage. This history, along with its proximity to the established Heritage Trail makes it an appropriate location to have a Heritage Park. The site will have a parking area approximately where the condemned house now sits. It will have a concrete path that leads to the adjacent pavilion which will have bathroom facilities built directly into it in order to have the added benefit of providing water and power for special events. An ADA accessible path will lead through the remnants of the pecan grove and picnic area. The picnic area will also have several small barbeque grills to facilitate informal gatherings. The trail will continue on to the "Gun Emplacement Plaza," a circular plaza with a low granite wall that surrounds the earthwork. Spaced evenly around the wall will be interpretive signage that that gives a chronological history of the civil war, as well as information on earthworks, and the preservation practices that were used to protect and enhance the gun emplacement. Two mulched paths will meander through the rest of the site, highlighting the cotton terraces that add interest and shape to the

entire site and can be used as switchbacks that will enable users to move through the site at a reasonable grade. The terraces also provide an opportunity to have interpretive signage outlining the impact that cotton farming has had on the environment of the South. The Paths will terminate on Martin Luther King Jr. Pkwy at a proposed "Civil Rights Plaza." The Civil Rights Plaza will use the existing, extremely steep slope to build a retaining wall that will both minimize erosion and act as a display wall for interpretive signage that highlights the history of the civil rights movement. Although some of the subjects that will be highlighted in the Heritage Park are sensitive, they are part of the site, the city, and the county's heritage, and to ignore them would ignore the important values that the site has to offer.

The proposed Heritage Park encompasses the entire spectrum of potential values for the greenway extension. It will meet economic values by providing additional park space and aesthetic value to the surrounding community, by offering a place for special events, and by promoting cultural and recreation based tourism. It will be ecologically valuable because it will provide greenspace and habitat for plants and animals, it will act as a link in a green corridor, and will be developed and managed in a way that promotes overall ecological health. The Heritage Park will provide social values to residents and visitors alike by presenting cultural, educational, and environmental issues in a fair and un-biased way. The site will also serve as a secondary transportation route to and from the Oconee River Park. Overall, the proposed Heritage Park will be important as an isolated destination and as an addition to the existing green infrastructure in Athens.

Transportation Corridor

The transportation corridor will begin at the Intersection of E. Broad Street, First Street, and Martin Luther King Jr. Pkwy with improved pedestrian crosswalks. An improved bus stop

with shelter is proposed where the existing bus stop is at the intersection. On the inside of that sidewalk, a bio-retention area with interpretive signage is also planned. Paved paths will extend North on Martin Luther King Jr. Pkwy on both sides of the street; the West side will go to the North Oconee River Park and the East Side will go to the Civil Rights Plaza where there will be a pedestrian crossing. A path will follow First Street to the Heritage Park Parking Area with granite retaining walls cut into the slope of the hill. It will continue to the intersection of First Street and Vine Street, where there will be further bus stop and pedestrian improvements. There will also be a crosswalk on First Street to the trail through the proposed "Chicopee Green" which will end at the intersection of Hillside Drive and Vine Street. There are several bio-retention areas proposed in the existing lawn of the Chicopee Green which will help to filter stormwater and reduce the need for mowing. It is recommended that these rain gardens lie in the in between the street and the sidewalk which will improve the aesthetics of the streetscape and will reduce costs by eliminating the need to run water under the sidewalk itself. There are street trees and lighting proposed along the primary path which will improve the aesthetic quality of the neighborhood, will provide shade to users during the summer months, and improve safety at night. The transportation corridor will end at the crosswalk before the bridge that leads to the Trail Creek Tributary Corridor. Overall, the transportation corridor will enhance the alternative transportation possibilities in East Athens and will at the same time provide other values to the area and community.

The transportation corridor touches on all of the potential values for the East Athens Park Extension. By improving the overall look of the streets the perception of the neighborhood will be enhanced which can result in higher property values. The proposed alternative stormwater devices along with the protected Chicopee Green will add a vital ecological component to the

corridor. In addition, the enhanced alternative transportation and ecological signage will give the corridor further social value. The East Athens Park Extension is primarily a transportation route to and from the East Athens Park which makes the transportation corridor is a vital element of the overall design of the extension.

Trail Creek Tributary Corridor

The Trail Creek Tributary Corridor will also serve as valuable element of the East Athens Park Extension. The primary path will begin between the University of Georgia's Support Services Parking lot and the bridge over Trail Creek. An entry plaza will have interpretive signage detailing the important role that tributaries play within the greater watershed. The primary trail will follow meet the abandoned railroad bed behind the Support Services parking lot and will continue directly to East Athens Park. A secondary trail will follow the edge of Trail Creek more closely and will end at the proposed Moreland Avenue pedestrian bridge site. The proposed bridge will be on the location where the historic one was, will connect the two parts of Moreland Avenue and provide a pedestrian link two and from The East Athens Community Center. There is also the opportunity to create two enhanced swales in existing swales on the site which will slow down, filter, and absorb stormwater before reaching Trail Creek while reducing the amount of erosion that is currently taking place. The site will have further ecological value by extending the ecological corridor through the Chicopee complex to Dudley Park. The Trail Creek Tributary Corridor will act simultaneously as an ecological and transportation corridor and will provide a wide range of values to the extension as a whole.

The Trail Creek Tributary Corridor can serve several functions including a direct connection to the East Athens Park, protection and enhancement of Trail Creek, and will act as additional greenspace in East Athens. It will serve as both a link in the green corridor and

riparian corridor to the Oconee River. Because of the concentration of ecological values of the site, it could act as a research area to monitor the effects of urbanization and restoration on a piedmont tributary. It could also be used as an area for service learning where volunteers could participate directly in the monitoring or restoration. Furthermore the provide transportation value in its connectivity to only to the East Athens Park but between neighborhoods as well. An active functioning greenspace that has a variety of values such as the Trail Creek Tributary Corridor can make neighborhoods more attractive to potential buyers which will have the economic benefit of increasing property values. Taken as a whole, the Trail Creek Tributary Corridor will provide a wide range of values to the communities that it boarders, to the North Oconee River Greenway, and the city of Athens.

Summary

The proposed concept plan makes every effort to maximize the potential greenway values into specific design solutions. It also attempts to make all of the values and proposals work together to create a cohesive whole that adds to the overall function of the East Athens Park Extension. Preliminary concept plans such as these can be presented to the public and other interested parties for feedback and further recommendations. It is hoped that by focusing on the potential values of the site many objections can be thought of and addressed before receiving feedback and that people will be able to see the overall potential and worth of the development. The information that is received from public and private comment can then be taken to produce formal design plans for the site as a whole.

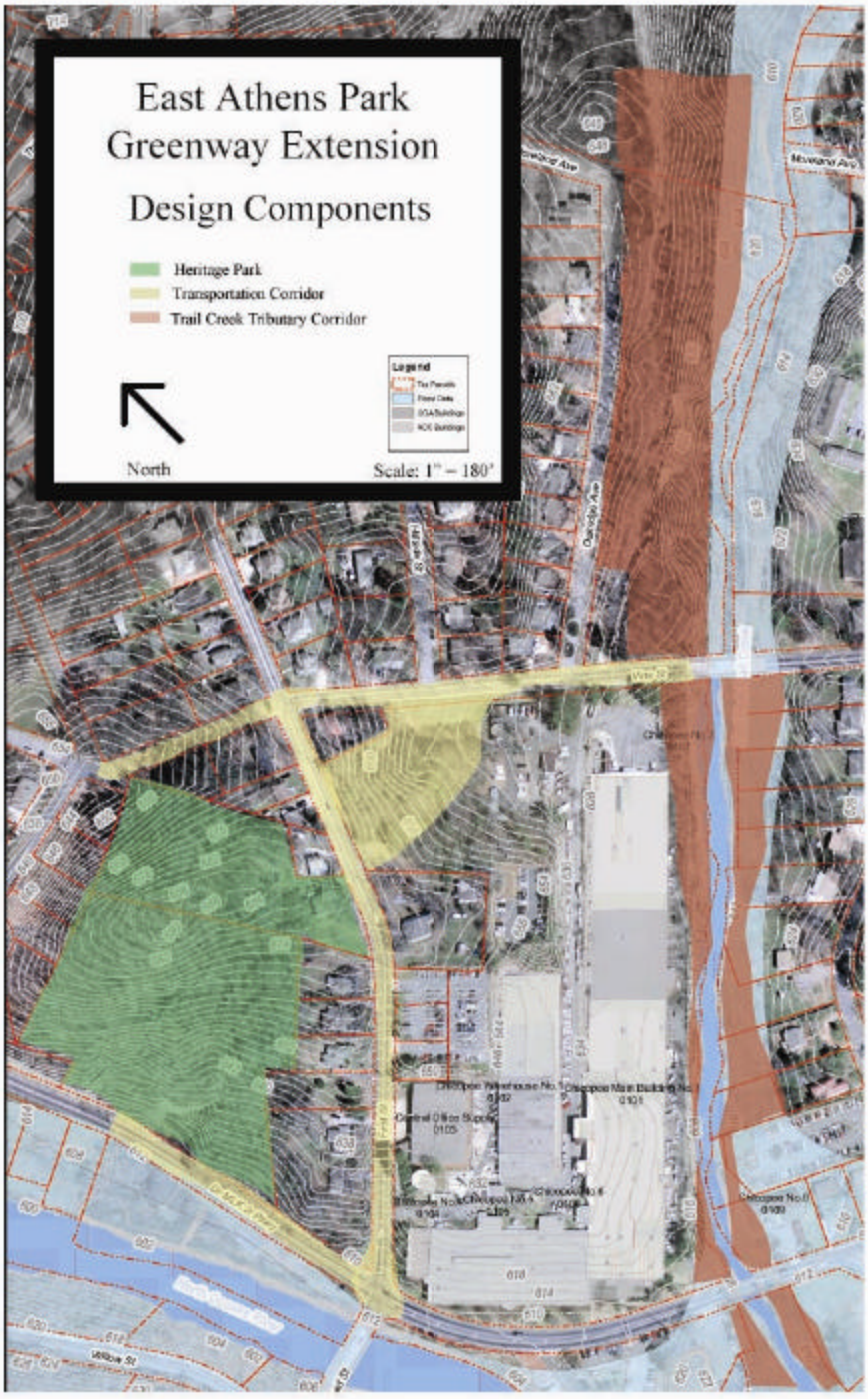


Figure 20 – Primary Design Components

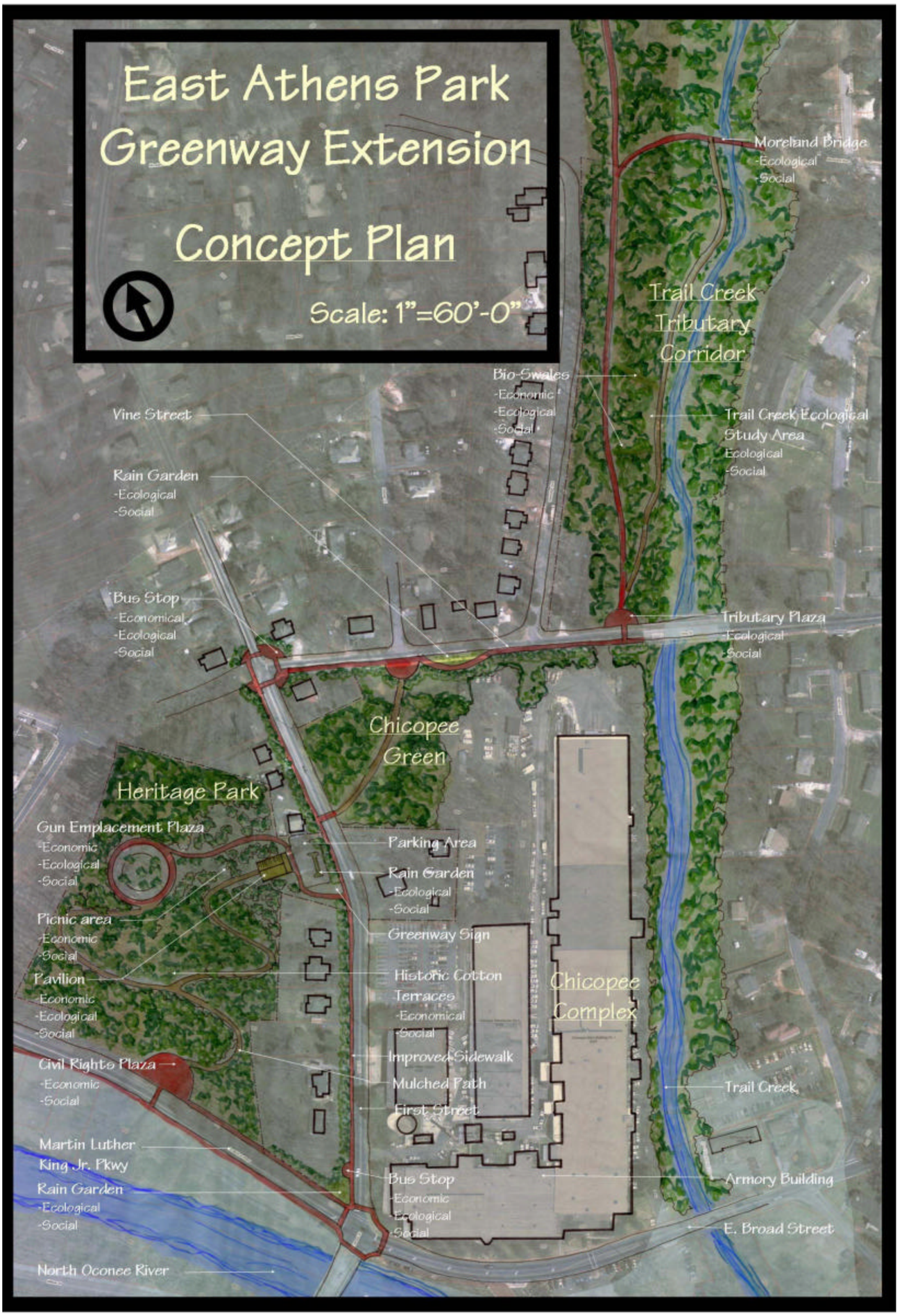


Figure 21 – Concept Plan for East Athens Park Extension

Chapter 6

Conclusion

Introduction

The goal of this thesis was to use greenway values to create a design for the future East Athens Park Extension in the hopes of developing a method of value-based design for greenways in general. First the Economic, Ecological, and Social values were outlined in order to understand potential greenway values that may be able to influence design decisions. Then the history of the North Oconee River Greenway was summarized in order to understand the influences and background of the greenway itself. The history and current conditions of the East Athens Park Extension site was then examined in order to identify potential values that the site could provide. Finally, design recommendations were made that would maximize the potential values of the site and a concept plan was created that could be used to receive community feedback in order to develop final design plans.

The potential values of greenways were broken down into three main categories: economic, ecological, and social. The fact that many of these values overlap is positive because in order to bring them all together into a cohesive whole, they must inter-relate. Each value component was placed into one of the categories based on how relative they were to the category as a whole. Alternative transportation, for example, relates to each category but was put into social values because it's first benefit will be to the people that use it, primarily community residents and greenway users. The best way to improve value-based design for greenways is to

improve and expand the research that is done on potential and existing greenway values. Research could improve all aspects of value- based design, because it will provide many tools for greenway designers to use in order to benefit from the ever-growing list of values that greenways can improve.

Research could provide important tools for all of the values value within each category group. It could improve the economic values by studying how specific tourist segments use greenways, what kinds of special events work best, and how to maximize the effects of user, agency and indirect spending that is associated with greenways. Further study into the ecology of greenways could provide designers with effective ecological design techniques, management plans and strategies for different segments of greenways, and how to best integrate the human users with the ecological factors of specific sites. Research could also provide important information to designers about social issues, including what makes greenways more attractive to its users, how to best present educational and cultural issues, how to improve safety, and how to make them as pedestrian and bicycle friendly as possible. Having research and case studies readily available to designers is one of the most crucial aspects of using potential values to make design decisions.

It is also vitally important for the designer to have an understanding of the history of greenways, the history of the specific greenway, and that of the site being developed. If it is a new greenway that is being designed, understanding the history of greenways in general is very important for maximizing potential values. Having this understanding can help the designer understand what values that greenways have provided, typical objections that have arisen during past greenway developments, and the best methods for achieving their approval and success. If designing an extension for an existing greenway, being up to date on the history of the greenway

is very important, because it enables designers to avoid past mistakes, to design elements that are presently lacking in the system, to integrate the new site as seamlessly as possible, and to avoid unnecessary overlap of past and future projects. Furthermore, it is fundamentally important that the designer be extremely knowledgeable of the site itself in order to maximize the economic, ecological, and social values the site can provide.

The Process

The process for this thesis would be very similar to the process of using potential values to guide the design for any greenway or extension. The first part was to study the research that has been done on the values of greenways, and categorizing the potential values in order to achieve a balanced and coordinated whole. The next step was to research the history of the specific greenway in order to understand from where the greenway has come and where it is going. The specific history of the site is then researched and potential values that can be found are identified. Finally, design recommendations are made, and a concept plan that can be used to receive feedback from the public and other concerned parties in order to create final design plans is developed. Hopefully, the process and research that went into this thesis can be used by future designers for the North Oconee Rivers Greenway and other greenways in order to receive the most benefit from potential greenway values.

Studying the research that has been done about the values of greenways was that of looking into studies that have been done and reading existing literature in order to divide the information into different categories. This was an extremely important and interesting stage of the process because it formed the foundation of all of the work that was to come. It was this general information that was used to identify potential values and to make design recommendations. Once a comprehensive understanding of this information is had, the designer

is able to look at the site in terms of what spaces and parts can be used to maximize what specific values. It is also an important step because it enables the designer to understand how all of the values relate to each other in order to design for a balance of values within the entire design. Understanding the past and current research is an essential first step in undertaking the process of designing for values on a greenway.

The second step is to understand the history of the greenway that is being designed. For a proposed greenway, the short history that it had before getting to the designer would also be very important. This is because there had to a source of community interest, support, and most likely opposition for it to have reached that point. This information is very important because it is used to make design decisions that highlight the desires of the proponents and appease the concerns of the opponents. It is equally important to understand the history of an existing greenway when designing an extension in order to learn from and avoid past mistakes and to provide amenities not found or already planned on another part of the greenway. The history chapter that was written for this thesis was the first comprehensive history written for the North Oconee River Greenway since 1989, when its founder wrote a "Brief History and Description of the Oconee Rivers Greenway Concept" in the Oconee Rivers Greenway Commission's *Sourcebook* published in 1992. It was very informative to research and write the history, because it could be seen that many of the values identified in the second chapter had been important since its inception. It was also helpful because it could be seen that the economical values were secondary to the ecological and social values which misses an important aspect of what greenways can provide to communities. By highlighting that economic values that greenways can provide to communities some of the objections can be dismissed while support can be drawn from other sources. It is also important to understand the history of an existing greenway to assure that the

design decisions that are made complement other portions and do not repeat features unnecessarily. The recommendation for a Heritage Park in this thesis draws directly from the Heritage Trail section of the existing greenway and provides a space for special events close to downtown which is otherwise unavailable. Understanding the history of the specific greenway is an imperative part of value-based greenway design.

Understanding the history of the specific site is also vital in seeing the potential values that that the site can have. For this thesis, the site was chosen because of the fact that it is an existing proposed extension that has a wide range of potential economic, ecological and social values that exist on the site before development. Understanding the history of the site and its current conditions was important in seeing its potential values and in making design recommendations. The many layers of history that have occurred on the site provided much of the material for design decisions. The existence of the gun emplacement, for example led to design decisions that would help to bring tourists to the area, would serve as a site for cultural and educational interpretation, and would manage the site in an ecologically sensitive manner. Understanding of the current existence of large numbers of invasive-exotics leads to management decisions that include ecological and educational values that impact the site as a whole. On order to create a comprehensive design that can increase the chance of receiving the most benefit potential values, the designer must have a strong understanding of values that greenways have, the history of the greenways that they are dealing with, and the history and current conditions of the site itself.

The final concept plan that was produced for this site takes all of the potential values and existing history to create an integrated design that could be used to receive public feedback. The potential economic, ecological, and social values were examined in order to produce a plan that

maximizes and inter-relate each as much as possible into the final design. This plan could be used to present to the public and other interested parties as a starting point for discussion about the site's potential, community concerns, and input that could further maximize the value of the extension as a whole. The information from the feedback then could be taken to make final design plans.

Reflections

As with most projects, coming to a conclusion presents as many questions as it does answers, and this thesis is no exception. Researching greenway values and the history of the greenway and the site, led to many design recommendations that would not have otherwise been reached, but it also led to many new questions and the need for further research. The proposed Civil Rights Plaza, for example was recommendation that was developed because of the educational, cultural, and economic values that it could provide, but in order to integrate it into the site, more research would be needed about the history of the civil rights movement in general, in Georgia, and in Athens. Furthermore, having a plaza dedicated to Civil Rights would take special sensitivity, especially in such a close proximity to a Civil War site, but to ignore it, would overlook several potential values and would leave an important part of the sites heritage unsaid. The proposed removal of invasive-exotic plant species was another recommendation that came from potential values and current site conditions, but it also opens a new series of questions, including, how to remove them in the most environmentally sensitive manner, how to keep them from re-emerging, and how to educate the public about why they are being removed. Although the concept plan brings many new questions to the forefront, it also provides a comprehensive design proposal that used the potential values of greenways in order to attempt to make the East Athens Park Extension a valuable addition to the community, the greenway, and

the city of Athens. It is hoped that the designed recommendations made in this thesis will be taken into consideration in the final design of this extension and that the method will be used for other sites on the North Oconee River Greenway and other future greenways in general.

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APPENDICES

Appendix A – Outline for talk given by Berdeana Aguar

Outline for Inquirer Class Talk—First Presbyterian Church / August 24, 2003

A. OPENING. Last week, Mike helped us become better informed about everything Sandy Creek Nature Center and Park have to offer. This week, I'm going to give you a glimpse into the "process" involved with creating these areas. Why? Because most people don't think of how and why these things happen; they just enjoy them when they're finished. But if you're married to someone like my husband Charlie Aguar, it's impossible to ignore the "process" behind it—that is, the vision, detailed studies, comprehensive analyses, the creation of plans, and obtaining funding to develop the plans. I also doubt if any of you are aware of the many things Charlie did to protect or improve many other environments we enjoy today—in Georgia and across America. (This map of Georgia showing places where he designed or influenced the preservation or improvement of environments might give you some idea of what I'm talking about.) Maybe by the time I'm finished you can better understand why I feel such a strong need to write a book about my husband's life and career. Not only because I'm the only person that really knows about it because of having shared his journey, from beginning to end, but because I have always believed that one person can make a difference. And I know, without a doubt, that this person did that big time! But first, we have to back track a bit.

B. HERITAGE. I think it is appropriate to say that Charlie's lifetime chronicles the great American dream, beginning with his family heritage. My family heritage is as American as apple pie, because I have Swedish, Scotch, German, and French roots—ranging from a Lady in the French court to a bonded servant—and there's even some Native American blood mixed in there somewhere. Charlie's heritage, on the other hand, is pure Portuguese and can be traced

back to the "Exiles of Madeira." I'm going to pass out this brief outline of that story for you to take home. This is because neither Joe nor Glenn had heard about it, so it's a little known element relating to the history of the Presbyterian faith in America that I think all of you will find interesting. It all started in 1838, when Robert Kalley and his wife left Scotland to start a mission field in China. When Mrs. Kalley became ill, they decided to land at the first port the ship touched and set up the mission there. This happened to be the city of Funchal on the island of Madeira. Kalley began his mission by setting up a free hospital. When he learned that most of the people were illiterate, he also opened a school. Everybody thought he was great, until they learned he was teaching people how to read the bible and converting people to the Presbyterian faith. Well, you can read all the details of the story for yourselves. But the long and short of it is that, as more and more people converted to the Presbyterian faith and began worshipping secretly in peoples' homes, some of them were imprisoned and all were persecuted to some degree. Things had gotten so bad by 1849 that hundreds of them fled the island and for some reason ended up in central Illinois within a 30 to 40 mile radius of the capital city of Springfield. As others left Madeira Island over the years, they naturally migrated to the areas where these original exiles had established residence. Charlie's grandmother and grandfather migrated to Jacksonville, Illinois during the waning years of the 19th Century; and that is where his mother was born, in 1897. Charlie's father Frank—whose given name of "Aguiar" was anglicized when he arrived in America—ended up in Jacksonville, as well. But he didn't leave Madeira until 1908, at the age of 21, and he didn't become an American citizen until 27 years later, just one year prior to his demise from pneumonia in 1936, when his only son was 10 years old. (Picture taken circa 1932)

C. WORK ETHIC AND MOTIVATION. Remember that 1936 was still the period of The Great Depression and the Aguar family breadwinner was gone. Because Charlie's mother only had an 8th grade education—not uncommon in that day and age—she basically began cleaning houses for a living. The need for more income was paramount. Therefore, Charlie was motivated to put his bicycle to good use and carry two paper routes, both before and after school. During his high school years, he also worked as a soda jerk at a Walgreen Drug Store, cleaned a shoe store at night, and clerked at Sears and Roebuck on Saturdays. When meat was rationed during World War II, he also earned extra money by raising rabbits in the back yard and selling them to the Dunlap Hotel Dining Room for $1.00 apiece. But he also was very active in the Boy Scout troop sponsored by Northminster Presbyterian Church—one of two churches originated by the Portuguese population of Jacksonville. He was in fact selected to serve as mayor for a day in 1942 (picture) when area troops celebrated the 33rd anniversary of the organization. While in high school, he served on the student council, was president of the Aeronautics Club, vice-president for others, and photographer for the annual high school yearbook. Moreover, he was selected by his peers to serve as their senior class president. Then, on June 9, 1944—7 days after graduating from high school and four days after the one-year anniversary of our first date—he complied with his orders to report for military service.

D. MILITARY SERVICE. Charlie's dream from early childhood was to become a pilot. By the time of his actual induction, however, there was a surplus of pilots so he volunteered to become a gunner. He ended up on a B-29 photo-reconnaissance crew in the South Pacific, where he was stationed for varying lengths of time on Guam, Tinian, and Iwo Jima. It was during the months of 12-to-20-hour-long flights spent in his assigned left-blister position for this tour of duty that Charlie's life-long fascination with land formations began, as supported by excerpts

I'm going to read you from his first uncensored letter to me, wherein he described his observations during his crew's initial low-level flight over Japan—as opposed to the high altitudes normally maintained for photo reconnaissance. Within this correspondence, it seems to me, the comments of this 19-year-old sightseer attest to as great an interest in the natural landscape, the cultivation of the land, and practices of habitation, as with the devastating aftermath of war. The letter was dated September 7, 1945.

"I just got back from Iwo Jima, where we landed on the way back from the Empire. I can tell you all about it now. Censorship has now been lifted for us too. Gee, I can write anything now, and on both sides too. We can seal our letters. Isn't it wonderful? We ran into some pretty rough clouds going and coming, but it was swell and clear over Japan. We really saw things! That's the most beautiful country I've ever flown over. It was even prettier than California. The coastlines were very rugged, with really beautiful coral formations, and every bit of the land is cultivated—not in squares like in the U.S., but in irregular curving patterns all over. They live everywhere, on all the mountainsides and everywhere. But instead of farms like we know them, they have their houses crowded together in small villages and just a barn at each plot of ground. Most of the farmland is flooded with water, but you can only see it when the sun reflects a certain way, because it all looks so green. Everything really looked neat and clean. I guess I was surprised."

When Charlie was discharged on April 2, 1946, I was there to meet him. We were engaged in June, and married the following June. Charlie earned his bachelors in landscape architecture by June 1949 and his masters in city planning by June 1950. This happened to place him in the very first class of students to graduate from University of Illinois versed in the then emerging "new wave" or "modern" methodology of city planning, based on sound ecological

principles of design—as opposed to the "City Beautiful" mindset of the early 1900s, when grandiose plans were conceived in a vacuum, and the relatively uninspired but financially feasible "nuts and bolts" planning of the 1930s and early 1940s.

E. GOVERNMENT PLANNING / 10 YEARS. The 1950 graduation date started Charlie's 10-year cycle theory. For the first 10 years, he was a government planner. After serving 2 years as executive director of the Upper East Regional Office of the Tennessee State Planning Commission, he was promoted to Director of Local Planning for the whole state of Tennessee, where he was in charge of all 4 regional offices. It was during this time frame that he first experienced the defiant response of citizens unversed in the "benefits" to be derived from the planning process. "People literally were so up in arms about the whole concept of rural zoning," Charlie wrote, "that the sheriff and all his deputies had to be called in to make sure people checked their pitch forks and rifles at the door." He also established guidelines to control the "sprawl" aspects of suburban development as it was occurring during that post WWII period. His original sketches and concepts were used in several textbooks published over the next 3 decades, which influenced untold numbers of city planners and government officials. Next, he assumed the position of Principal Planner and Assistant Director for the St. Louis Plan Commission, where he was in charge of all plans to renew, redevelop, or conserve the urban area—including the area where the St. Louis Gateway Arch would be constructed in the 1960s. When all these plans were finished, he became the very first Executive Director of the Regional Planning Commission for Springfield-Sangamon County, Illinois. Here, he prepared all the plans necessary to renew and redevelop the city and county—a 20-year planned projection, to be accomplished throughout the 1960s and 1970s. This required getting the people and the government behind him by giving talks and attending meetings all over the place. (Show big

collage of new articles) One of the biggest debates occurred when someone purchased the land across from Lincoln's Home and planned to build a motel there. This is the eyesore appearance of the area surrounding Lincoln's Home when we moved there. Charlie's plans were to recreate the entire 4-block area around it and develop it into a recognized historic site, so it would look like this. This debate was finally resolved; Charlie's plans won out; and this area is now a National Park. The upshot was that by 1959, the overall planning for Springfield was identified by the American Society of Planning Officials as one of nation's most successful medium-size city planning programs.

F. PRIVATE CONSULTING / 10 YEARS. From 1960 to 1970, we lived in Minnesota. Charlie was a principal with the consulting firm of Aguar, Jyring, Whiteman, and Moser, Inc.. This originally was a consortium of architects and engineers. Charlie was brought in to introduce landscape architecture and planning into the mix. You see, by 1960, all the natural iron ore in the area had been mined. While some plants were converting to making taconite pellets, most were not, and lots of people were going to be out of work. Charlie was brought in specifically to direct the redevelopment and revitalization of the entire Iron Range. This was the biggest regional planning program since the Tennessee Valley planning during the 1930s. Within this process, he originated literally hundreds of plans—including the Voyageurs National Park, tourist recreation plans for 9 Indian reservations; historic restoration projects; state and local park recreation facilities; marinas; urban renewal projects; industrial parks; the entire North Shore of Lake Superior; and the Duluth Waterfront. (Since Charlie traveled so much, we bought this tent trailer and during the summer months, we set up our camp site near wherever he was working, and he would come there at night. Our kids thought that's what everyone did. It was

great!) Because Charlie discovered and saved so many historically relevant sites within this process, as well as created plans to develop recreational sites, the state of Minnesota hired him in 1969 as a staff consultant to help direct a project entitled "Minnesota Resource Potentials in State Outdoor Recreation." The challenge was threefold. (1) To identify, evaluate, and rank outstanding scenic, historic, natural and recreational areas to determine their potential for preservation or development. (2) To create an official State Historic Sites Plan. And (3) to create a State Comprehensive Recreation Plan. Charlie was really excited about being involved with this unprecedented, environmentally significant program—which ultimately involved 80 sites, so it became known as "Project 80." It was his involvement with this process that ultimately led us to Georgia and his next cycles of teaching and community service. So, how did this come about?

G. EDUCATION-COMMUNITY SERVICE / 20 YEARS. Well, on the first Earth Day in 1970, Charlie was on the program with former Vice President Hubert Humphrey at a college on the Iron Range, and he became so excited at the gung-ho enthusiasm exhibited by the students, he started giving serious thought to teaching. So, when Hubert Owens (Dean of the Department of Landscape Architecture at the University of Georgia) met him at a national conference and asked him if he would be interested in coming to UGA to teach in the newly formed, more inclusive "School of Environmental Design," Charlie decided to check it out. We therefore moved to Georgia in September 1970. Well, he and I began canoeing the rivers right away, and he started developing the material you see on this map—which represents only a portion of his river maps (big map preserved at Sandy Creek Nature Center). But Charlie also began seeing things that he thought needed to be done and realized that as a professor, he wasn't automatically

quoted because he wasn't chairing meetings like he did as a government planner or consultant. Here are some of the ways he got people's attention.

#1. On December 24, 1970, Charlie started using the newspaper to promote his ideas with this "Dear Santa" letter to the Editor. This was prompted by the fact that antebellum houses on Prince Avenue had been torn down to build the McDonalds and a filling station. Also, the county fair site was being moved from between Hawthorne and Sunset to Lexington Road and lots of people wanted to convert this site into a strip mall. Well, Charlie had his students develop designs for a park in this area and arranged to have them make their presentations at the public library, instead of at UGA. He then invited Mayor Bishop and other city officials to attend. The mayor got behind this concept, and that's the reason we now have a "Bishop" Park. Two of Charlie's former students completed the final plans.

#2. How many of you remember downtown Athens in the 1970s? If you don't, I want to point out that there were absolutely NO trees. Again, Charlie prepared an assignment for his students to develop street tree planting plans. At one point, he served as major professor for Joe Burnett and, when Joe was hired to head "Athens Downtown Development," Charlie said, "OK, Joe. Let's get trees planted in downtown Athens." And that's the way that came about.

#3. Another important link was Charlie joining and becoming actively involved with the Georgia Conservancy. This occurred because, when we attended the Georgia Conservancy Conference at Calloway Gardens in 1971, he invited various members to come to our room, where he gave a slide presentation about the Project 80 program in Minnesota, because he

thought this should be done in Georgia, as well. Enough other people also got behind this concept that Jimmy Mackey, who was very active in government, set up a meeting for Charlie to give a brief presentation to then Governor Jimmy Carter. The initial time slot for this presentation was a mere fifteen minutes. Well, Carter also became excited about this concept, so much so he immediately began talking about the "Georgia Heritage Trust." He then cancelled all his afternoon appointments, ordered lunch to be brought in, had staff members come to a larger space to watch Charlie's expanded slide show (because he just "happened to have" enough slides in a tray to present an hour-long presentation).

#4. What all this has been leading up to is to ask if any of you are aware of which area here in Athens was preserved and funded through the Georgia Heritage Trust program. It was the initial development of Sandy Creek Nature Center. I wonder why and how that came about! Charlie was just one of many volunteers working on the concept of developing a "Nature Center," per se. Alma Walker introduced the concept. A committee involving Alma, Charlie, Al Ike, Walt Cook, and others considered various other sites—such as in the area of Oglethorpe School, Memorial Park, and 5 Points. But Charlie believed the wetland site along the river was preferable so it would be preserved. He had his students study this area, identify all the flora and fauna, and prepare plans. He also worked on it independently. Here is his original master plan and his rough sketch of the original building. (Pass around)

#5. Another humongous project originated in the early 1970s was the concept of an Oconee River Greenway, which Charlie always believed should begin at Sandy Creek Nature Center. Between 1972 and 1975, Charlie gave talk after talk to garden clubs, at the public library, and other places. He also saw to it that these talks and the concept of a greenway were

publicized through newspaper articles, with the help of reporter Connoly Hester. As a result, the "HANDS" group was formed, and people from the Athens Garden Clubs, the School of Environmental Design, America Red Cross, and the news media merged to host a "River Recognition Day" in April 1975. This event is recognized as the very first annual Oconee River clean-up day.

#6. Charlie also had his students conduct a series of detailed studies and prepare concept plans for a one-mile-wide corridor along the Middle and North Oconee Rivers. Again, he arranged that they present their work at the Athens Public Library, rather than at UGA. By 1974, the Greenway concept was officially recognized in the Recreation-Open Space Plan for Athens-Clarke County. In 1975-76, a plan for the North Oconee River Neighborhood Park was created by one of Charlie's students, Karen Phillips, as her Senior Project. This park was implemented with model city funding.

After Charlie had his first open-heart bypass surgery in May of 1977, he was unable to be quite as physically active as he had always been. But it's great that he even had the surgery, in the first place. You know, we didn't have a cardiologist in Athens until July of that year and, fortunately for us, the doctors at Emery were booked solid. Why fortunate? Because this caused us to go to Jacksonville, Florida, where my brother was a vascular surgeon. He was only 8 years old when we had our first date and 12 when we were married, so in his mind Charlie was his big brother. Well, Bob had been chief of staff of vascular surgery at both Walter Reed and Letterman Hospital in San Francisco, as well as commander of a Mash outfit in Vietnam before he set up his practice. So when the heart specialist found Charlie's three arteries were 96%, 98%, and 99% blocked and said he was inoperable, Bob said: "Well, he's going to be operable, thank you very much!" And

he figured out a way to do 5 bypasses, which had not been done prior to that point. These bypasses lasted for 13 years!

During the 1980s, Charlie entered his next 10-year phase, limiting his teaching to one class a quarter and holding a joint appointment with the Institute for Community and Area Development (ICAD), the community service outreach arm of the University, during which time he prepared the plans for Jekyll Island State Park. He also kept giving talks and interviews about the Greenway. In June 1989, he prepared this master plan for the entire greenway (pass around). And In the Fall of that year, we invited a task force group to meet on our deck to talk about the possibility of forming an Oconee River Greenway Commission. Then, on Earth Day, 1990, Charlie had his second open-heart by-pass surgery. From that point forward, he only had two arteries going to his heart, but they kept functioning for approximately 10 more years.

The Oconee River Greenway Commission was officially organized in 1991,and the push moved forward big time. These photos of the 1993 annual meeting of the Commission show how many people were involved by this point. Then in November 1994, SPLOST provided a multi-million-dollar allocation for a Heritage Trail Design Studies and Construction. In 1995, Rob Fisher asked Charlie to serve as a member of his design team if his firm was selected to conduct the study and develop the plans—which it was. The plans that Rob and Charlie created then were exhibited at public hearings that were held all over the place. Finally, on November 1, 1999—three months prior to Charlie's demise and 27 years after he first envisioned a scenic greenway winding through Athens and Clarke County, Georgia—the official Oconee River Greenway groundbreaking

ceremony was held. And the first 3-mile stretch was dedicated in June of this year (2003).

Appendix B – Historical Outline written by Charles Aguar and given to Author by Berdeana Aguar

HISTORICAL OUTLINE

OF

LONG-TERM EFFORT THAT HAS BEEN INVESTED TRYING TO PROTECT THE OCONEE RIVER

1800-1960s Oconee River used as open sewer, dumping ground for refuse and industrial waste.

1925 Initial city plan for Athens prepared by Manning firm of Boston recommends protection of the Middle and North Oconee Rivers by establishing parks and conservation corridors along both rivers and all major tributaries. (Few parks and golf courses were located where recommended, and no official action on river protection was recorded.)

1970s Last "official" landfills on river banks are closed, but "wildcat" dumping into river continues.

1972-1974 UGA students from the School of Environmental Design begin series of detailed studies of one-mile-wide corridor along the Middle and North Oconee Rivers, with public presentations at Athens Regional Library.

1974 Official recognition first given to Greenways in Recreation-Open Space Plan for Athens-Clarke County (ACC).

1975 "HANDS," an umbrella organization of Athens Garden Clubs, works with SED, American Red Cross, news media, etc. on the first River Recognition Day by hosting a bus tour, followed by river walks, canoe trips. Annual Oconee River clean-up float trips are initiated. A "Support Oconee River Greenways" bumper sticker is sold for 50ç to help fund expenses.

1976 North Oconee River Park established in central Athens, funded through "Model Cities." Becomes first new unit in Oconee Greenway proposal.

1980s State and federal grants obtained to purchase land along Sandy Creek to link the Nature Center and Park with a 4-mile-long gravel and boardwalk hiking path named "Cook's Trail" when built with great deal of back-breaking volunteer effort.

1985 Future Land Use Plan 1985-2000 for ACC adopted. Corridor along both rivers and tributaries shown as light green, the color designation for "Parks and Public/Private Open Space." (River Oaks was not yet in existence. This area is shown as dark green, the color designation for "Institutional, Public and Semi-Public," that included the UGA golf course.)

1990 An ad-hoc "Task Force" was organized to include members representing ACC Parks and Recreation, Leisure Services, Clean and Beautiful Commission, Garden Clubs, Downtown Development Authority, The Georgia Conservancy, Students for Environmental Awareness, and news media. Recommendations presented to respective government bodies that an official ACC Greenway "Commission" be formulated.

1991 Oconee River Greenway Commission organized with five members each from Athens, Clarke County, and UGA plus ex-officio members from ACC agencies and UGA.

1992 Following governmental reorganization, ORGC was chartered and reorganized, with ten members appointed by the ACC Board of Commissions and five members appointed by UGA President Knapp.

1994 SPLOST voted upon and approved by citizenry includes a multi-million-dollar allocation for Heritage Trail Design Studies and Construction (3 miles) and a North Oconee River Concept Plan (12 miles).

1995 Robinson Fisher Associates, Inc. of Athens selected as design firm to prepare plans.

1996 Series of four public workshps (including one held at Barnett Shoals Elementary School on May 30) conducted for citizen input prior to initial planning stage. Special public meetings held on December 2 and 9 to explain work to date and "incorporate suggestions into the concept plan."

CEA/ba

12/11/96

Appendix C – Memorandum about Aguar Memorial

M E M O R A N D U M

from

Mike Wharton

Athens-Clarke County Department of Leisure Services

AGUAR PLAZA Introductory Sign:

(Greenway Logo)

Charles E. Aguar 1926-2000

Visionary	Educator	Naturalist
Historian	Photographer	Veteran
Regional Planner	Environmental Steward	Community Advocate and Volunteer

Charlie championed the idea of a Greenway system in Clarke County through his vision, his teaching, his student projects, and his volunteer service. He helped found the Oconee Rivers Greenway Commission in 1989 and was present on the site November 1, 1999 when ground was broken for the North Oconee River Greenway.

Charlie's volunteer service is reflected in this facility and represents the many others who have contributed to the realization of his vision. It is an example of how one person can make a difference. He is an inspiration to all those who will follow to maintain the Greenway and extend its benefits throughout the country.

Our thanks to…

Rotary Club of Athens West (include logo)

Celebrating Rotary's International's Centennial 1905-2005

"Service Above Self"

Athens-Clarke County SPLOST Program (include ACC logo)

Oconee Rivers Greenway Commission (include logo if does not appear above)

…and the friends, volunteers, and supporters whose generosity made this project possible

Quotes for rocks along path (starting close to the plaza and continuing toward the river):

H. "Nature ought to come first. Find the plan that nature has already laid down and follow it."

I. “Unless we do a better job in planning and managing our lands and water, we shall find ourselves with little quality environment left within the future.”

J. “The natural amenities of our rivers are here for the asking. Let’s focus our eyes on our rivers and rediscover the beauty.”

Appendix D – Text from Cook & Brother Confederate Armory State Historical Marker Located in front of the former Chicopee Mill at the intersection of Martin Luther King Jr. Pkwy. and First St. (East Broad St.), Athens

COOK & BROTHER

CONFEDERATE ARMORY

To this building in 1862 was brought the machinery of the armory established in New Orleans at the outbreak of the War by Ferdinand W.C. and Francis L. Cook, recent English immigrants, the former a skilled engineer for the manufacture of Enfield rifles, bayonets and cavalry horse shoes. Said to be the largest and most efficient private armory in the Confederacy. It produced a rifle declared by an ordnance officer to be "superior to any that I have seen of Southern manufacture." Under contract to supply 30,000 rifles to the Confederate Army the armory operated until its employees, organized as a reserve battalion under Major Ferdinand and Captain Francis Cook, were in 1864 called to active duty upon the approach of Sherman's army. The battalion took part in the battles of Griswoldville, Grahamville, Honey Hill and Savannah where Major. Cook was killed. After Grisoldville Gen. P.J. Phillips reported that Maj. Cook and his men "participated fully in the action, deported themselves gallantly and . . . . suffered much from wounds and death." Leased by the Con- federacy in 1865 the armory was operated until the close of the War. The property was bought by the Athens Manufacturing Co. in 1870.

029-2 GEORGIA HISTORICAL COMMISSION 1955

Appendix E – NPS Earthwork management plan

Implementation + Management

Implementing a Management Strategy For Earthworks Under Forest Cover

Managed earthworks in forest cover exhibit healthy, sufficiently stocked stands to regenerate a thick duff. Forested earthworks often result from a hands-off management approach. However, adopting a forest cover management philosophy as a way to preserve earthworks may require a more intensive investment initially than in subsequent years. Before work begins, a thorough tree inventory that includes information on species, age, and condition should be completed (see Assessment and Analysis). This inventory should highlight the hazard trees by priority to be removed. Following tree removal, it will be necessary to treat invasive exotic vegetation and mulch bare spots. After this initial effort, continue to update the site inventory every two years.

Removing hazardous trees

A well-trained crew should remove trees carefully to avoid scarring earthworks or disturbing the forest floor. Use a chain saw to cut hazardous trees flush with the earth, directionally-felling them away from earthworks. Use soft-logging techniques to avoid earthworks damage; remove tree branches that may impale the ground before the tree is felled and lift large trees away from very complex earthworks systems with cranes. If earthworks are in isolated areas away from trails and visitor activities, cut stems can simply remain in place to decompose. Where earthworks are near trails or interpretive zones, remove the cut stems. Treat newly cut deciduous tree stumps with a labeled herbicide to prevent regrowth. Coniferous trees generally do not sprout from the stump.

Even with the best management practices, storm events will occur that cause trees to blow down and uproot, breaking out sections of earthworks. Respond immediately and cut such trees at the base leaving a minimal stump. If cut soon after the event, the stump occasionally springs back into place as soon as the tree is severed. Make sure that no one is standing next to the root wad when it is being cut in case it springs. If the stump does not spring back, remove carefully with hand tools or leave it in place to decay. If possible, spread existing soil and smooth the surface. If new soil is required, sterile fill should be used. In either case, cover all exposed soil with organic matter from the site. This could include new mulch created from chipped tree limbs. If the tree location has been located with GPS, update the GIS files with information pertaining to the removal of the tree and associated repair of the earthworks.

Mulching bare spots

Establish a maintenance program that responds to bare soil on earthworks in forest cover. This situation occurs most often on steep slopes or in areas where there is heavy foot traffic. One solution is to bring a chipper on site to process broken limbs and downed trees. Use the chips to cover bare soil. This existing organic material is an economic and low-impact approach to erosion prevention. If leaf litter is accumulating in the ditch, blow or hand spread this mulch across bare spots or to increase thin duff areas where canopy is missing.

Treating invasive exotic species

Invasive exotic species in a forest setting often provide inadequate erosion control and aggressively compete with the desired trees, shrubs, and herbaceous species for water, light, and nutrients. Invasive exotic species that have shallow root systems but cover large areas, such as

privet (*Ligustrum* sp.) and Japanese honeysuckle (*Lonicera japonica*), and kudzu (*Pueraria lobata*) may hide erosion problems beneath their branching habit. When possible, control invasive exotic species, even small outbreaks, using a persistent hand-removal program. When invasive species gain a foothold and threaten forest health, herbicide application may be necessary for eradication. The National Park Service's *Integrated Pest Management (IPM)* program and its policy of promoting sustainable landscape practices suggest minimum application of herbicides to remove or suppress invasive plant species. Select specific herbicides and techniques under the direction of a qualified specialist.

Managing the forest understory

Removing hazard trees and invasive exotic species often creates openings in the understory to receive additional water and sunlight. Monitor these areas closely because they are especially vulnerable to colonization by invasive exotic species. Encourage the growth of native saplings that will eventually contribute to the forest duff layer.

Long-term maintenance

After the initial survey and treatment, incorporate a biennial inspection into the long-term maintenance plan in order to maintain a healthy forest.

http://www.cr.nps.gov/hps/hli/currents/earthworks/