



City of Raleigh

System Integration Plan

Alvis Farm Park Site

June 2007



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Prepared for:

City of Raleigh

Prepared by:

ARCADIS G&M of North Carolina, Inc.

801 Corporate Center Drive

Suite 300

Raleigh

North Carolina 27607

Tel 919.854.1282

Fax 919.854.5448

Prepared in cooperation with:

TRC Garrow Associates, Inc.

Circa, Inc.

Our Ref.:

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1. Introduction

1.1 Purpose of the System Integration Plan

The System Integration Plan is an important component of the overall park development process. The objective of the System Integration Plan is to develop a set of guidelines for the interim management of parkland prior to the initiation of a Master Plan, to document existing site conditions and constraints, to establish the park's classification consistent with the Comprehensive Plan, and if applicable, any special intent for the park (Resolution (2003) – 735). The System Integration Plan is not intended to restrict the Master Plan process.

1.2 Site Description and Setting

The Alvis Farm site is located along the east side of the Neuse River at Tarheel Clubhouse Road (Figure 1). The future park site encompasses five parcels totaling approximately 92.9 acres (Figure 2). All of these parcels are not contiguous.

The approximately 64-acre northern portion of the site (3 parcels) contains both woods and cleared land, some of which is used as horse pasture. That part of the site is accessed from the east. A long, unpaved drive travels west through a pasture of gently rolling hills before turning north and terminating at a cluster of agricultural buildings. A line of cedars and other saplings follows the south side of the drive, and southwest of the bend in the drive is a manmade farm pond. From the pasture, the tract slopes down across a sewer easement (the location of a proposed Raleigh Greenway trail) and adjacent levee to the river.

The remaining portion of the Alvis Farm site contains approximately 28 acres (2 parcels), and is south of (but not contiguous with) the northern parcel. The eastern portion of this part of the site is cleared, and the western area adjacent to the river is wooded. Two houses are located on this portion of the future park site. One of these dwellings is sited at the end of a long dirt drive off the west side of Tarheel Clubhouse Road. A second dwelling is located near the southern property boundary. The area around both houses is wooded and overgrown with trees and shrubs. (Another dwelling is located a short distance off the parcel on a privately-owned tract to the north.)

The site (all parcels) is outside the city limits but is within the city's planning jurisdiction (Extraterritorial Jurisdiction). The area surrounding the future park site remains

primarily rural in nature with mostly scattered single-family residences. The Raleigh Christian Community Church complex is located adjacent to the northern Alvis Farm tract.

1.3 Deed Restrictions

In purchasing the northern-most tract of this future park site, the City agreed to restrict the use of that portion of the property lying below the line of the 100 year floodplain. Specifically, the City agreed to locate and operate the proposed greenway trail only upon the portion of floodplain lands lying east of the western right-of-way line of the City's sanitary sewer easement. The City also agreed to designate the portion of the floodplain lying west of the sanitary sewer easement as a "Conservation Area" (Figure 2). No improvements will be constructed in the Conservation Area and public access to this area will be restricted through the placement of signage, use of natural barriers, or other appropriate means.

2. Existing Conditions

Existing Conditions information provides the framework for developing a System Integration Plan for the future park property. The Existing Conditions section documents the existing resources, including natural and human environmental resources and will provide guidance to the City in developing the Alvis Farm site as a public park. The Existing Conditions section contains information regarding wetlands, streams, surface waters, rare and protected species, biotic community description including a floral and faunal inventory, initial cultural resource assessment, and critical natural elements.

Published information and resources were collected prior to initiating the site investigations. Data were collected for use during site investigations and in preparation of the Existing Conditions Report, which is incorporated in this System Integration Plan. Data sources include:

- United States Geologic Survey (USGS) 7.5-minute topographic quadrangle map (Raleigh East, North Carolina)
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Map (Raleigh East, North Carolina)
- *Soil Survey of Wake County, North Carolina* (Cawthorn 1970)

- North Carolina Department of Environment and Natural Resources (NCDENR)
– Division of Water Quality (NCDWQ) Neuse River Basinwide Water Quality Management Plan (NCDWQ 2002)
- USFWS list of rare and protected species (April 2006)
- North Carolina Natural Heritage Program (NCNHP) database of rare species and unique habitats (August 2006)

Site investigations were conducted in September and October 2006. Water resources were identified, and their physical characteristics were recorded. For the purposes of this study, a preliminary habitat assessment was performed within the proposed park site. Plant communities and wildlife were identified using a variety of observation techniques, including active search, visual observation, and identification of characteristic signs of wildlife (sounds, tracks, scat, and burrows). Terrestrial community descriptions generally follow Schafale and Weakley (1990), where applicable. Plant taxonomy and descriptions generally follow Radford et al. (1968) unless more recent data is available. Animal names and descriptions generally follow Martof et al. (1980), Potter et al. (1980), and Webster et al. (1985). Scientific nomenclature and common names (when applicable) are provided for each plant and animal species listed. Subsequent references to the same organism include the common name only.

Jurisdictional wetland delineations were performed using the three-parameter approach described in the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Supplemental technical literature describing the parameters of hydrophytic vegetation, hydric soils, and wetland hydrological indicators was also utilized. Wetlands were mapped with sub-meter accuracy using Trimble Global Positioning System (GPS) equipment at the time of the delineation.

For the purposes of the Existing Conditions section, the project study area is defined as the 92.9-acre area described in Section 1.1. The project vicinity is defined as a larger area, extending approximately one-half mile on all sides of the study area. The project region is the area more or less represented on a standard 7.5-minute USGS topographic quadrangle map with the project study area occupying the center of the map.

2.1 Physical Resources

Soil and water resources that occur in the project study area are discussed with respect to possible environmental concerns and also with respect to general environmental conditions that may be useful during plan development.

Wake County is situated in the east-central portion of the state. The county is mostly contained within the Piedmont physiographic province; however, a small portion of the county is located within the Coastal Plain physiographic province. The project study area is located in the eastern portion of the county. Elevations in the project study area range from approximately 170 feet above mean sea level (MSL) to approximately 280 feet above MSL, as depicted on the Raleigh East, North Carolina USGS topographic quadrangle map.

Geologically, the project study area is located within the Raleigh Belt and over kyanite and staurolite Paleozoic metamorphic facies (NCGS 1985). The intrusive rocks are composed of foliated to massive granitic rock that is megacrystic and equigranular (NCGS 1985). Soils underlying the project study area have developed from these geologic formations.

2.1.1 Soils

The process of soil development depends on both biotic and abiotic influences. These influences include past geologic activities, nature of parent materials, environmental and human influences, plant and animal activity, time, climate, and topographic position. The project study area is underlain by one soil association: Appling-Louisburg-Wedowee association. Eleven soil mapping units are mapped within the project study area. Four of the eleven soils onsite are listed as a hydric soil, Chewacla soils, Mantachie soils, Wehadkee silt loam, and Worsham sandy loam. A hydric soil is defined as a soil that is saturated, flooded, or ponded long enough in the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (Cowardin et al. 1979). A hydric A soil is a soil that is hydric throughout most of the series, and a hydric B soil is a non-hydric soil that contains inclusions of hydric soils. Wehadkee silt loam and Worsham sandy loam are listed as hydric A soils; Chewacla and Mantachie soils are listed as hydric B soils (Gregory 2001). The remaining seven soils mapped within the project study area are not classified as hydric (Gregory 2001). Additional information regarding the soils mapped within the project study area is provided below and shown in Figure 3 (Cawthorn 1970).

- Appling sandy loam, 10-15% slopes (ApD) is mapped on narrow side slopes bordering drainageways in the uplands. This strongly sloping, well drained soil has moderate permeability and very rapid surface runoff. The seasonal high water table is greater than 10 feet below the soil surface. Appling sandy loam is a non-hydric soil.
- Chewacla soils (Cm) are mapped on the floodplains of streams. This nearly level, somewhat poorly drained soil has moderate to moderately rapid permeability and slow surface runoff. The seasonal high water table is within 1.5 feet of the soil surface. Chewacla soils are listed as hydric B soils.
- Louisburg loamy sand, 10-15% slopes, eroded (LoD) is mapped on side slopes bordering drainageways in the uplands. This strongly sloping, somewhat excessively drained soil has moderately rapid permeability and very rapid surface runoff. The seasonal high water table is greater than 10 feet below the soil surface. Louisburg loamy sand is a non-hydric soil.
- Louisburg-Wedowee complex, 6-10% slopes, eroded (LwC2) are mapped on side slopes of medium length in uplands. This moderately sloping, well to somewhat excessively drained soil complex has moderate to moderately rapid permeability and medium to rapid surface runoff. The seasonal high water table is greater than 10 feet below the soil surface. Louisburg-Wedowee complex soils are non-hydric soils.
- Mantachie soils (Me) are mapped in depressions and draws in the uplands. These nearly level to gently sloping, somewhat poorly drained soils have moderate to moderately rapid permeability and slow to medium surface runoff. The seasonal high water table is approximately 2 feet below the soil surface. Mantachie soils are hydric B soils.
- Wake soils, 10-25% slopes, (WkE) are mapped on side slopes bordering drainageways in the uplands. The moderately steep, somewhat excessively drained soils have moderately rapid permeability and very rapid surface runoff. The seasonal high water table is greater than 10 feet below the soil surface. Wake soils are non-hydric soils.
- Wedowee sandy loam, 2-6% slopes, eroded (WmB2) is mapped on smooth interstream divides in the uplands. The gently sloping, well drained soil has moderate permeability and medium surface runoff. The seasonal high water

table is greater than 10 feet below the soil surface. Wedowee sandy loam is a non-hydric soil.

- Wedowee sandy loam, 6-10% slopes (WmC) is mapped on side slopes in the uplands. The moderately sloping, well drained soil has moderate permeability and rapid surface runoff. The seasonal high water table is greater than 10 feet below the soil surface. Wedowee sandy loam is a non-hydric soil.
- Wedowee sandy loam, 6-10% slopes, eroded (WmC2) is mapped on side slopes in the uplands. The moderately sloping, well drained soil has moderate permeability and rapid surface runoff. The seasonal high water table is greater than 10 feet below the soil surface. Wedowee sandy loam is a non-hydric soil.
- Wehadkee silt loam (Wn) is mapped along floodplains of streams. This nearly level, poorly drained soil has moderate to moderately rapid permeability and slow to ponded surface runoff. The seasonal high water table is approximately at the soil surface. Wehadkee silt loam is a hydric A soil.
- Worsham sandy loam (Wy) is mapped at the heads of drainageways, on foot slopes, and in slight depressions in the uplands. This nearly level to gently sloping, poorly drained soil has moderately slow permeability and slow to ponded surface runoff. The seasonal high water table is approximately at the soil surface. Worsham sandy loam is a hydric A soil.

2.1.2 Water Resources

The project region is in the Neuse River Basin, a drainage basin covering approximately 6,235 square miles within North Carolina. The basin originates in Person and Orange Counties, flows southeasterly to New Bern, and empties into the Pamlico Sound.

The project study area is located in NCDWQ Subbasin 03-04-02 and USGS Hydrologic Unit 03020201 (NCDWQ 2002). Surface waters in the project study area include one manmade impoundment. No streams were observed within the project study area. Surface runoff from the project study area flows into the Neuse River, which forms a majority of the western boundary of the project study area.

The NCDWQ classifies surface waters of the state based on their intended best uses. Unnamed tributaries receive the same best usage classification as the named streams

into which they flow. All waters in the Neuse River basin have been classified as Nutrient Sensitive Waters (NSW). NSW designates waters that have water quality problems associated with excessive plant growth resulting from nutrient enrichment.

High-Quality Waters (HQW) are waters that are designated as native and special trout waters, primary nursery areas, critical habitat areas, water supply watersheds classified as WS-I or WS-II, or Class SA waters; or are rated as excellent based on biological and physical/chemical characteristics through monitoring or special studies. There are no HQW, Outstanding Resource Waters, or WS-I or WS-II designated waters within the project vicinity.

The Ambient Monitoring System (AMS) is a network of stream, lake, and estuarine water-quality monitoring stations strategically located for the collection of physical and chemical water-quality data. The type of water-quality data collected is determined by the waterbody's classification and corresponding water-quality standards. Data from the AMS determines the "use support" status of waterbodies, meaning how well a waterbody supports its designated uses. Surface waters (streams, lakes, or estuaries) are rated as *supporting their designated uses or impaired*. These terms refer to whether the classified uses of the water (such as water supply, aquatic life protection, and swimming) are supported or not supported due to impairment of the water. Neuse River has an Ambient Monitoring Station at Milburnie Dam, which is located approximately 1.76 river miles downstream of the project study area. The Ambient Monitoring Station data identified no sampled parameters that returned readings of interest (NCDWQ 2002). Additionally, a benthic macroinvertebrate sampling site is located at the US 64 bridge over the Neuse River, which is located approximately 2.31 river miles downstream of the project study area and has returned results of Good-Fair in both 1995 and 2000 (NCDWQ 2002). The data collected from these sites indicates that this reach of the Neuse River is *supporting* its designated uses (NCDWQ 2002).

Section 303(d) of the Clean Water Act (CWA) requires states to develop a comprehensive public accounting of all impaired waters. The list includes waters impaired by contaminants (e.g., nitrogen, phosphorus, and fecal coliform bacteria). Potential sources of impairment include point sources, nonpoint sources, and atmospheric deposition. There are no waters within the project study area on the Section 303(d) list of impaired waters (NCDWQ 2002).

2.2 Biotic Resources

The project study area is composed of different terrestrial communities determined by topography, soils, hydrology, disturbance, and past and present land uses. These systems are interrelated and, in many aspects, interdependent. Scientific nomenclature and a common name (when applicable) are provided for each plant species listed. Subsequent references to the same plant include only the common name.

2.2.1 Terrestrial Communities

Four terrestrial communities were identified within the project study area: Dry-Mesic Oak-Hickory Forest, Mesic Mixed Hardwood Forest (Piedmont subtype), Piedmont/Mountain Levee Forest, and Maintained/Disturbed Lands. Descriptions of the communities are in the following sections. An inventory of flora and fauna observed within the project study area was created during site investigations (Appendix A).

2.2.1.1 Dry-Mesic Oak-Hickory Forest

Dry-Mesic Oak-Hickory Forests are found on mid-slopes, low ridges, upland flats, and other dry-mesic upland areas. The community is generally underlain by acidic upland soils. Typically, the canopy and subcanopy strata are composed of a variety of oaks and hickories with white oak (*Quercus alba*) dominating the canopy. Other common canopy species include northern red oak (*Q. rubra*), black oak (*Q. velutina*), mockernut hickory (*C. tomentosa*), and pignut hickory (*C. glabra*). In areas of disturbance, tulip poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), and a variety of pines may contribute to the canopy. The understory typically contains red maple (*Acer rubrum*), flowering dogwood (*Cornus florida*), sourwood (*Oxydendrum arboreum*), American holly (*Ilex opaca*), and black gum (*Nyssa sylvatica*). The vines commonly found in this community are muscadine grape (*Vitis rotundifolia*) and poison ivy (*Toxicodendron radicans*), and the herbaceous layer tends to be sparse.

Within the project study area, the Dry-Mesic Oak-Hickory Forest canopy is dominated by white oak, southern red oak (*Q. falcata*), sweetgum, pignut hickory, and sycamore (*Platanus occidentalis*). The understory and shrub layers consist of red maple, water oak (*Q. nigra*), ironwood (*Carpinus caroliniana*), hackberry (*Celtis laevigata*), red mulberry (*Morus rubra*), Chinese privet (*Ligustrum sinense*), American beech (*Fagus grandifolia*), farkleberry (*Vaccinium arboreum*), eastern redcedar (*Juniperus virginiana*),

northern red oak, loblolly pine (*Pinus taeda*), and hop-hornbeam (*Ostrya virginiana*). Poison ivy and Japanese honeysuckle (*Lonicera japonica*) comprise the vines found within the community within the project study area. Groundcover is sparse to absent and provided primarily by partridgeberry (*Mitchella repens*). The Dry-Mesic Oak-Hickory Forest is located in the southern portion of the project study area adjacent to the Piedmont/Mountain Levee Forest and the Maintained/Disturbed areas and covers approximately 8.40 acres (Figure 4).

There is an additional area that is included in the Dry-Mesic Oak-Hickory Forest community. It is currently vegetated primarily by five- to ten-year old loblolly pine saplings with some sweetgum saplings scattered within the area. This area is located adjacent to and upslope from the mature Dry-Mesic Oak-Hickory Forest and also adjacent to the meadow described in Section 3.1.4 (Figure 4). This area is anticipated to develop into a Dry-Mesic Oak-Hickory Forest over time if the vegetation is left untouched in the future. A natural seed source for plants exists in the adjacent mature Dry-Mesic Oak-Hickory Forest. This area covers approximately 5.56 acres, which increases the total area of Dry-Mesic Oak-Hickory Forest to 13.96 acres.

2.2.1.2 Mesic Mixed Hardwood Forest (Piedmont subtype)

The Mesic Mixed Hardwood Forest (Piedmont subtype) community is found throughout the southeastern United States. These communities are located on deep, well-drained soils transitioning uphill from poorly drained soils and tend to occur on slopes and in ravines. Due to their occurrence on steep sites, these areas have historically been disturbed less than surrounding areas. Therefore, this forested community commonly appears as a thin, sloping buffer between the wetter floodplains and land used for agriculture or other development. The community is characterized by a variety of hardwood species, including tulip poplar, American beech, red maple, sugar maple (*A. saccharum*), and northern red oak. The subcanopy and herbaceous strata are typically thick in a young community and open in an older, mature community. Pines and early successional hardwoods, such as sweetgum and tulip poplar, occur in greater numbers in areas of disturbance.

The dominant canopy trees in the community within the project study area include eastern redcedar, American elm (*Ulmus americana*), loblolly pine, and American holly. The understory and shrub strata are composed of saplings of the canopy species in addition to Chinese privet. The vine layer is represented by English ivy (*Hedera helix*) and poison ivy. Herbaceous species present in the community include Japanese stiltgrass (*Microstegium vimineum*) and Asiatic dayflower (*Commelina communis*).

This community occurs on the slopes adjacent to the Piedmont/Mountain Levee Forest and the Maintained/Disturbed lands communities and covers approximately 4.19 acres (Figure 4).

2.2.1.3 Piedmont/Mountain Levee Forest

Piedmont/Mountain Forests occur on natural levee and point bar deposits on large floodplains. These communities occur on a variety of medium and coarse-textured alluvial soils and experience intermittent to seasonal flooding. Typically, the canopy of this community is dominated by sycamore, river birch (*Betula nigra*), box elder (*Acer negundo*), sweetgum, tulip poplar, American elm, hackberry, black walnut (*Juglans nigra*), cherrybark oak (*Q. pagoda*), swamp chestnut oak (*Q. michauxii*), bitternut hickory (*Carya cordiformis*), pignut hickory, and green ash (*Fraxinus pennsylvanica*). Understory species generally include box elder, pawpaw (*Asimina triloba*), ironwood, and American holly. Woody vines such as poison ivy, Virginia creeper (*Parthenocissus quinquefolia*), crossvine (*Bignonia capreolata*), greenbriers (*Smilax spp.*), muscadine grape, and trumpet creeper (*Campsis radicans*) are often prominent in this community. A lush, diverse herbaceous layer provides groundcover in this community.

Within the project study area, the dominant canopy trees in the Piedmont/Mountain Levee Forest community include green ash, willow oak (*Q. phellos*), sweetgum, black gum, sycamore, hackberry, shortleaf pine (*Pinus echinata*), and black walnut. Understory and shrub species include American elm, red maple, sweetgum, sugar maple, black gum, red mulberry, American holly, water oak, tag alder (*Alnus serrulata*), tulip poplar, pignut hickory, hop-hornbeam, southern red oak, and Chinese privet. Vines present within the community include muscadine grape, Virginia creeper, greenbrier (*Smilax rotundifolia*), Japanese honeysuckle, and poison ivy. Herbaceous species are sparse to absent and include ebony spleenwort (*Asplenium platyneuron*). Within the project study area, this community is located along the natural levee of the Neuse River and covers approximately 39.03 acres (Figure 4).

2.2.1.4 Maintained/Disturbed Lands

Maintained/disturbed lands include areas that are mowed regularly, including residential lawns, roadside rights-of-way, and utility easements, and areas in active agricultural or pasturage use. Within the project study area, maintained/disturbed areas include a horse trail, driveways, private residences, a large meadow, and a horse pasture (Figures 4 and 5). The maintained/disturbed areas cover a total of 41.85 acres within the project study area.

2.2.2 Aquatic Communities

There is one aquatic community located within the project study area: manmade impoundment (Figure 6).

2.2.2.1 Manmade Impoundment

One manmade impoundment exists within the project study area. The impoundment is dammed by an earthen wall and is located between the horse pasture and the Piedmont/Mountain Levee Forest (Figure 4). During site investigations, no surficial drainage was observed flowing either into or out of impoundment PC. The impoundment covers approximately 0.76 acre.

2.3 Jurisdictional Topics

Section 404 of the CWA requires regulation of discharges into Waters of the United States. The United States Environmental Protection Agency (USEPA) is the principal administrative agency of the CWA; however, the United States Army Corps of Engineers (USACE) has the responsibility for implementation, permitting, and enforcement of the provisions of the CWA covering discharges of fill materials. The USACE regulatory program is defined in 33 CFR 320-330.

NCDWQ has the responsibility of administering Section 401 General Water Quality Certifications. Any action that may result in a discharge into Waters of the United States within the state of North Carolina requires a water quality certification from the NCDWQ.

Water bodies, including lakes, rivers, and streams, are subject to jurisdictional consideration under the Section 404/401 program. Wetlands are also identified as Waters of the United States. Wetlands are defined in 33 CFR 328.3 as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Any action that proposes to place fill into these areas falls under the jurisdiction of the USACE under Section 404 of the CWA (33 USC 1344).

2.3.1 Surface Waters

The NCDWQ defines a perennial stream as a clearly defined channel that contains water for the majority of the year. These channels usually have some or all of the following characteristics: distinctive streambed and bank, aquatic life, and groundwater flow or discharge. No perennial or intermittent streams were identified within the project study area during site investigations.

2.3.2 Jurisdictional Wetlands

Three wetland areas were observed and delineated within the project study area during site investigations conducted in September and October 2006 (Figure 6). Two of the three wetland areas, Wetlands WD and WE, are depicted on the USFWS NWI mapping as palustrine, forested, broad-leaved deciduous, seasonally flooded, diked/impounded (PFO1Ch) wetland systems. The remaining wetland area, Wetland WH, is shown on the USFWS NWI mapping for the project vicinity as a palustrine, forested, broad-leaved deciduous, temporarily flooded (PFO1A) wetland system. USACE Routine Wetland Determination Forms and NCDWQ Wetland Rating Worksheets were completed for each wetland area delineated within the project study area (Appendix B).

Wetland WD is located in the southwestern portion of the project study area adjacent to the Neuse River levee. This wetland is located within the Piedmont/Mountain Levee Forest community (Figure 7). Wetland WD covers approximately 0.09 acre and received an NCDWQ rating of 60.

Wetland WE is located in the southwestern portion of the project study area adjacent to the Neuse River levee. The wetland is located within the Piedmont/Mountain Levee Forest community within the project study area. Wetland WE covers approximately 0.10 acre and received an NCDWQ rating of 68.

Wetland WH is located in the northwestern portion of the project study area adjacent to the Neuse River levee. The wetland is located within the Piedmont/Mountain Levee Forest community (Figure 8). Wetland WH includes approximately 3.52 acres and received an NCDWQ rating of 68.

2.3.3 Neuse River Riparian Buffer Rules

The Neuse River riparian buffer rules, effective in August 2000, support the implementation of the Neuse River NSW Management Strategy by protecting, maintaining, and mitigating riparian areas. These buffer rules set restrictions on activities that may occur within the protected riparian areas immediately adjacent to perennial and intermittent streams within the Neuse River Basin. The riparian buffers remove nitrogen, phosphorus, and other pollutants from rainwater that flows into the basins' streams, protecting the waters from surrounding land uses. The City has buffer rules in place to meet the requirements of the Neuse River riparian buffer rules.

2.3.3.1 *Neuse River Basin*

The Neuse River NSW Management Strategy requires that existing riparian buffer areas be protected and maintained on both sides of surface waters, including both intermittent and perennial streams (15A NCAC 2B.0233). The following represent a few of the Neuse buffer rule requirements:

- A 50-foot buffer must be maintained on each side of surface waters.
- All flow entering the buffer must be diffuse flow.
- Non-electric utility crossings in the buffer must be perpendicular to stream flow (unless it is shown "no practical alternative" is available and an appropriate mitigation strategy is provided).
- Underground electric utility crossings may be other than perpendicular only if specified Best Management Practices (BMPs) are used, including all woody vegetation is removed by hand, diffuse flow is maintained at all times, and vegetation removal is minimized (root systems must be left intact).
- Harvesting of dead or infected trees or application of pesticides necessary to prevent or control extensive tree pest and disease infestation is allowed. The Division of Forest Resources must approve the practice for a specific site.

The buffer rules do not require restoration of buffers that do not currently have forest vegetation. Perennial and intermittent stream determinations are to be based on soil survey maps prepared by the U.S. Natural Resources Conservation Service (NRCS) or the most recent version of USGS 7.5-minute topographic quadrangle maps. The buffer rules also include requirements to protect buffers as part of a municipal separate storm

sewer system (MS4) or other local stormwater programs by requiring buffers to be “recorded on plats as easements.”

The Neuse River buffer that is located within the project study area covers approximately 2.53 acres.

2.3.3.2 City of Raleigh

The City has fully complied with the 50-foot buffers as required by the Neuse River riparian buffer rules. However, Section 10-9040 of the Raleigh City Code pertains to more specific buffer rules in Raleigh’s jurisdiction. These buffer rules apply to all perennial streams and all streams draining 5 or more acres. A 100-foot buffer is required for any property in the secondary watershed protection area of the Reservoir Watershed Protection Area Overlay District and in the Conservation Management District where impervious surfaces exceed 24 percent. A 60-foot buffer is required for watercourses draining 25 or more acres and development is low density. A 35-foot buffer is required for watercourses draining between 2 and 25 acres, and development is low density. Finally, a 35-foot buffer is required for any perennial stream that drains less than 5 acres. The City allows some minimal use within a buffer. However, no land-disturbing activity is allowed within 80 feet of the water edge if the slope averages between 15 and 20 percent, and 95 feet of the water edge if the average slope exceeds 20 percent (Section 10-9041, Raleigh City Code). In addition to the area of riparian buffer protected by NCDWQ under the Neuse River riparian buffer rules, the Raleigh City Code protects an additional 0.66 acre of buffer adjacent to the Neuse River within the project study area.

The City has developed the “Raleigh Stormwater Management Design Manual” (Raleigh 2002) and Section 10-9004 of the Raleigh City Code requires the standards and requirements set forth in the manual to be applied in the same manner as City Land Use Ordinances.

2.3.4 Permit Considerations

2.3.4.1 Section 404 of the Clean Water Act

Impacts are defined as any discharge of a material into Waters of the US, which includes streams, impoundments, and wetlands. Impacts to greater than 0.10 acre of jurisdictional wetlands will require a permit from the USACE, pursuant to Section 404 of the CWA. Impacts to less than 0.5 acre of jurisdictional wetlands and 300 feet of

stream channel may be permissible under a Nationwide Permit through the USACE. A final permitting strategy can be developed once a site plan has been designed and proposed impacts, if any, have been determined.

2.3.4.2 Section 401 of the Clean Water Act

A Section 401 General Water Quality Certification is also required for any activity that may result in a discharge into Waters of the US. Section 401 Certifications are administered through the NCDWQ. Once a design has been selected, the City should coordinate with the NCDWQ to obtain the Section 401 General Water Quality Certification, if required.

2.3.4.3 Mitigation Requirements

The USACE has adopted, through the Council on Environmental Quality (CEQ), a mitigation policy that embraces the concepts of “no net loss of wetlands” and sequencing. The purpose of the policy is to restore and maintain the chemical, biological, and physical integrity of Waters of the United States, specifically wetlands. Mitigation of wetland impacts has been defined by the CEQ to include: avoiding impacts (to wetlands), minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts (40 CFR 1508.20). Avoidance, minimization, and compensatory mitigation must be considered in sequential order.

Avoidance examines all appropriate and practicable possibilities of averting impacts to Waters of the United States. According to a 1990 Memorandum of Agreement (MOA) between the USEPA and the USACE, “appropriate and practicable” measures to offset unavoidable impacts should be appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics in light of overall project purposes.

Minimization includes the examination of appropriate and practicable steps to reduce the adverse impacts to Waters of the United States. Implementation of these steps will be required through project modifications and permit conditions. Minimization typically focuses on decreasing the footprint of the proposed project through the reduction of sidewalk widths and/or fill slopes.

Compensatory mitigation is not normally considered until anticipated impacts to Waters of the United States have been avoided or minimized to the maximum extent possible. It is recognized that “no net loss of wetlands” functions and values may not be

achieved in each and every permit action. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been completed. Compensatory actions often include restoration, creation, and enhancement of Waters of the United States, specifically wetlands.

2.4 Rare and Protected Species

2.4.1 Federally Protected Species

Some populations of fauna and flora have declined, or are in the process of declining due to either natural forces or their inability to coexist with humans. Federal law [under the provisions of Section 7 of the Endangered Species Act of 1973, as amended (ESA)] requires that any action likely to adversely affect a species classified as federally protected is subject to review by the USFWS. Other species may receive additional protection under state laws. As of April 27, 2006, the USFWS had identified one threatened and three endangered species as potentially occurring in Wake County (Table 1). The NCNHP database of rare species and unique habitats (August 2006) was reviewed to determine the state status of the federally protected species. The following table lists the federally protected species and their status. Discussion of the species and their respective habitats follows.

Table 1. Federally Protected Species Known from Wake County, North Carolina

Scientific Name	Common Name	Federal Status	State Status
Vertebrates			
<i>Haliaeetus leucocephalus</i>	Bald eagle	T*	T
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	E
Invertebrates			
<i>Alasmodonta heterodon</i>	Dwarf wedgemussel	E	E
Vascular Plants			
<i>Rhus michauxii</i>	Michaux's sumac	E	E-SC

Notes: * - Proposed for de-listing

T – Threatened: A taxon likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

E – Endangered: A taxon in danger of extinction throughout all or a significant portion of its range.

E-SC – Endangered – Special Concern: A taxon in danger of extinction throughout all or a significant portion of its range that may be collected, transported, and sold with a permit.

2.4.1.1 *Vertebrates*

Bald eagle (*Haliaeetus leucocephalus*)

Federal Status: THREATENED (Proposed for De-listing)

State Status: THREATENED

The bald eagle is a very large bird of prey that is from 32 to 43 inches tall and has a wingspan of more than 6 feet. Adult body plumage is dark brown to chocolate-brown with a white head and tail, while immature birds are brown and irregularly marked with white until their fourth year. They are primarily associated with large bodies of water where food is plentiful. Eagle nests are found in proximity to water (usually within 0.5 mile with a clear flight path to the water), in the largest living tree in an area, with an open view of the surrounding land. Human disturbance can cause nest abandonment. Nests as large as 6 feet across are made of sticks and vegetation in the tops of tall trees; these platform nests may be used for many years. Breeding begins in December or January, and the young remain in the nest for at least 10 weeks after hatching. Bald eagles eat mostly fish robbed from ospreys or picked up dead on the shore. They may also capture small mammals such as rabbits, some birds, wounded ducks, and carrion.

Biological Conclusion: *No Effect*

As of July 6, 1999, this species is under consideration by the USFWS for a proposed de-listing of their threatened status. However, this raptor will still be protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, and under provisions of the ESA, populations will continue to be monitored for at least five years after de-listing. No eagles or eagle nests were observed during the field surveys of the project study area. The NCNHP has no records of any known populations of this species within a 1-mile radius of the project study area. No impacts to this species from project development are anticipated.

Red-cockaded woodpecker (*Picoides borealis*)

Federal Status: ENDANGERED

State Status: ENDANGERED

The red-cockaded woodpecker (RCW) is a small woodpecker with a black- and white-barred back and conspicuous large white cheek surrounded by a black cap, nape, and throat, standing 7 to 8 inches. Males have a very small, red mark at the upper edge of the white cheek and just behind the eye. The RCW is found in open pine forests in the southeastern United States. The RCW uses open, old-growth stands of southern

pinus, particularly longleaf pine (*Pinus palustris*), for foraging and nesting habitat. A forested stand optimally should contain at least 50 percent pine and lack a thick understory. The RCW is unique among woodpeckers because it nests exclusively in living pine trees. These birds excavate nests in pines greater than 60 years old and contiguous with open, pine-dominated, foraging habitat. The foraging range of the RCW may extend 500 acres and must be contiguous with suitable nesting sites.

Living pines infected with red-heart disease (*Fomes pini*) are often selected for cavity excavation because the inner heartwood is usually weakened. Cavities are located from 12 to 100 feet above ground and below live branches. These trees can be identified by "candles," large encrustations of running sap that surround the tree. Colonies consist of one to many of these candle trees. The RCW lays its eggs in April, May, and June; the eggs hatch approximately 38 days later.

Biological Conclusion: *No Effect*

Habitat for RCW does not exist within the project study area. There are no stands of pine within the project study area that are of sufficient age, density, and connectivity to adjacent pine/pine-dominated stands to support an RCW population, nor is there appropriate foraging habitat available within the project study area. Additionally, the NCNHP has no records of any known populations of this species within a 1-mile radius of the project study area. No impacts to this species from project development are anticipated.

2.4.1.2 Invertebrates

Dwarf wedgemussel (*Alasmidonta heterodon*)

Federal Status: ENDANGERED

State Status: ENDANGERED

The dwarf wedgemussel is a relatively small (from 0.9 to 1.8 inches in length) mussel with a subrhomboidal to subtrapezoidal shell. The exterior shell color is greenish-brown with green rays. The interior nacre is bluish to silvery white. This species is unique in the reversed arrangement of its lateral teeth; there are two teeth on the right valve and one on the left. The dwarf wedgemussel had a historic range from New Brunswick, Canada south to the Neuse River in North Carolina. Currently, the range is greatly reduced in the northern portion of the range and fragmented throughout the southern portion. Populations are known from the Tar and Neuse River basins in North Carolina. This mussel inhabits large rivers to small streams within its range. The preferred substrate is clay banks stabilized with the root systems of trees. Other

bed substrates include coarse sands, mixed sand, gravel and cobble, and very soft silts. The most important feature of their preferred habitat appears to be excellent to good water quality.

Biological Conclusion: *No Effect*

As no streams are present within the project study area, habitat for the dwarf wedgemussel does not occur within the project study area. Additionally, the NCNHP has no records of any known populations of this species within a 1-mile radius of the project study area. No impacts to this species from project development are anticipated.

2.4.1.3 Vascular Plants

Michaux's sumac (*Rhus michauxii*)

Federal Status: ENDANGERED

State Status: ENDANGERED

Michaux's sumac is a densely pubescent, dioecious, rhizomatous shrub. It has a low stature growing to usually less than two feet high. The leaves are compound with seven to thirteen, serrately edged, hairy leaflets on a hairy rachis. Male or female flowers are found in dense terminal panicles typical of the genus. Flowers bloom in June and seed heads are visible from August to September. Due to habitat fragmentation, colonies of this dioecious plant, when they occur, often are only one large clone representing a single sex. Unfortunately, this quality is a serious limitation to the reproduction and repopulation of this species. Michaux's sumac grows in dry, open woodlands and forest edges in scattered locations from Virginia to Georgia. In the Piedmont region, it is usually associated with clayey soils derived from mafic rock such as Carolina slates or gabbro.

Biological Conclusion: *May Affect: Not Likely to Adversely Affect*

Habitat for Michaux's sumac is present within the project study area along the edge of the woods around the pastures and the meadow. In September and October of 2006, pedestrian surveys were conducted within areas of potential habitat for the species, and no populations were observed within the project study area. Additionally, the NCNHP has no records of any known populations of this species within a 1-mile radius of the project study area. Impacts to this species from project development are possible due to the presence of habitat. However, impacts to the species are not likely to occur as a result of the proposed project.

2.4.2 Federal Species of Concern

The USFWS lists sixteen federal species of concern (FSC) for Wake County. These species are not protected under the provisions of the ESA. FSC species are defined as species that are under consideration for listing, but for which there is insufficient information to support listing as threatened or endangered (formerly C2 candidate species). The status of these species may be upgraded at any time, thus they are included here for consideration. The NCNHP lists twelve of these sixteen species and identifies an additional seventeen species receiving protection under state laws (15A NCAC 101.0101 through 101.0105) (August 2006). Table 2 lists the FSC species, their state status, and the habitat requirements and availability within the project study area. A review of NCNHP maps found no known populations of FSC species within the project region. Although specific surveys for FSC species were not conducted, no individuals of any FSC species listed in Wake County, NC were observed during site investigations.

Table 2. Federal Species of Concern Known from Wake County

Common Name	Scientific Name	Federal Status	State Status	Habitat Requirements	Habitat Available
Vertebrates					
American eel	<i>Anguilla rostrata</i>	FSC	-	Sounds, rivers, and small streams with burrows, tubes, snags, plant masses, or other types of shelter on the bottom	No
Bachman's sparrow	<i>Aimophila aestivalis</i>	FSC	SC	Open, grassy pine or oak woods	No
Carolina darter	<i>Etheostoma collis lepidinion</i>	FSC	-	Sand, mud, or rubble substrate under silt or detritus in small upland creeks and rivulets	No
Carolina madtom	<i>Noturus furiosus</i>	FSC	SC (PT)	Very shallow water with little to no current over fine to coarse sand bottom	No
Pinewoods shiner	<i>Lythrurus matutinus</i>	FSC	-	Rocky pools and runs of small creeks and rivers with moderate flow, gravel bottoms, and clear water with little to no silt deposition	No
Roanoke bass	<i>Ambloplites cavifrons</i>	FSC	SR	Creeks to medium rivers with rock, gravel, sand, and silt substrates	No

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Alvis Farm Park Site

Common Name	Scientific Name	Federal Status	State Status	Habitat Requirements	Habitat Available
Southeastern myotis	<i>Myotis austroriparius</i>	FSC	SC	Roost in caves or abandoned buildings with standing water, and forage over open water	No
Southern hognose snake	<i>Heterodon simus</i>	FSC	SC	Open, xeric areas with well-drained sandy soils, and field and river floodplains	Yes
Invertebrates					
Atlantic pigtoe	<i>Fusconaia masoni</i>	FSC	E	Medium-sized rivers with moderate gradients, fast water, and sand or gravel bed under riffles	No
Diana fritillary	<i>Speyeria diana</i>	FSC	-	Breeding in deciduous or mixed woods; feeding in grasslands and shrublands	Yes
Green floater	<i>Lasmigona subviridis</i>	FSC	E	Small freshwater streams with slow current and gravelly and sandy bottoms	No
Yellow lance	<i>Elliptio lanceolata</i>	FSC	E	Freshwater streams and rivers with sandy substrates, rocks, and in mud in slack water areas	No
Vascular Plants					
Bog spicebush	<i>Lindera subcoriacea</i>	FSC	T	Permanently moist to wet, shrub-dominated seepage wetlands	Yes
Grassleaf arrowhead	<i>Sagittaria weatherbiana</i>	FSC	SR-T	Fresh to slightly brackish marshes, streams, swamps, and pond margins	Yes
Sweet pinesap	<i>Monotropsis odorata</i>	FSC	SR-T	Dry forests and bluffs	Yes
Virginia least trillium	<i>Trillium pusillum</i> var. <i>virginianum</i>	FSC	E	Mesic to swampy hardwood forests	Yes

Notes:

T – Threatened: A taxon likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

E – Endangered: A taxon likely to become extinct throughout all or a significant portion of its range.

FSC – Federal Species of Concern: A species under consideration for listing for which there is insufficient information to support listing at this time. These species may or may not be listed in the future.

SC – Special Concern: Any species of wild animal native or once-native which requires monitoring but may be taken under regulations adopted under provisions within the NC General Statutes.

PT – Proposed Threatened: A species proposed to be listed as Threatened.

SR – Significantly Rare: A species which exists in the state in small numbers and has been determined by NCNHP to require monitoring. The species may exist in greater numbers elsewhere within its range.

-T – Throughout: These species are rare throughout their ranges.

2.5 Cultural Resources

TRC Garrow Associates, Inc. (TRC) and Circa, Inc., completed a cultural resources and archaeological background study of the Alvis Farm park site. This study was conducted to produce information on the known and potential presence of significant cultural resources on the site so that the information can be used for planning purposes and to guide any future studies. While this study will not satisfy survey and evaluation requirements that may eventually be needed for regulatory compliance under the National Historic Preservation Act, it will be useful in planning such work should it be necessary.

2.5.1 Methods

The project included background research, field visits, and analysis and reporting. The background research included review of the available archaeological and historical literature concerning each tract, and was intended to provide information on previously identified and potential resources in each project area. The following data sources were examined:

- National Register and Historic Structures files at the North Carolina State Historic Preservation Office (SHPO) in Raleigh;
- Archaeological site and report files at the Office of State Archaeology (OSA) in Raleigh;
- Historic cemetery records available on-line and at the North Carolina Department of Archives and History;
- Deed records available on-line;
- Historic maps and other materials on file at the North Carolina Collection at the University of North Carolina at Chapel Hill, the North Carolina Department of Archives and History, and other locations.

Following the background research, TRC and Circa staff members visited the site to examine current conditions, inspect standing structures and architectural remains, and evaluate the potential for significant resources at each location. Ellen Turco of Circa and Heather Olson and Paul Webb of TRC visited the Alvis Farm site on October 3, 2006. The fieldwork included an examination of standing structures, as well as a field reconnaissance of any suspected archaeological site and cemetery locations. A systematic archaeological survey was not conducted. Standing structures, structural remains, and general landscape features were documented through sketch maps, photographs, and field notes. Previously recorded resources are shown on Figure 9.

2.5.2 History

The Alvis Farm site is situated east of the Neuse River in north-central St. Matthews Township east of Raleigh. The earliest detailed map of the area dates to 1871 (Bever 1871; Figure 10). It shows no development on the tract, but depicts the “T Bridger Mill” at the approximate location of the present Neuseoco Lake on Beaverdam Creek southeast of the Alvis Farm tract, as well as River Road running north-south to the east of the property. Subsequent 1887 (Shaffer 1887) and 1904 (Clements 1904) maps contain little cultural detail, but also fail to show structures in the area. The 1914 soils map (Brinkley 1916; Figure 11) is the first to show structures in the immediate vicinity; it depicts a group of several structures along what is now Destiny Road just northeast of the site, in the area of the current Raleigh Christian Community Church buildings. Another structure is shown to the south, but was apparently located along Tarheel Clubhouse Road outside the tract.

On-line deed research (at <http://web.co.wake.nc.us/rdeeds/>) provided only limited information on the parcels’ histories. The research indicates that the southern parcel was owned by the Dowdee family in the 1930s, but that the Dowdee residence, barns, tobacco barns, and other outbuildings were situated south of the proposed park property. No detailed information concerning the northern parcel was found.

2.5.3 Structures

No historic structures had been previously recorded on or immediately adjacent to the northern Alvis Farm tract, although the Tarheel Clubhouse (WA 1681; Lally 1994:277) is recorded south of the southern tract (Figure 12).

Survey of the northern tract identified three structures. Tucked in the parcel’s northwest corner is a two-story rectangular, shallow gabled barn with one-story sheds (Figure

13). The barn is sheathed in a combination of board-and-batten siding and particle board. Exposed rafter tails project from the tin-covered roof. This barn does not appear to be fifty years of age. North of the barn is a large open-air shelter (Figure 14) supported by wood posts and covered by a roof of barn tin. The shelter's size suggests it may be used for a large piece of farm equipment, or a boat or mobile home. A mobile home is located northeast of the barn, and all three structures are enclosed by a post-and-wire pasture fence (Figure 15).

Two houses were identified on the southern parcels in the wooded area by the river. Tax records date the northern-most dwelling to 1969 and this date of construction is supported by the building's style and appearance. The house is a one-story, three-part, side-gable Ranch house covered with weatherboard siding and resting on a full basement veneered with brick (Figures 16–17). On the north side of the house is a carport supported by brick pillars. An engaged front porch spans the front elevation. Under the porch is a central Colonial Revival entry topped by a broken pediment. The house is currently occupied by a tenant.

At the southern end of the Alvis Farm tract is a one-and-a-half-story frame house that appears to have been built in the 1970s (Figure 18). The rectangular dwelling, which is vacant, has a hip-on-Mansard roofline with inset window bays. The roof is covered with brown asphalt shingles and brown vertical siding covers the building. A two-bay garage wing projects from the side elevation.

The buildings on the Alvis Farm site are not yet fifty years of age, and therefore they do not meet SHPO survey standards and were not recorded on SHPO site forms. As such, they are considered not eligible for the National Register of Historic Places (NRHP). A tenant on the property stated that an additional barn was present on the parcel, but that barn, if it exists, was not located during the site visit.

2.5.4 Archaeological Resources

The only recorded archaeological survey on or adjacent to the Alvis Farm site was a survey of the Neuse River East Parallel Interceptor Sewer Line, which was conducted in 2004 (Southerlin and Tibbetts 2004). The southern end of that sewer line was situated along the river at the northwestern edge of the Alvis Farm site, but the survey recorded no archaeological resources. The continuation of that sewer line extending to the south along the property is apparently part of the Neuse River Interceptor, which was installed in the 1980s. Although other parts of that line were intensively surveyed, the portion adjacent to the Alvis Farm site was apparently not examined (Hargrove

1986). A number of sites have been identified to the east of the project area as part of studies for the Northern Wake Expressway (NCDOT 1990) but none lie within one-half mile of the project area.

The archaeological field reconnaissance included surface inspection of selected surface exposures in the hayfields within the parcels, and a pedestrian reconnaissance of the river levee west of the northern tract. The examination suggests that there is low to moderate potential for intact archaeological sites in the upland parts of the tract, and moderate potential along the levee ridge along the river (at least in the northern part of the tract). The sewer line in that area appears to have been installed in a backswamp area east of the high levee ridge, which appears suitable for prehistoric habitation. Previous data recovery excavations at the Neuse Levee site in North Raleigh documented a rich Late Archaic period site in such an environment (Gunn and Stanyard 1999), and it is possible that similar materials are present along the river in the project area.

Limited surface reconnaissance was also conducted in the vicinity of the dwelling on the southern tract. That reconnaissance identified a collapsed farm wagon (Figure 19), but saw no evidence of former structures. While it is possible (and perhaps likely) that the wagon was brought to this location from another place as a landscape feature, the potential for earlier historic period remains in this area cannot be ruled out.

There are no known cemeteries on or immediately adjacent to the tract, and no indications of a cemetery were noted during the limited reconnaissance.

2.5.5 Cultural Resources Summary

The Alvis Farm tract site has low to moderate potential to contain significant archaeological resources. Prehistoric sites could be present on the level and gently sloping upland ridges overlooking the Neuse and nearby drainages, but due to past agricultural practices are likely to be diffuse artifact scatters with little subsurface integrity. There is greater potential for intact deposits in the levee sediments along the river, where alluviation could have buried features and artifact concentrations. Although there is no known evidence that 18th or 19th-century period structures were situated on the property, there is some potential for such remains, and possibly associated cemeteries, as well.

Systematic archaeological survey of the entire Alvis Farm site is recommended in order to gather comprehensive data for use in planning purposes, and should be

accompanied by additional background research to gather additional information on potential late 18th to 19th century use of the property. Ideally, this work should include limited deep testing to evaluate the potential for deeply buried deposits within the levee ridge along the river. In the event that the City elects not to conduct a complete survey at this time, however, such survey could be limited to those parts of the tract that could be subjected to ground-disturbing activities during park development or use.

The buildings present on the site do not appear to be 50 years of age, and appear to be examples of common building types dating from the second half of the 20th century. They are not known to be associated with a person or family significant in the county's history, and are not considered eligible for the NRHP. No additional study of these structures is recommended. In the event that an additional barn or other structures are present on the tract, however, those structures should be examined and their NRHP-eligibility assessed prior to any alterations to their fabric or setting.

2.6 Summary of Existing Conditions: Opportunities and Constraints

Topography: Site topography is mostly gently rolling with steeper slopes towards the Neuse River.

Soils: The project study area is underlain by one soil association: Appling-Louisburg-Wedowee association. Eleven soil mapping units are mapped within the project study area. Four of the eleven soils onsite are hydric soils.

Water Resources: Surface waters in the project study area include one manmade impoundment. No streams were observed within the project study area. Surface runoff from the project study area flows into the Neuse River, which forms a majority of the western boundary of the site.

Terrestrial Communities: The project study area includes terrestrial communities of Dry-Mesic Oak-Hickory Forest, Mesic Mixed Hardwood Forest (Piedmont subtype), Piedmont/Mountain Levee Forest, and Maintained/Disturbed Lands, which provide habitat for a wide variety of mammals, birds, amphibians, invertebrates, and plants.

Invasive exotic plants often out-compete native vegetation, resulting in a change in vegetative cover. The vegetation change affects the faunal populations within an area by changing the food and cover sources available to the individuals within the population. Within the project study area, invasive exotic species of plants were observed, including Japanese stiltgrass, Asiatic dayflower (*Commelina communis*),

marsh dewflower (*Murdannia keisak*), Chinese privet, English ivy, and Japanese honeysuckle. Japanese stiltgrass, Chinese privet, and Japanese honeysuckle were observed within the Piedmont/Mountain Levee Forest. The Mesic Mixed Hardwood Forest (Piedmont subtype) was observed to include Chinese privet, Asiatic dayflower, English ivy, and Japanese stiltgrass. The Dry-Mesic Oak-Hickory Forest contains individuals of Chinese privet and Japanese honeysuckle. Japanese honeysuckle was also observed in the Maintained/Disturbed areas of the project study area.

Aquatic Communities: There is one aquatic community, a manmade impoundment, located within the project study area.

Three wetlands were delineated within the project study area; all three wetland areas are palustrine, forested systems located adjacent to the levee of Neuse River. Additionally, one manmade impoundment is present within the project study area.

Regulations and Permit Considerations: Sections 404 and 401 of the CWA apply to the surface waters and wetlands that occur within the project study area. Development of the site may require permitting of impacts to Waters of the US through USACE and NCDWQ in order to comply with Sections 404 and 401 of the CWA.

The project study area is located within the Neuse River basin; therefore, Neuse River riparian buffer rules are applicable.

Rare and Protected Species: USFWS lists four species as federally protected and occurring in Wake County. Of the four species, habitat for Michaux's sumac is present within the project study area. Adverse impacts to the species are not likely to occur as a result of park development.

Cultural Resources: The Alvis Farm tract site has low to moderate potential to contain significant archaeological resources. Systematic archaeological survey of the entire Alvis Farm site is recommended and should be accompanied by further background research to gather additional information on potential late 18th to 19th century use of the property. At a minimum, such survey should include those parts of the Alvis Farm site that could be subjected to ground-disturbing activities during park development or use. The buildings on the Alvis Farm site, a residence and support structures, are considered not eligible for the National Register of Historic Places.

3. Interim Management Guidelines

Interim management guidelines for the Alvis Farm site are proposed to guide management of the site prior to the initiation of a Master Plan. The guidelines incorporate current management practices and are based on existing site conditions and constraints.

The Raleigh City Council endorsed the following interim management guidelines for the Alvis Farm future park site.

Current Management

- The large fields on the southern tract are mowed several times annually.
- Staff conducts a monthly inspection of the southern tract.
- The access road through the southern tract is graded three (3) times annually.
- Items resulting from illegal dumping are removed when discovered or reported.

Interim Management Guidelines

- Continue to grade and maintain access roads on current schedule.
- Clean-up debris / trash deemed necessary for removal.
- Research the potential for partnering with (leasing to) a local landowner for growing some type of crop.
- Continue to mow fields if partner is not identified.
- Building Maintenance, Parks, Safety Officer and Design Development staff will develop a plan for the abandoned brown house on the southern tract.
- Delineate the northern boundary of the southern tract (where the neighbor's paint ball course is located) to prevent an encroachment.
- An intra-departmental staff review team will visit the site annually to provide a comprehensive inspection until the site is Master Planned. This review will

consist of a representative from each division of the Parks and Recreation Department.

- The property's boundaries should be marked with carsonite posts.
- Review the lease agreements for the property (if any exist) and review the level of care for the property. The review should consider items including but not limited to the upkeep of the grounds, landscaping, utility systems, cleanliness of building interiors, periodic monitoring, lease fees, etc.
- Continue efforts to acquire the property between the northern and southern portions of the site and to acquire the property bounded by the southern portion of the site.
- Determine if structures on the site (i.e., barn, outbuildings, houses) would be useful for park purposes. Compare repair/renovation costs to the benefit of maintaining the structure(s). Remove the abandoned house from the southern portion of the property if it is determined not to be cost effective to maintain it.

4. Comprehensive Plan Classification

The Comprehensive Plan is the City's official policy statement to guide growth and redevelopment, including the City's park system. The Park, Recreation and Open Space Element of the Comprehensive Plan established a park classification system to address the following goal:

Provide a Diverse, Well-Balanced, Well-Maintained Range of Recreational Opportunities

The five park classifications are: Natural Areas, including Conservation Areas and Greenway Corridors sub-classifications; Neighborhood Parks; Community Parks; Metro Parks; and Special Parks. Each classification includes guidelines for park size, location and facilities.

The Comprehensive Plan designates the Alvis Farm site as a Community Park. According to the Comprehensive Plan, Community Parks typically range in size from 30 to 75 acres and serve residents within a two-mile radius. These park sites should be located along major transportation routes where possible. Community Parks also serve as Neighborhood Parks for nearby residential areas where safe access can be

provided. The Comprehensive Plan also recommends that Community Parks include a base set of facilities similar to Neighborhood Parks with additional facilities differing from other nearby Community Parks.

The Community Park classification was found to be appropriate for the Alvis Farm site. Decisions regarding specific park facilities will be made during the Master Planning process. Based on deed restrictions, a portion of the site is designated as Conservation Area (see Section 1.2).

5. Literature Cited

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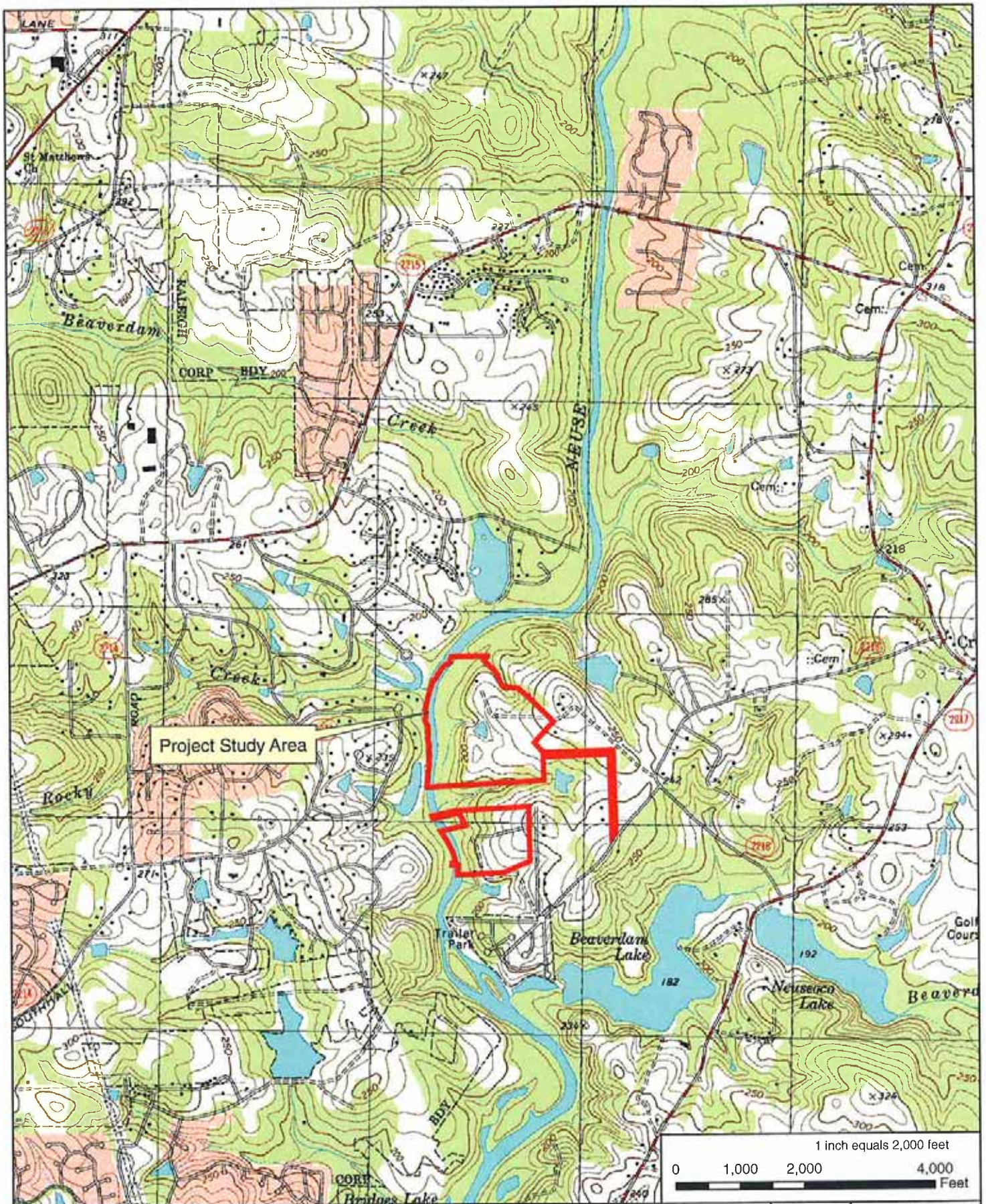
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Figures



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Vicinity Map

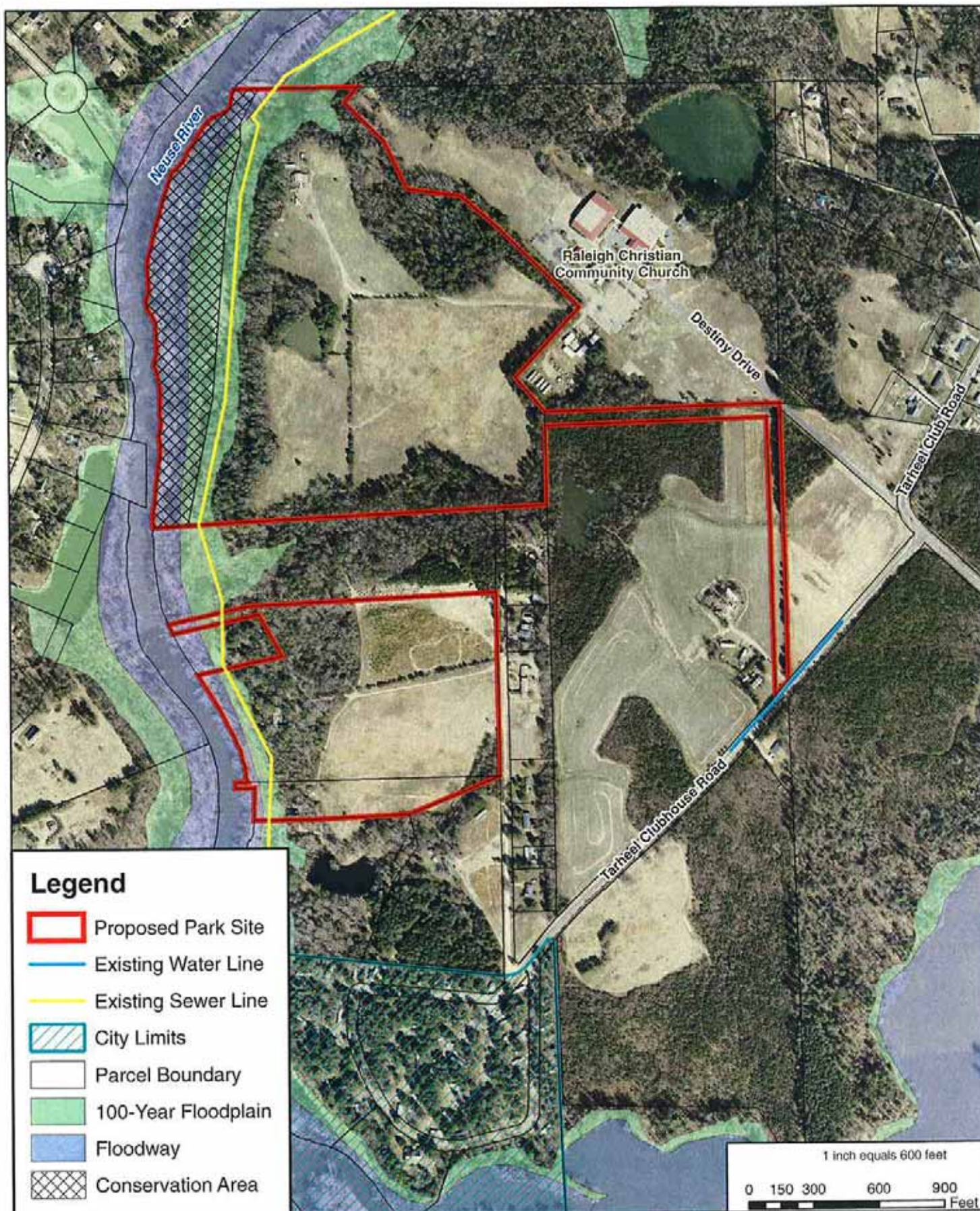
City of Raleigh Parks and Recreation
System Integration Plans
Alvis Farm Site, Wake County, North Carolina

Source: USGS 7.5-minute Topographic
Quadrangle Map: Raleigh East, North Carolina

Figure

1





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Study Area Map

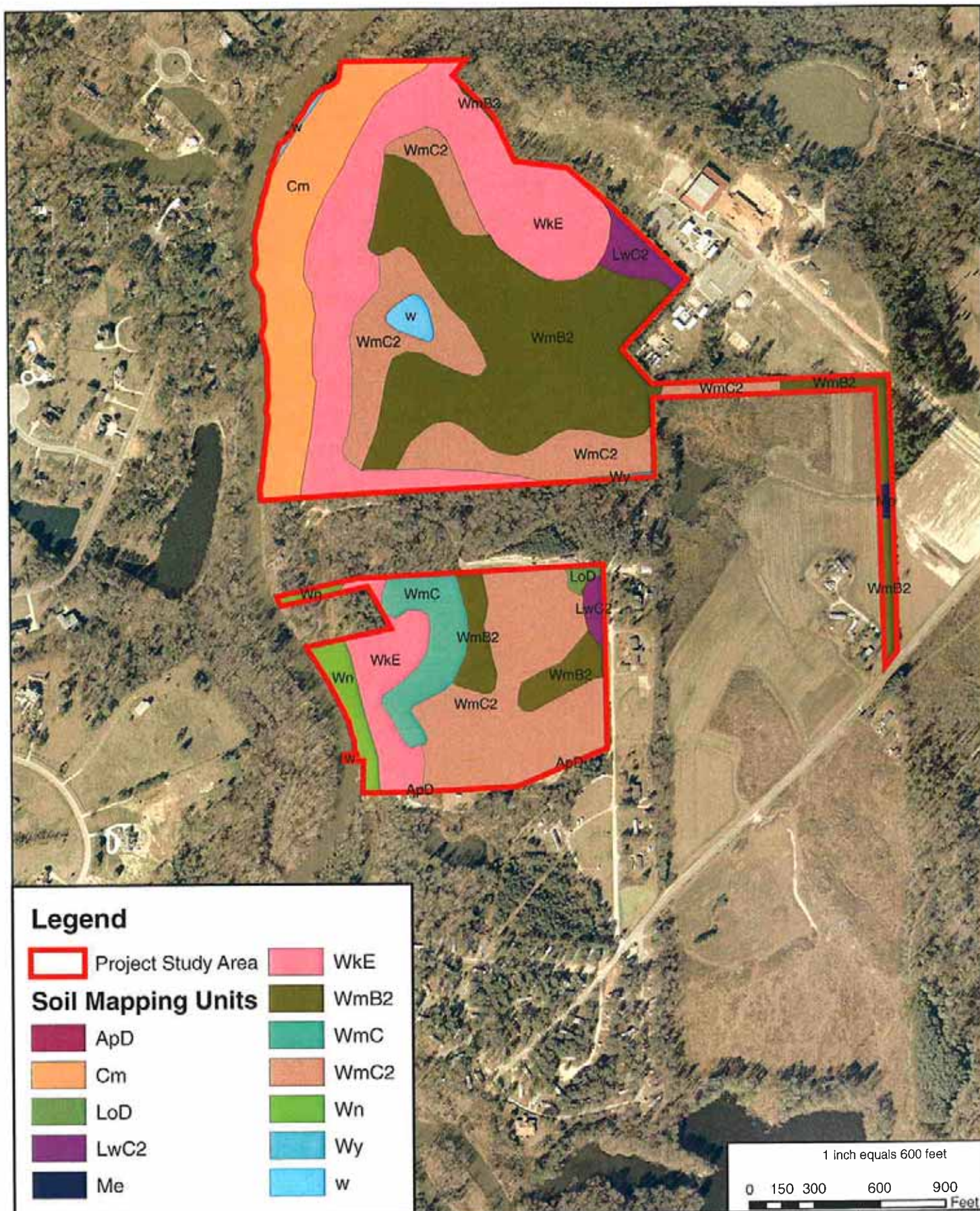
City of Raleigh Parks and Recreation
System Integration Plans
Alvis Farm Site, Wake County, North Carolina

Source: Wake County GIS Department; City of Raleigh;
FEMA Flood Insurance Rate Map (FIRM)

Figure

2





Soils Map

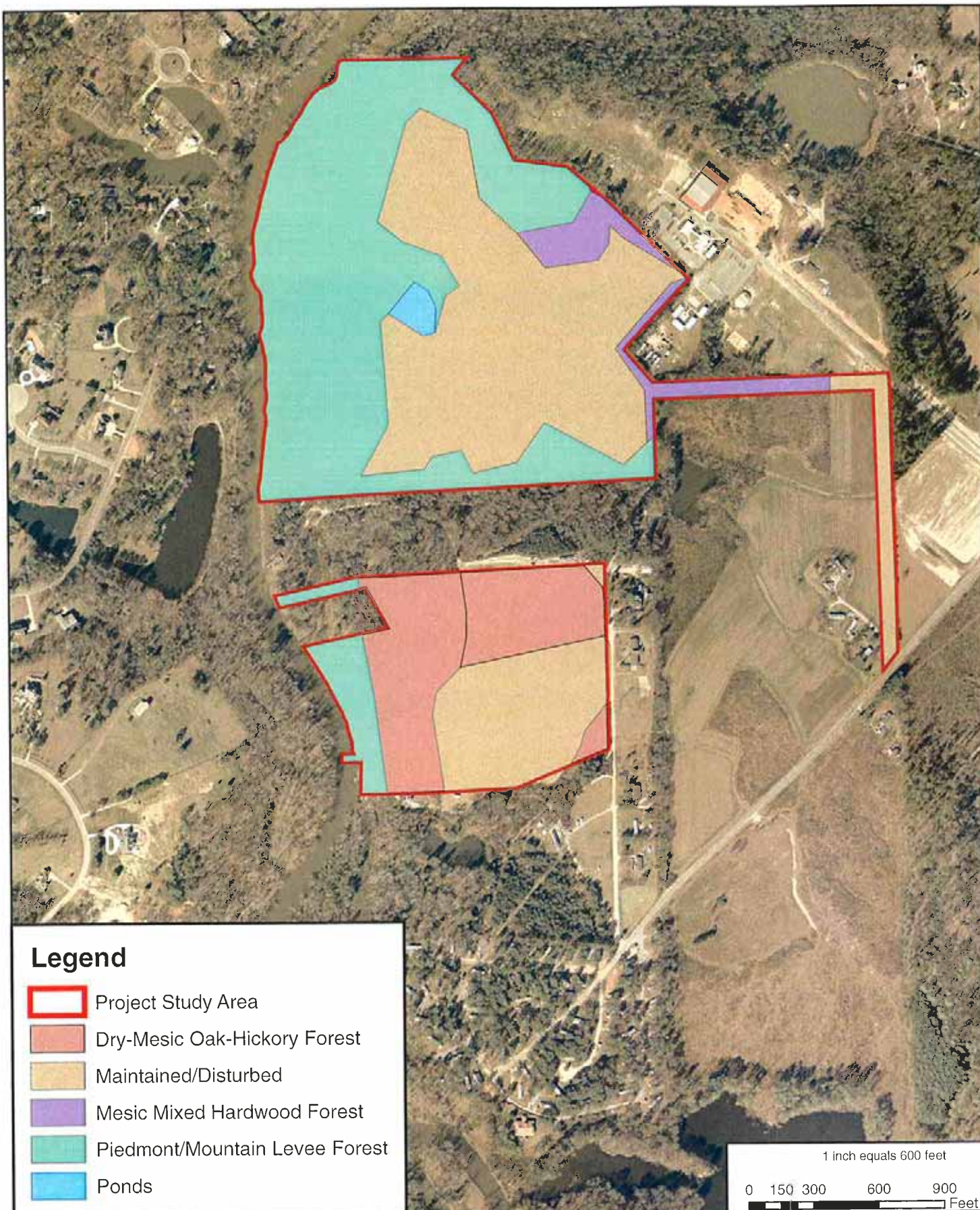
City of Raleigh Parks and Recreation
System Integration Plans
Alvis Farm Site, Wake County, North Carolina

Source: Wake County GIS Department;
Soil Survey of Wake County, North Carolina

Figure

3





Legend

- Project Study Area
- Dry-Mesic Oak-Hickory Forest
- Maintained/Disturbed
- Mesic Mixed Hardwood Forest
- Piedmont/Mountain Levee Forest
- Ponds

1 inch equals 600 feet

0 150 300 600 900
Feet



Prepared By



Prepared For



Terrestrial Communities Map

City of Raleigh Parks and Recreation
System Integration Plans
Alvis Farm Site, Wake County, North Carolina

Source: Wake County GIS Department;
Soil Survey of Wake County, North Carolina

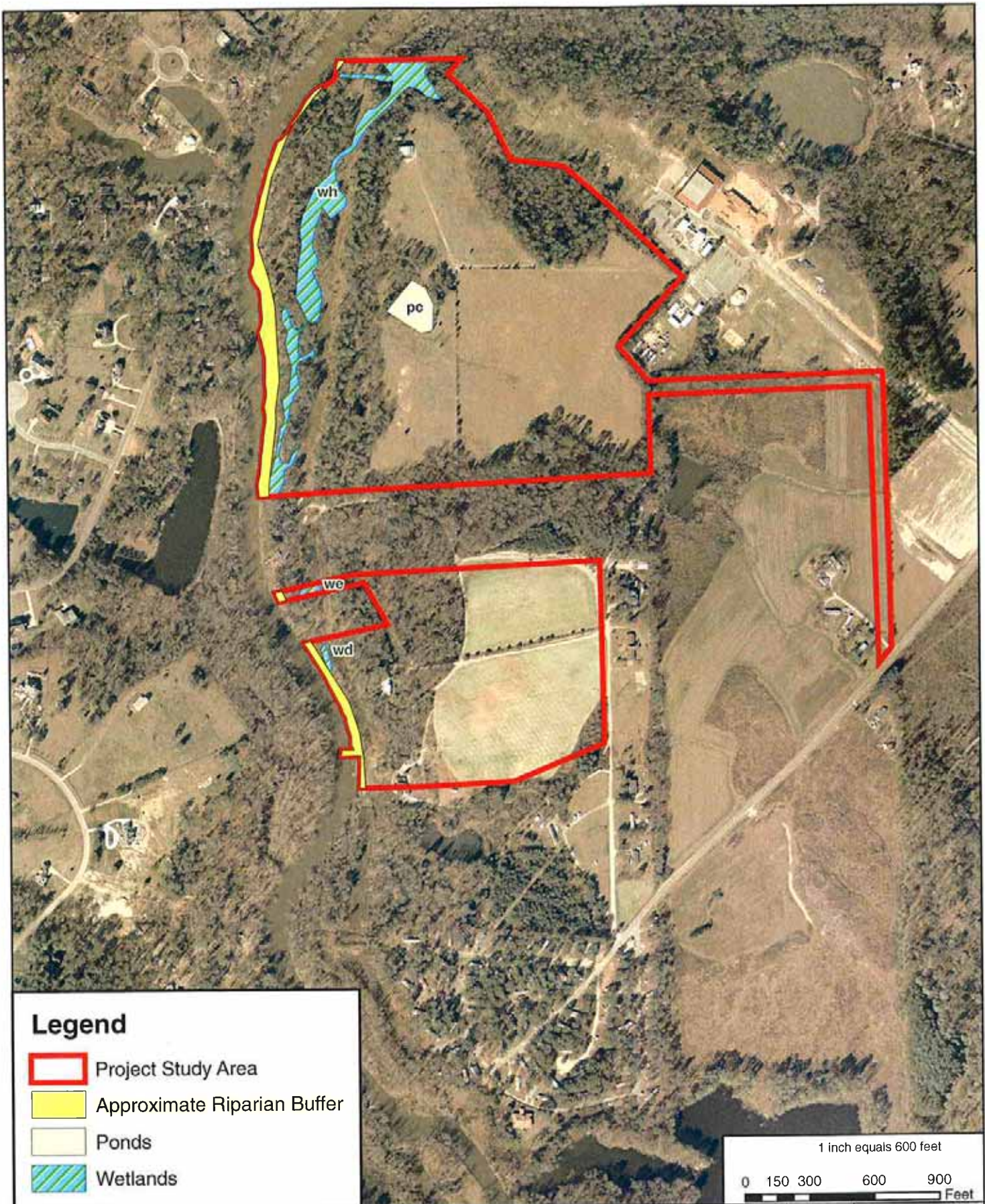
Figure

4





Figure 5. Horse pasture within northern portion of project study area



Prepared By



Prepared For



Jurisdictional Waters

City of Raleigh Parks and Recreation
System Integration Plans
Alvis Farm Site, Wake County, North Carolina

Source: Wake County GIS Department

Figure

6





Figure 7. Beaver impoundment delineated as Wetland WD. Note the standing dead trees, emergent aquatic plants, and open water present.



Figure 8. Piedmont/Mountain Levee Forest within Wetland WH. Note the broken canopy and standing water.

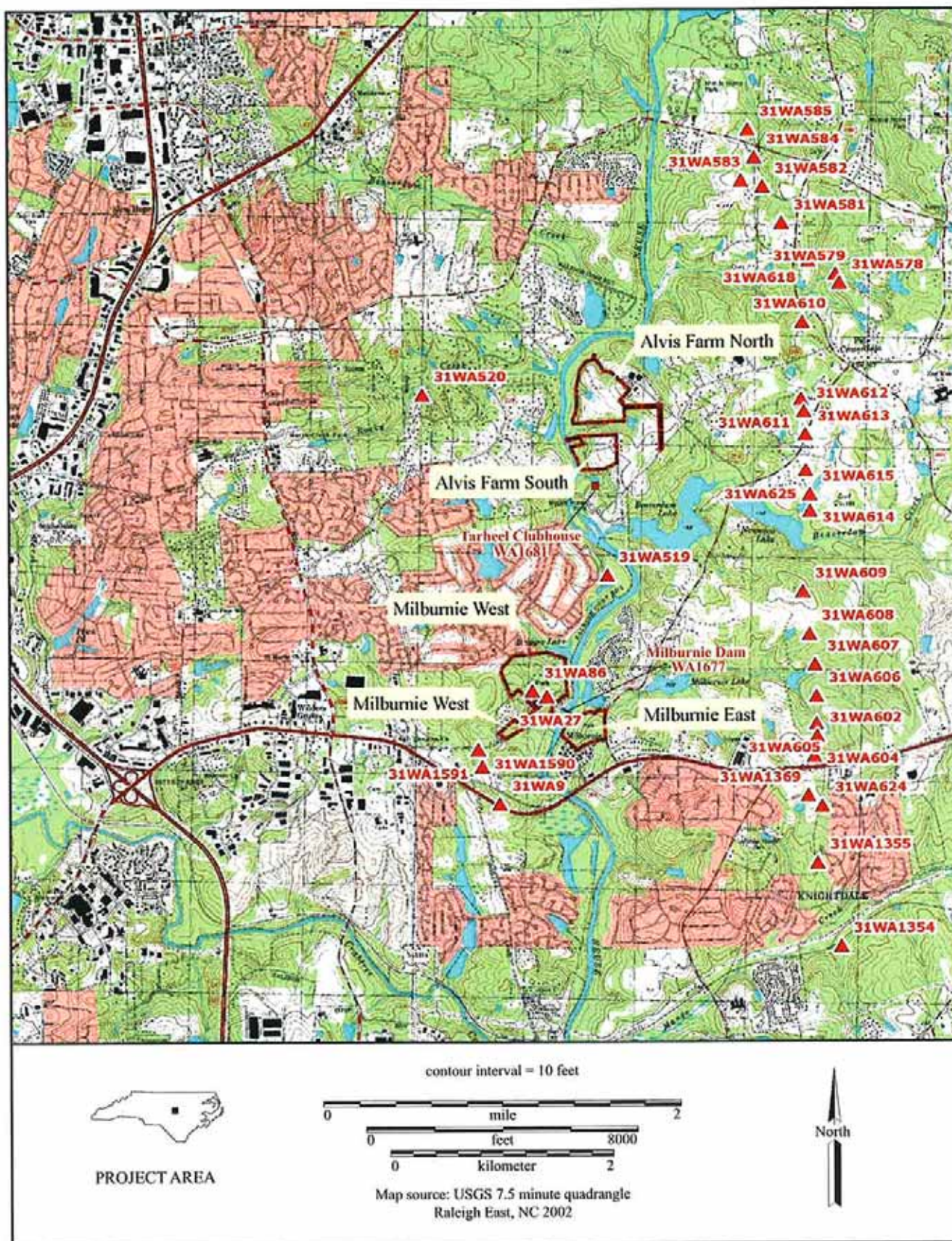


Figure 9. Proposed locations of Alvis Farm and Milburnie Parks showing previously recorded resources.

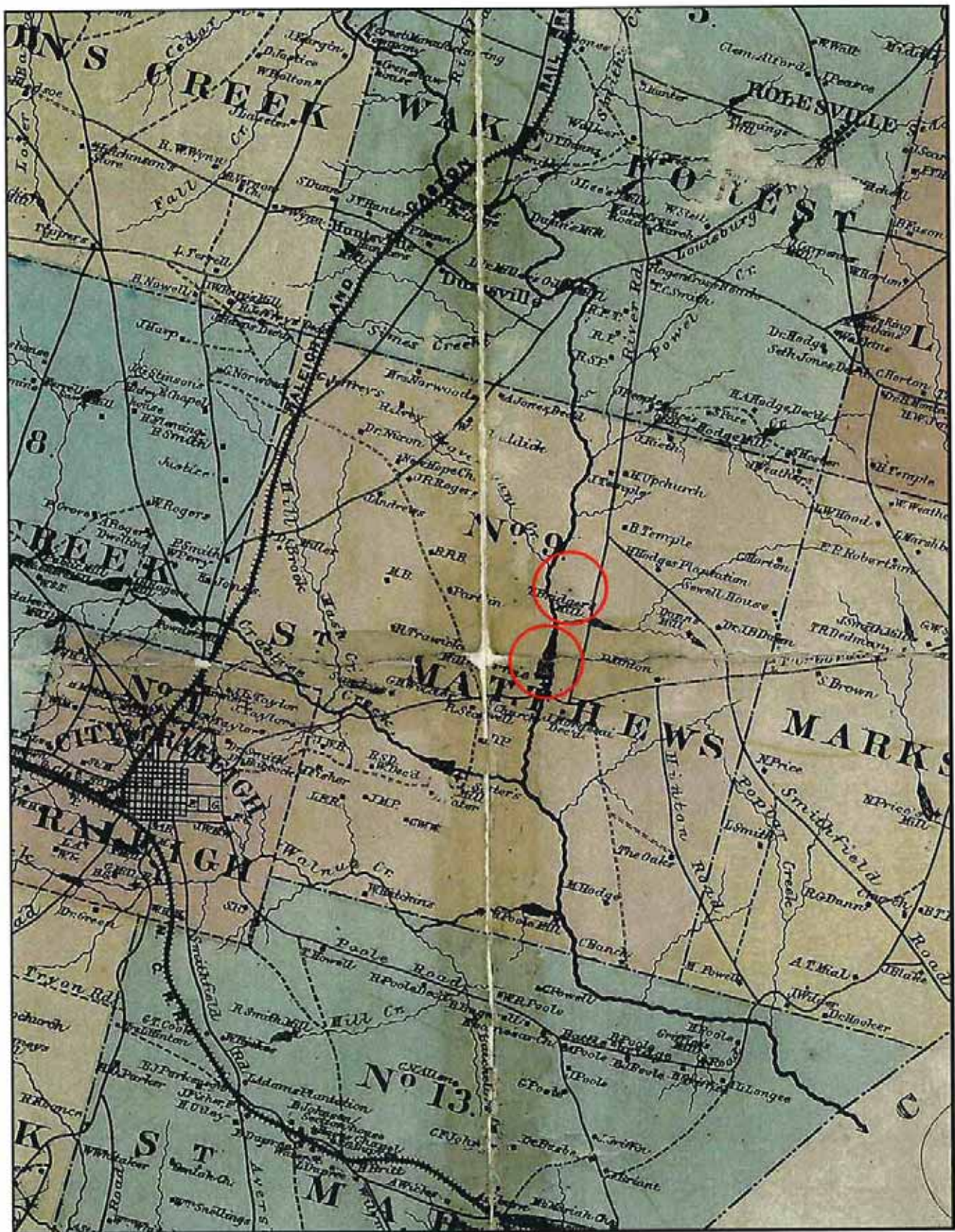


Figure 10. Portion of Bevers' 1871 Wake County Map showing location of proposed Alvis Farm and Milburnie parks.

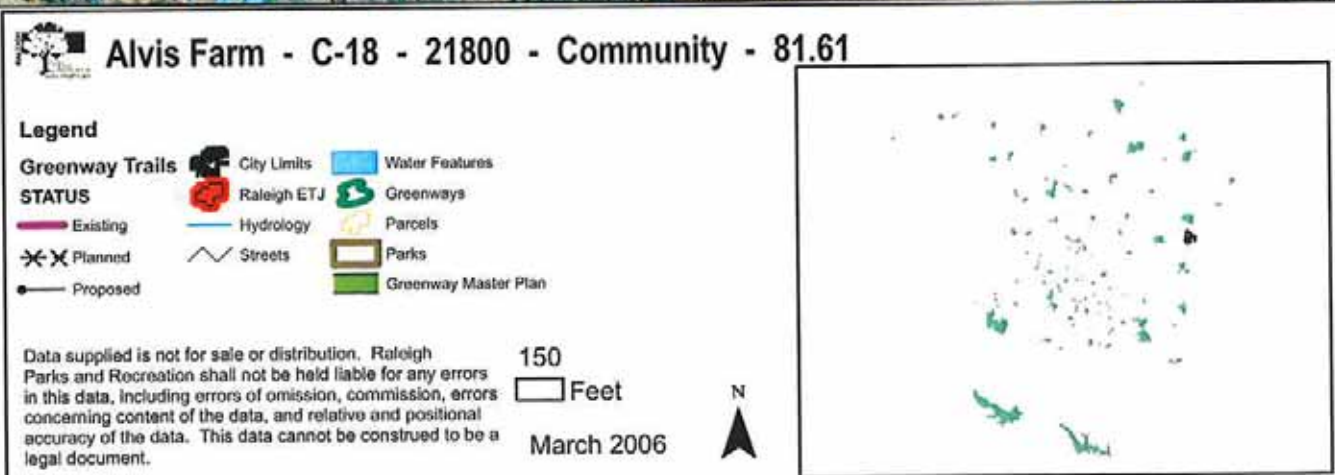
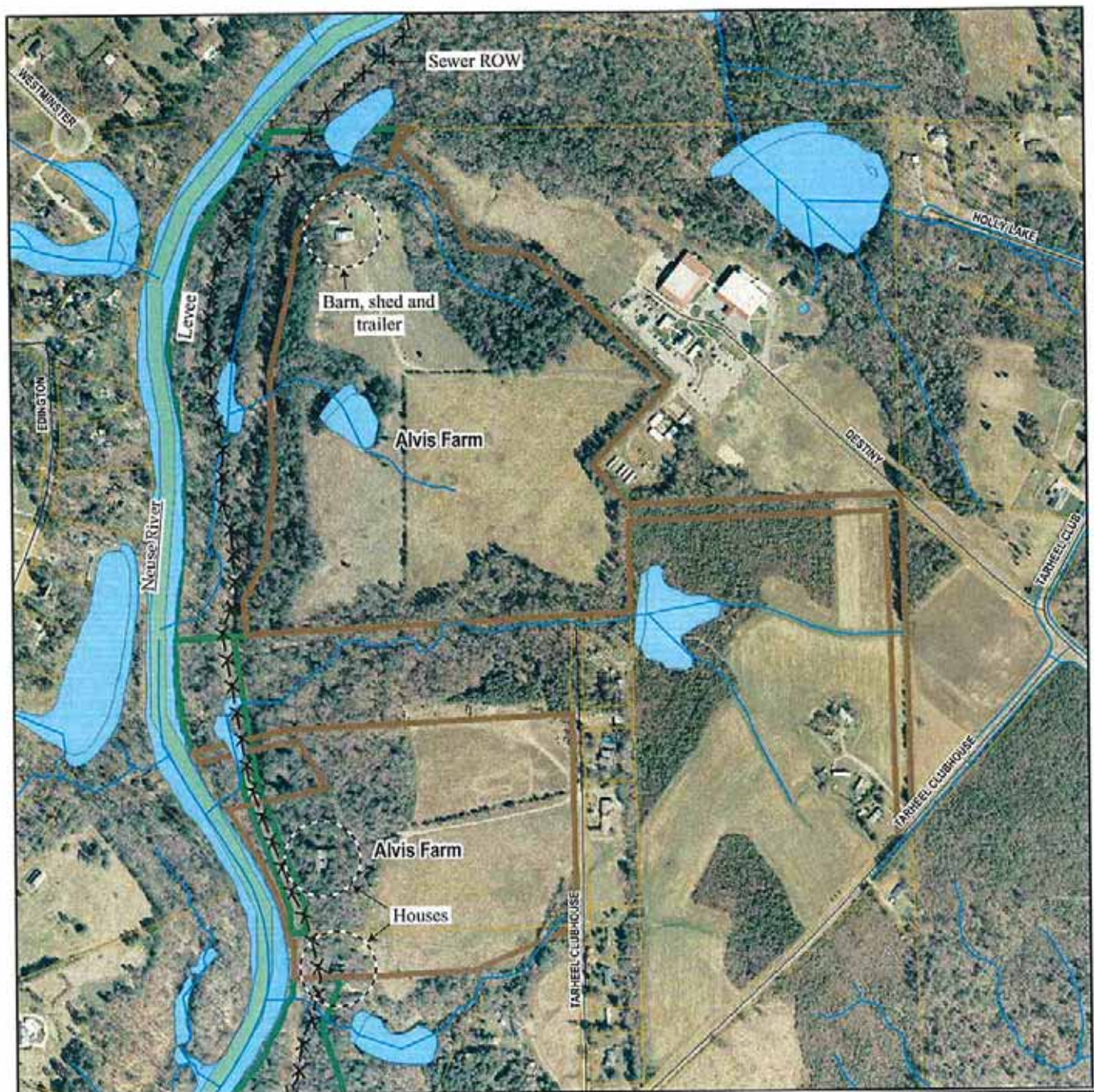


Figure 12. Alvis Farm area showing resources and features mentioned in text.



Figure 13. View of Alvis Farm horse barn, facing north.



Figure 14. View of Alvis Farm open-air shelter, facing northeast.



Figure 15. View of Alvis Farm horse barn complex, facing northwest.



Figure 16. View of Alvis Farm house, facing northwest.



Figure 17. Close-up view of Alvis Farm house front porch, facing southwest.

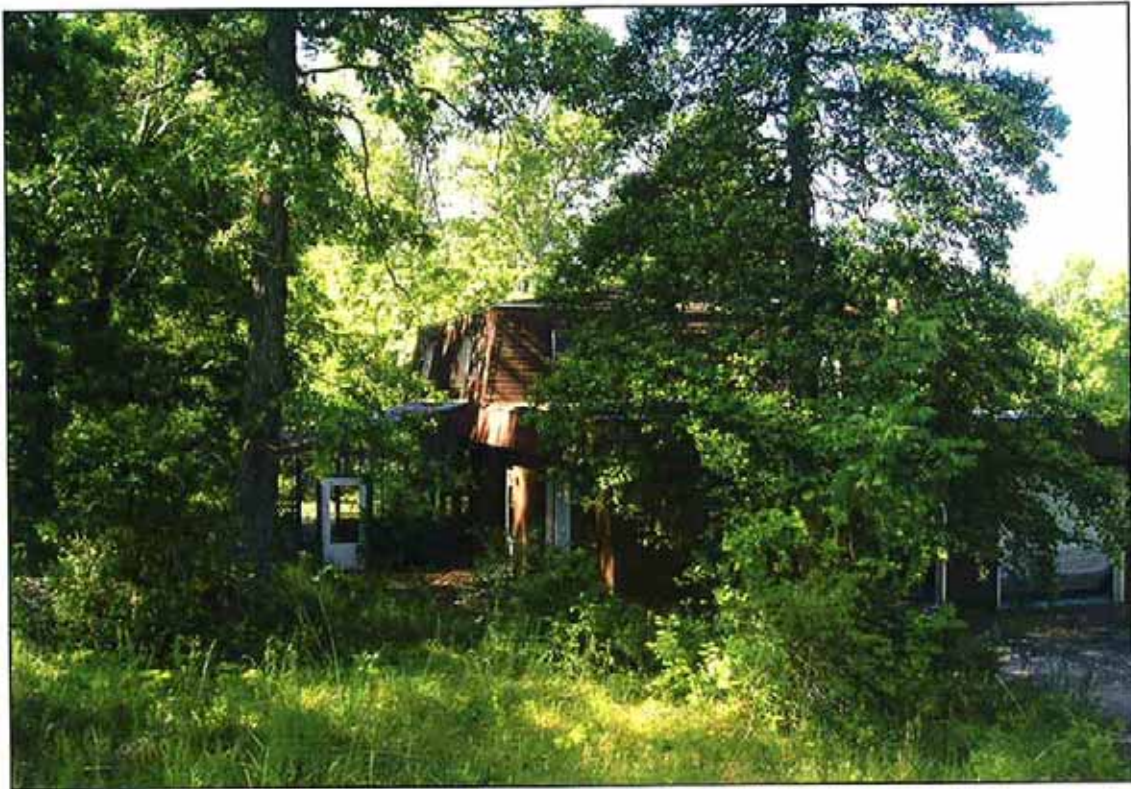


Figure 18. View of Alvis Farm house (southern), facing southwest.



Figure 19. View of collapsed wooden wagon, facing east.

Appendix A

Inventory of Observed Flora and
Fauna Species

Inventory of Fauna Observed within the Project Study Area

Scientific Name	Common Name
Vertebrates - Reptiles and Amphibians	
<i>Acris crepitans</i>	Northern cricket frog
<i>Coluber constrictor</i>	Black racer
<i>Terrapene carolina</i>	Eastern box turtle
Vertebrates - Birds	
<i>Aix sponsa</i>	Wood duck
<i>Ardea herodias</i>	Great blue heron
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Buteo lineatus</i>	Red-shouldered hawk
<i>Cardinalis cardinalis</i>	Northern cardinal
<i>Carpodacus mexicanus</i>	House finch
<i>Cathartes aura</i>	Turkey vulture
<i>Colaptes auratus</i>	Northern flicker
<i>Corvus brachyrhynchos</i>	American crow
<i>Cyanocitta cristata</i>	Blue jay
<i>Dryocopus pileatus</i>	Pileated woodpecker
<i>Melanerpes carolinus</i>	Red-bellied woodpecker
<i>Melanerpes erythrocephalus</i>	Red-headed woodpecker
<i>Picoides pubescens</i>	Downy woodpecker
<i>Poecile carolinensis</i>	Carolina chickadee
<i>Parula americana</i>	Northern parula
<i>Parus bicolor</i>	Tufted titmouse
<i>Piranga rubra</i>	Summer tanager
<i>Seiurus aurocapillus</i>	Ovenbird
<i>Sialia sialis</i>	Eastern bluebird
<i>Sitta carolinensis</i>	White-breasted nuthatch
<i>Sphyrapicus varius</i>	Yellow-bellied sapsucker
<i>Thryothorus ludovicianus</i>	Carolina wren
<i>Turdus migratorius</i>	American robin
<i>Vireo olivaceus</i>	Red-eyed vireo
<i>Wilsonia citrina</i>	Hooded warbler
<i>Zenaidura macroura</i>	Mourning dove
Vertebrates - Mammals	
<i>Castor canadensis</i>	Beaver
<i>Didelphis virginiana</i>	Virginia opossum
<i>Odocoileus virginianus</i>	White-tailed deer
<i>Procyon lotor</i>	Raccoon
<i>Sciurus carolinensis</i>	Gray squirrel

Inventory of Flora Observed within the Project Study Area

Scientific Name	Common Name
Vascular Plants	
<i>Acer negundo</i>	Box elder
<i>Acer rubrum</i>	Red maple
<i>Acer saccharum</i>	Sugar maple
<i>Alnus serrulata</i>	Tag alder
<i>Andropogon sp.</i>	Broomsedge
<i>Asplenium platyneuron</i>	Ebony spleenwort
<i>Betula nigra</i>	River birch
<i>Boehmeria cylindrica</i>	Small-spike false-nettle
<i>Campsis radicans</i>	Trumpet vine
<i>Carpinus caroliniana</i>	Ironwood
<i>Carya glabra</i>	Pignut hickory
<i>Celtis laevigata</i>	Hackberry
<i>Chasmanthium latifolium</i>	Indian sea-oats
<i>Commelina communis</i>	Asiatic dayflower
<i>Cornus florida</i>	Flowering dogwood
<i>Fagus grandifolia</i>	American beech
<i>Fraxinus pennsylvanica</i>	Green ash
<i>Gnaphalium sp.</i>	Rabbit tobacco
<i>Hackelia virginiana</i>	Beggar's lice
<i>Hedera helix</i>	English ivy
<i>Ilex opaca</i>	American holly
<i>Ipomoea spp.</i>	Morning glory
<i>Juglans nigra</i>	Black walnut
<i>Juniperus virginiana</i>	Eastern redcedar
<i>Lespedeza sp.</i>	Bushclover
<i>Ligustrum sinense</i>	Chinese privet
<i>Liquidambar styraciflua</i>	Sweetgum
<i>Liriodendron tulipifera</i>	Tulip poplar
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Magnolia tripetala</i>	Umbrella magnolia
<i>Microstegium vimineum</i>	Japanese stiltgrass
<i>Mitchella repens</i>	Partridgeberry
<i>Morus rubra</i>	Red mulberry
<i>Nyssa sylvatica</i>	Black gum
<i>Ostrya virginiana</i>	Hop-hornbeam
<i>Oxydendrum arboreum</i>	Sourwood
<i>Panicum sp.</i>	Panicgrass
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Peltandra virginica</i>	Green arrow-arum
<i>Pinus echinata</i>	Shortleaf pine
<i>Pinus taeda</i>	Loblolly pine
<i>Platanus occidentalis</i>	Sycamore
<i>Polygonum pensylvanicum</i>	Pennsylvania smartweed
<i>Polystichum acrostichoides</i>	Christmas fern
<i>Quercus alba</i>	White oak
<i>Quercus falcata</i>	Southern red oak
<i>Quercus nigra</i>	Water oak
<i>Quercus rubra</i>	Northern red oak

Inventory of Flora Observed within the Project Study Area

Scientific Name	Common Name
Vascular Plants	
<i>Rubus spp.</i>	Blackberry
<i>Saururus cernuus</i>	Lizard's tail
<i>Smilax rotundifolia</i>	Greenbrier
<i>Solanum sp.</i>	Nightshade
<i>Stellaria sp.</i>	Foxtail grass
<i>Toxicodendron radicans</i>	Poison ivy
<i>Typha latifolia</i>	Broad-leaf cattail
<i>Ulmus alata</i>	Winged elm
<i>Ulmus americana</i>	American elm
<i>Ulmus rubra</i>	Slippery elm
<i>Vaccinium arboreum</i>	Farkleberry
<i>Vicia sp.</i>	Vetch
<i>Vitis rotundifolia</i>	Muscadine grape
<i>Woodwardia areolata</i>	Netted-chain fern

Appendix B

Wetland Data Forms

DATA FORM - ROUTINE WETLAND DETERMINATION

Project/Site: <u>Alvis Farm Park Site</u> Applicant/Owner: <u>City of Raleigh</u> Investigator(s): <u>L Riddick, H Bain</u> Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is this area a potential Problem Area? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						Date: <u>September 22, 2006</u> County: <u>Wake</u> State: <u>NC</u> Community ID: <u>WD</u> Transect ID: <u>WD-01</u> Plot ID: <u>wetland</u>																																																						
VEGETATION	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Dominant Plant Species</th> <th style="width: 20%;">Stratum</th> <th style="width: 10%;">Indicator</th> </tr> </thead> <tbody> <tr><td>1. <u>Polygonum pensylvanicum</u></td><td><u>Herb</u></td><td><u>FACW</u></td></tr> <tr><td>2. <u>Fraxinus pennsylvanicum</u></td><td><u>Canopy</u></td><td><u>FACW</u></td></tr> <tr><td>3. <u>Acer negundo</u></td><td><u>Canopy</u></td><td><u>FACW</u></td></tr> <tr><td>4. <u>Betula nigra</u></td><td><u>Canopy</u></td><td><u>FACW</u></td></tr> <tr><td>5. <u>Peltandra virginica</u></td><td><u>Herb</u></td><td><u>OBL</u></td></tr> <tr><td>6. <u>Saururus cernuus</u></td><td><u>Herb</u></td><td><u>OBL</u></td></tr> <tr><td>7. <u>Vitis rotundifolia</u></td><td><u>Vine</u></td><td><u>FAC</u></td></tr> <tr><td>8. _____</td><td>_____</td><td>_____</td></tr> </tbody> </table>			Dominant Plant Species	Stratum	Indicator	1. <u>Polygonum pensylvanicum</u>	<u>Herb</u>	<u>FACW</u>	2. <u>Fraxinus pennsylvanicum</u>	<u>Canopy</u>	<u>FACW</u>	3. <u>Acer negundo</u>	<u>Canopy</u>	<u>FACW</u>	4. <u>Betula nigra</u>	<u>Canopy</u>	<u>FACW</u>	5. <u>Peltandra virginica</u>	<u>Herb</u>	<u>OBL</u>	6. <u>Saururus cernuus</u>	<u>Herb</u>	<u>OBL</u>	7. <u>Vitis rotundifolia</u>	<u>Vine</u>	<u>FAC</u>	8. _____	_____	_____	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Dominant Plant Species</th> <th style="width: 20%;">Stratum</th> <th style="width: 10%;">Indicator</th> </tr> </thead> <tbody> <tr><td>9. _____</td><td>_____</td><td>_____</td></tr> <tr><td>10. _____</td><td>_____</td><td>_____</td></tr> <tr><td>11. _____</td><td>_____</td><td>_____</td></tr> <tr><td>12. _____</td><td>_____</td><td>_____</td></tr> <tr><td>13. _____</td><td>_____</td><td>_____</td></tr> <tr><td>14. _____</td><td>_____</td><td>_____</td></tr> <tr><td>15. _____</td><td>_____</td><td>_____</td></tr> <tr><td>16. _____</td><td>_____</td><td>_____</td></tr> </tbody> </table>			Dominant Plant Species	Stratum	Indicator	9. _____	_____	_____	10. _____	_____	_____	11. _____	_____	_____	12. _____	_____	_____	13. _____	_____	_____	14. _____	_____	_____	15. _____	_____	_____	16. _____	_____	_____
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Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). <u>100%</u> Remarks: <u>located adjacent to Neuse River levee</u> <u>sewer line located opposite the levee</u>																																																												
HYDROLOGY	_____ Recorded Data (Describe in Remarks) _____ Stream, Lake, or tide Gauge _____ Aerial Photographs _____ Other <u>X</u> No Recorded Data Available Field Observations: Depth of Surface Water: <u> - </u> (in.) Depth to Free Water in Pit: <u> >12 </u> (in.) Depth to Saturated Soil: <u> 6 </u> (in.) Remarks: <u>Hydrologic indicators of wetland observed</u>																																																											
	Primary Indicators: _____ Inundated <u>X</u> Saturated in Upper 12 Inches <u>X</u> Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <u>X</u> Oxidized Root Channels in Upper 12 Inches _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)																																																											
SOILS	Map Unit Name (Series & Phase): _____ Taxonomy (Subgroup) _____ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Depth (inches)</th> <th style="width: 10%;">Horizon</th> <th style="width: 20%;">Matrix Color (Munsell Moist)</th> <th style="width: 20%;">Mottle Colors (Munsell Moist)</th> </tr> </thead> <tbody> <tr><td><u>0-2</u></td><td><u>A</u></td><td><u>10YR 3/4</u></td><td><u>-</u></td></tr> <tr><td><u>2-12</u></td><td><u>B</u></td><td><u>10YR 4/1</u></td><td><u>10YR 3/1</u></td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> </tbody> </table>				Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	<u>0-2</u>	<u>A</u>	<u>10YR 3/4</u>	<u>-</u>	<u>2-12</u>	<u>B</u>	<u>10YR 4/1</u>	<u>10YR 3/1</u>	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____																												
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Drainage Class: _____ Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Mottle Abundance/Contrast</th> <th style="width: 60%;">Texture, Concretions, Structure, etc.</th> </tr> </thead> <tbody> <tr><td><u>-</u></td><td><u>clay loam</u></td></tr> <tr><td><u>common, distinct</u></td><td><u>clay loam</u></td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td></tr> </tbody> </table>				Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.	<u>-</u>	<u>clay loam</u>	<u>common, distinct</u>	<u>clay loam</u>	_____	_____	_____	_____	_____	_____	_____	_____																																											
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WETLAND RATING WORKSHEET (4th VERSION)

Project Name: <u>Alvis Farm Park Site</u>	County: <u>Wake</u>
Nearest Road: <u>Tarheel Club Road</u>	Date: <u>9/22/2006</u>
Wetland Area (ac): <u>>1 acre</u>	Wetland Width (ft): <u>10-50 feet</u>
Name of Evaluator(s): <u>L Riddick, H Bain</u>	Wetland ID: <u>WD</u>

WETLAND LOCATION:

☐ on sound or estuary, pond or lake
☒ on perennial stream
☐ on intermittent stream
☐ within interstream divide
☐ other floodplain of Neuse River

SOILS:

Soil Series: _____
☐ predominantly organic (humus, muck or peat)
☒ predominantly mineral (non-sandy)
☐ predominantly sandy

HYDRAULIC FACTORS:

☒ freshwater
☐ brackish
☐ steep topography
☐ ditched or channelized
☐ total wetland width >= 100 feet

WETLAND TYPE: (select one)*

<input checked="" type="checkbox"/> Bottomland Hardwood Forest <input type="checkbox"/> Swamp Forest <input type="checkbox"/> Carolina Bay <input type="checkbox"/> Pocosin <input type="checkbox"/> Pine Savannah <input type="checkbox"/> Freshwater Marsh	<input type="checkbox"/> Bog/Fen <input type="checkbox"/> Headwater Forest <input type="checkbox"/> Bog Forest <input type="checkbox"/> Ephemeral Wetland <input type="checkbox"/> Other: _____
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* The rating system cannot be applied to salt and brackish marshes or stream channels.

ADJACENT LAND USE:

(within 1/2 mile upstream, upslope or radius)
☒ forested/natural vegetation 80 %
☒ agricultural/ urbanized 20 %
☐ impervious surface _____ %
 Adjacent Special Natural Areas
Neuse River

DOMINANT VEGETATION:

1 Polygonum pensylvanicum
 2 Fraxinus pennsylvanicum
 3 Betula nigra
 4 Acer negundo

FLOODING AND WETNESS:

☐ semipermanently to permanently flooded or inundated
☐ seasonally flooded or inundated
☒ intermittently flooded or temporary surface water
☐ no evidence of flooding or surface water

DEM RATING

WATER STORAGE	<u>2</u>	X 4.00 =	<u>8</u>
BANK, SHORELINE STABILIZATION	<u>3</u>	X 4.00 =	<u>12</u>
POLLUTANT REMOVAL	<u>4</u> *	X 5.00 =	<u>20</u>
WILDLIFE HABITAT	<u>4</u>	X 2.00 =	<u>8</u>
AQUATIC LIFE	<u>2</u>	X 4.00 =	<u>8</u>
RECREATION/EDUCATION	<u>4</u>	X 1.00 =	<u>4</u>
TOTAL WETLAND SCORE =			<u>60</u>

* Add one point if in sensitive watershed and >10% nonpoint disturbance within 1/2 mile upstream, upslope, or radius.

DATA FORM - ROUTINE WETLAND DETERMINATION

Project/Site: <u>Alvis Farm Park Site</u> Applicant/Owner: <u>City of Raleigh</u> Investigator(s): <u>L Riddick, H Bain</u> Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is this area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Date: <u>September 22, 2006</u> County: <u>Wake</u> State: <u>NC</u> Community ID: <u>WE</u> Transect ID: <u>WE-01</u> Plot ID: <u>wetland</u>																																																						
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Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

DATA FORM - ROUTINE WETLAND DETERMINATION

Project/Site: Alvis Farm Park Site
 Applicant/Owner: City of Raleigh
 Investigator(s): L Riddick, H Bain
 Do Normal Circumstances exist on the site? ☒ Yes ☐ No
 Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No
 Is this area a potential Problem Area? ☐ Yes ☒ No

Date: September 22, 2006
 County: Wake
 State: NC
 Community ID: WE
 Transect ID: WE-01
 Plot ID: upland

VEGETATION	Dominant Plant Species			Stratum	Indicator	Dominant Plant Species			Stratum	Indicator
	1.	<u>Ligustrum sinense</u>	<u>Shrub</u>	<u>FAC</u>	9.					
	2.	<u>Liquidambar styraciflua</u>	<u>Canopy</u>	<u>FAC+</u>	10.					
	3.	<u>Acer rubrum</u>	<u>Canopy</u>	<u>FAC</u>	11.					
	4.	<u>Celtis laevigata</u>	<u>Canopy</u>	<u>FACU</u>	12.					
	5.	<u>Acer negundo</u>	<u>Canopy</u>	<u>FACW</u>	13.					
	6.	<u>Lonicera japonica</u>	<u>Vine</u>	<u>FAC-</u>	14.					
	7.	<u>Toxicodendron radicans</u>	<u>Vine</u>	<u>FAC</u>	15.					
	8.	<u>Chasmanthium latifolium</u>	<u>Herb</u>	<u>FAC-</u>	16.					

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 63%

Remarks:

*river levee between Neuse River and wetland
 levee is substantially higher in elevation than adjacent wetland*

HYDROLOGY	<input type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
	Field Observations:	Secondary Indicators (2 or more required):
	Depth of Surface Water: <u> </u> (in.) Depth to Free Water in Pit: <u>>12</u> (in.) Depth to Saturated Soil: <u>>12</u> (in.)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
	Remarks:	

*no hydrologic indicators observed
 sediment depositional area within Neuse River levee*

SOILS	Map Unit Name (Series & Phase): _____				Drainage Class: _____	
	Taxonomy (Subgroup)				Confirm Mapped Type? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
	<u>0-12</u>	<u>A</u>	<u>10YR 3/6</u>	<u>-</u>	<u>-</u>	<u>clay loam</u>
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____

HYDRIC INDICATORS	<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
	Remarks:	

levee between Neuse River and beaver impoundment

Hydrophytic Vegetation Present? ☒ Yes ☐ No
 Wetland Hydrology Present? ☒ Yes ☐ No
 Hydric Soils Present? ☒ Yes ☐ No

Is this Sampling Point Within a Wetland? Yes ☐ No ☒

Remarks:

data point is located on levee of Neuse River

WETLAND RATING WORKSHEET (4th VERSION)

Project Name: <u>Alvis Farm Park Site</u>	County: <u>Wake</u>
Nearest Road: <u>Tarheel Club Road</u>	Date: <u>9/22/2006</u>
Wetland Area (ac): <u>>1 acre</u>	Wetland Width (ft): <u>~100 feet</u>
Name of Evaluator(s): <u>L. Riddick, H. Bain</u>	Wetland ID: <u>WE</u>

WETLAND LOCATION:

☐ on sound or estuary, pond or lake
☒ on perennial stream
☐ on intermittent stream
☐ within interstream divide
☐ other floodplain of Neuse River

SOILS:

Soil Series: _____
☐ predominantly organic (humus, muck or peat)
☒ predominantly mineral (non-sandy)
☐ predominantly sandy

HYDRAULIC FACTORS:

☒ freshwater
☐ brackish
☐ steep topography
☐ ditched or channelized
☐ total wetland width >= 100 feet

WETLAND TYPE: (select one)*

<input type="checkbox"/> Bottomland Hardwood Forest	<input type="checkbox"/> Bog/Fen
<input type="checkbox"/> Swamp Forest	<input type="checkbox"/> Headwater Forest
<input type="checkbox"/> Carolina Bay	<input type="checkbox"/> Bog Forest
<input type="checkbox"/> Pocosin	<input type="checkbox"/> Ephemeral Wetland
<input type="checkbox"/> Pine Savannah	<input checked="" type="checkbox"/> Other: <u>beaver impoundment</u>
<input type="checkbox"/> Freshwater Marsh	

* The rating system cannot be applied to salt and brackish marshes or stream channels.

DEM RATING

WATER STORAGE	<u>3</u>	X 4.00 =	<u>12</u>
BANK, SHORELINE STABILIZATION	<u>3</u>	X 4.00 =	<u>12</u>
POLLUTANT REMOVAL	<u>5</u> *	X 5.00 =	<u>25</u>
WILDLIFE HABITAT	<u>4</u>	X 2.00 =	<u>8</u>
AQUATIC LIFE	<u>2</u>	X 4.00 =	<u>8</u>
RECREATION/EDUCATION	<u>3</u>	X 1.00 =	<u>3</u>
TOTAL WETLAND SCORE =			<u>68</u>

* Add one point if in sensitive watershed and >10% nonpoint disturbance within 1/2 mile upstream, upslope, or radius.

ADJACENT LAND USE:

(within 1/2 mile upstream, upslope or radius)
☒ forested/natural vegetation 95 %
☒ agricultural/urbanized 5 %
☐ impervious surface _____ %
 Adjacent Special Natural Areas
Neuse River

DOMINANT VEGETATION:

- 1 Acer rubrum
- 2 Polygonum pensylvanicum
- 3 Boehmeria cylindrica
- 4 Scirpus sp.

FLOODING AND WETNESS:

☒ semipermanently to permanently flooded or inundated
☐ seasonally flooded or inundated
☐ intermittently flooded or temporary surface water
☐ no evidence of flooding or surface water

DATA FORM - ROUTINE WETLAND DETERMINATION

Project/Site: <u>Alvis Farm Park Site</u> Applicant/Owner: <u>City of Raleigh</u> Investigator(s): <u>L Riddick, H Bain</u> Do Normal Circumstances exist on the site? <input type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is this area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Date: <u>September 28, 2006</u> County: <u>Wake</u> State: <u>NC</u> Community ID: <u>WH</u> Transect ID: <u>WH-10</u> Plot ID: <u>wetland</u>																																																						
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	Remarks: <u>soil is very moist, containing sandy loam materials from adjacent slope</u>																																																											
HYDRIC INDICATORS	Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Remarks: <u>data point taken near toe of slope</u>																																																											
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DATA FORM - ROUTINE WETLAND DETERMINATION

Project/Site: Alvis Farm Park Site
 Applicant/Owner: City of Raleigh
 Investigator(s): L Riddick, H Bain
 Do Normal Circumstances exist on the site? ☒ Yes ☐ No
 Is the site significantly disturbed (Atypical Situation)? ☒ Yes ☐ No
 Is this area a potential Problem Area? ☒ Yes ☐ No

Date: September 28, 2006
 County: Wake
 State: NC
 Community ID: WH
 Transect ID: WH-10
 Plot ID: upland

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1.	<u>Fagus grandifolia</u>	<u>Canopy</u>	<u>FACU</u>	9.			
2.	<u>Pinus taeda</u>	<u>Canopy</u>	<u>FAC</u>	10.			
3.	<u>Liquidambar styraciflua</u>	<u>Canopy</u>	<u>FAC+</u>	11.			
4.	<u>Ilex opaca</u>	<u>Canopy</u>	<u>FAC-</u>	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 50%

Remarks:

*hillside frequented by horses
herbaceous vegetation is nearly absent, likely due to grazing*

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
☐ Stream, Lake, or tide Gauge
☐ Aerial Photographs
☐ Other
☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: >12 (in.)

Depth to Saturated Soil: >12 (in.)

Remarks:

*no hydrologic indicators observed
topography promotes runoff into wetland*

Primary Indicators:

☐ Inundated
☐ Saturated in Upper 12 Inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

☐ Oxidized Root Channels in Upper 12 Inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

SOILS

Map Unit Name (Series & Phase):

Taxonomy (Subgroup)

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)
<u>0-5</u>	<u>A</u>	<u>10YR 3/2</u>	<u>-</u>
<u>5-12</u>	<u>B</u>	<u>10YR 4/3</u>	<u>-</u>

Drainage Class:

Confirm Mapped Type? Yes ☐ No ☒

Mottle Abundance/Contrast
 Texture, Concretions, Structure, etc.
-
-
loam with rocks
loam with rocks

HYDRIC INDICATORS

☐ Histosol
☐ Histic Epipedon
☐ Sulfidic Odor
☐ Aquic Moisture Regime
☐ Reducing Conditions
☐ Gleyed or Low-Chroma Colors

Remarks:

dry mineral soil with nickel- to quarter-sized rocks

☐ Concretions
☐ High Organic Content in Surface Layer in Sandy Soils
☐ Organic Streaking in Sandy Soils
☐ Listed on Local Hydric Soils List
☐ Listed on National Hydric Soils List
☐ Other (Explain in Remarks)

Hydrophytic Vegetation Present? Yes ☐ No ☒
 Wetland Hydrology Present? Yes ☐ No ☒
 Hydric Soils Present? Yes ☐ No ☒

Remarks:

data point is located on ridge slope upslope from wetland

Is this Sampling Point Within a Wetland? Yes ☐ No ☒

DATA FORM - ROUTINE WETLAND DETERMINATION

Project/Site: <u>Alvis Farm Park Site</u> Applicant/Owner: <u>City of Raleigh</u> Investigator(s): <u>L Riddick, H Bam</u> Do Normal Circumstances exist on the site? <input type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is this area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 						Date: <u>September 28, 2006</u> County: <u>Wake</u> State: <u>NC</u> Community ID: <u>WH</u> Transect ID: <u>WH-38</u> Plot ID: <u>wetland</u>																																																						
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	3. <u>Ulmus rubra</u>	<u>Canopy</u>	<u>FAC</u>																																																									
	4. <u>Betula nigra</u>	<u>Canopy</u>	<u>FACW</u>																																																									
	5. <u>Platanus occidentalis</u>	<u>Canopy</u>	<u>FACW-</u>																																																									
	6. _____	_____	_____																																																									
	7. _____	_____	_____																																																									
	8. _____	_____	_____																																																									
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10. _____	_____	_____																																																										
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DATA FORM - ROUTINE WETLAND DETERMINATION

Project/Site: <u>Alvis Farm Park Site</u> Applicant/Owner: <u>City of Raleigh</u> Investigator(s): <u>L Riddick, H Bain</u> Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is this area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Date: <u>September 28, 2006</u> County: <u>Wake</u> State: <u>NC</u> Community ID: <u>WH</u> Transect ID: <u>WH-38</u> Plot ID: <u>upland</u>																																																
VEGETATION	<u>Dominant Plant Species</u> <u>Stratum</u> <u>Indicator</u>			<u>Dominant Plant Species</u> <u>Stratum</u> <u>Indicator</u>																																																		
	1. <u>Celtis laevigata</u> <u>Canopy</u> <u>FACU</u>			9. _____																																																		
	2. <u>Microstegium vimineum</u> <u>Herb</u> <u>FAC+</u>			10. _____																																																		
	3. <u>Polygonum pensylvanicum</u> <u>Herb</u> <u>FACW</u>			11. _____																																																		
	4. <u>Toxicodendron radicans</u> <u>Vine</u> <u>FAC</u>			12. _____																																																		
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	Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). <u>80%</u> Remarks: <u>ground cover dominated by Microstegium</u>																																																					
HYDROLOGY	<u>Recorded Data (Describe in Remarks)</u> <u>Stream, Lake, or tide Gauge</u> <u>Aerial Photographs</u> <u>Other</u> <u>X</u> <u>No Recorded Data Available</u> Field Observations: Depth of Surface Water: <u> - </u> (in.) Depth to Free Water in Pit: <u> >12 </u> (in.) Depth to Saturated Soil: <u> >12 </u> (in.) Remarks: <u>no wetland hydrologic indicators observed</u> <u>site is elevated above river water level</u>																																																					
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WETLAND RATING WORKSHEET (4th VERSION)

Project Name: <u>Alvis Farm Park Site</u>	County: <u>Wake</u>
Nearest Road: <u>Tarheel Club Road</u>	Date: <u>9/28/2006</u>
Wetland Area (ac): <u>>3 acres</u>	Wetland Width (ft): <u>10-75 feet</u>
Name of Evaluator(s): <u>L Riddick, H Bain</u>	Wetland ID: <u>WH</u>

WETLAND LOCATION:

☐ on sound or estuary, pond or lake
☒ on perennial stream
☐ on intermittent stream
☐ within interstream divide
☐ other floodplain of Neuse River

SOILS:

Soil Series: _____
☐ predominantly organic (humus, muck or peat)
☒ predominantly mineral (non-sandy)
☐ predominantly sandy

HYDRAULIC FACTORS:

☒ freshwater
☐ brackish
☐ steep topography
☐ ditched or channelized
☐ total wetland width \geq 100 feet

ADJACENT LAND USE:

(within 1/2 mile upstream, upslope or radius)
☒ forested/natural vegetation 80 %
☒ agricultural/ urbanized 20 %
☐ impervious surface _____ %
 Adjacent Special Natural Areas
Neuse River

DOMINANT VEGETATION:

1 Saururus cernuus
 2 Polygonum pensylvanicum
 3 Betula nigra
 4 Ulmus rubra

FLOODING AND WETNESS:

☐ semipermanently to permanently flooded or inundated
☐ seasonally flooded or inundated
☒ intermittently flooded or temporary surface water
☐ no evidence of flooding or surface water

WETLAND TYPE: (select one)*

<input checked="" type="checkbox"/> Bottomland Hardwood Forest <input type="checkbox"/> Swamp Forest <input type="checkbox"/> Carolina Bay <input type="checkbox"/> Pocosin <input type="checkbox"/> Pine Savannah <input type="checkbox"/> Freshwater Marsh	<input type="checkbox"/> Bog/Fen <input type="checkbox"/> Headwater Forest <input type="checkbox"/> Bog Forest <input type="checkbox"/> Ephemeral Wetland <input type="checkbox"/> Other: _____
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* The rating system cannot be applied to salt and brackish marshes or stream channels.

DEM RATING

WATER STORAGE	<u>3</u>	X 4.00 =	<u>12</u>
BANK, SHORELINE STABILIZATION	<u>2</u>	X 4.00 =	<u>8</u>
POLLUTANT REMOVAL	<u>4</u> *	X 5.00 =	<u>20</u>
WILDLIFE HABITAT	<u>3</u>	X 2.00 =	<u>6</u>
AQUATIC LIFE	<u>4</u>	X 4.00 =	<u>16</u>
RECREATION/EDUCATION	<u>4</u>	X 1.00 =	<u>4</u>
TOTAL WETLAND SCORE =			<u>66</u>

* Add one point if in sensitive watershed and >10% nonpoint disturbance within 1/2 mile upstream, upslope, or radius.

Appendix C

Parks Committee Review

Meeting Summary Notes

System Integration Plans

Parks and Recreation Department

Raleigh, NC

Subject:

System Integration Plans

Summary by:

Robin Pugh, AICP
ARCADIS

Place/Date of Meeting:

Jaycee Park Community Center
April 5, 2007

Summary Issue Date:

April 20, 2007

Participants:

Parks Committee:

Gregg Barley
Tina Certo
Jimmy Thiem
Gail Till

Copies:

Stephen Bentley
Parks Committee

Raleigh Parks and Recreation Department:

Dick Bailey
Stephen Bentley
Wayne Schindler

ARCADIS:

Robin Pugh
Lindsey Riddick

The purpose of the meeting was to develop draft System Integration Plans for the Alvis Farm, Trott-Strickland, and Milburnie future park sites. The objectives of the System Integration Plan are to: (1) document existing site conditions and constraints, (2) develop a set of guidelines for the interim management of parkland prior to the initiation of a Master Plan, (3) establish the park's classification consistent with the Comprehensive Plan, and if applicable, (4) establish any special intent for the park.

Existing Site Conditions and Constraints

Robin Pugh and Lindsey Riddick, ARCADIS, presented an overview of the existing conditions data collected for each site, as documented in the Existing Conditions Reports. Issues discussed are highlighted below:

Alvis Farm

- Conservation Area – The deed for the property (northern portion only) restricts the use of floodplain west of the western right-of-way of the sewer easement. The City agreed to designate this area as a "Conservation Area." Improvements or construction within this area are restricted. Vehicular and pedestrian access within this area shall also be restricted. The greenway or other trails would not be allowed in this Conservation Area, but would be allowed within the sewer easement and east of the sewer easement.
- Lease by J&H Stables – It was noted that J&H Stables is leasing the northern tract. The City can terminate the lease with 30 days notice.

- Access – The northern portion of the property is currently accessed from the adjacent parking lot of the Raleigh Christian Community Church. This portion of the park site has frontage on Tarheel Clubhouse Road (dogleg portion of the property) but an access drive has not been developed.
- Property configuration – The City is trying to acquire the property that would connect the northern and southern portions of the park site. Another privately-owned parcel is bordered on three sides by the southern portion of the park site and on one side by the Neuse River.
- Topography – The site is mostly gently rolling with steeper slopes towards the Neuse River.

Trott-Strickland

- Umbrella magnolias – A stand of umbrella magnolias was noted as a special feature on the site. The magnolias are located on the northern portion of the site.
- Koi – The largest pond contains some large and potentially valuable koi. These fish are not native and it is not known who put the fish in the pond.
- Threatened and endangered species – Habitat for sumac is found on the site, but no species were found. It was noted that it is important to distinguish between habitat and the presence of species.

Milburnie

- Cemetery – A cemetery is located on the eastern Milburnie tract. The archaeology sub-consultant (TRC) provided additional research on the cemetery (Appendix G) and flagged the cemetery's boundaries. The association of the cemetery could not be determined; however, the characteristics of this type of cemetery are often indicative of a slave cemetery. The cemetery is protected by state statutes. It was noted that several of the city's park properties include cemeteries.
- Milburnie dam – The dam is not on the park property but is visible from the park property from both sides of the river. Removal of the dam would drain Bridgers Lake to the northwest.
- Rock outcrops – Rock outcrops are found on the property.
- In-holding - The City is trying to acquire the properties that are surrounded by the park property. These lots remain from the former mobile home park. The City also wants to purchase properties to connect the non-contiguous portion of the park site.
- Milburnie Master Plan – A master plan for Milburnie was completed in the 1990s as a part of the Neuse River Corridor Master Plan. The adventure area shown on the eastern portion of the site is planned at Forest Ridge Park. The master plan for Milburnie may be revisited since there are very similar components (adventure recreation) to the recently adopted Forest Ridge Park Master Plan. The master plan is not fully funded.

Guidelines for the interim management of parkland

Stephen Bentley presented the current management practices and preliminary staff recommendations for each future park site. (See the Appendices of the Existing Conditions Reports.) Issues discussed are highlighted below:

- Property configuration - The committee agreed that a goal for the Alvis and Milburnie sites should be to combine all non-contiguous portions of the park properties and to acquire properties surrounded by the park sites.
- Dam removal - The current trend to remove dams as a method of river management was mentioned, as well as the possibility that the Milburnie dam could be removed. The City should consider the affects that removing the Milburnie dam would have on the park property/resources. A contingency plan to address the potential affects should be developed if the dam is removed.

- Abandoned structures - There are abandoned structures, with associated liability, on the three park sites. Abandoned structures should be removed from park property. The trailers on the Milburnie site should be removed and the site should be cleaned up. The tire pile on the Alvis property has already been removed.
- Other structures – Some existing structures on the properties may be useful for park purposes. It should be determined if structures on the sites are programmatically useful. Repair/renovation costs should be compared to the benefit of maintaining the structure(s).

Park Classification

The following classifications are proposed for each park:

Alvis Farm – Community Park
Trott-Strickland – Neighborhood Park
Milburnie – Community Park

The committee reviewed the Comprehensive Plan definitions of “Neighborhood Park” and “Community Park,” as well as “Metro Park.” These definitions provide guidance for park location, size, and development. The guidelines also suggest typical park facilities for each classification.

The 36-acre Trott-Strickland site is larger than the recommended size range for a neighborhood park (5 to 25 acres). The additional acreage provides the opportunity to preserve areas and add features that are not typically found in neighborhood parks. Water features, such as the ponds on the Trott-Strickland property, are not usually found in a neighborhood park.

After discussion, the committee endorsed the classifications for each park site as proposed. The committee emphasized that the Trott-Strickland site has the potential to include some features of other park classifications, due to the size of the site.

Special intent for the park (if applicable)

No special intent for any of the park sites was suggested.

COMMITTEE RECOMMENDATION

The committee voted unanimously to endorse staff comments (Current Management and Preliminary Draft Recommendations) for each park site with the additional committee comments noted above.

The draft System Integration Plans will be forwarded to the Parks Board for review at the May meeting. Stephen Bentley will initiate the public notification process.

Appendix D

Parks, Recreation and Greenway
Advisory Board Review

DRAFT MINUTES
Parks, Recreation and Greenway Advisory Board

Anderson Point Park • 10 North Rogers Lane
Thursday, May 17, 2007

MEMBERS PRESENT: Gail Till, Patrick Beggs, Greg Barley, Chris Smith, Jimmy Thiem, Elaine Perkinson, David Knight, Tina Certo, Shoshanna Serxner, Doris Burke, and Gerald Wright

MEMBERS ABSENT (EXCUSED): Tina Gordon, Pete Benda, Mary Alice Farrell, and Eugene Weeks

STAFF PRESENT: Jack Duncan, Stephen Bentley, David Shouse, Jennifer Alford, Ken Hisler, Scott Payne, Venessa Garza, Wayne Schindler, Terri Stroupe, and Dick Bailey

GUESTS PRESENT: Michael Saunders of 5411 Allen Drive; Teresa Ellerbe of Strickland Road; Hank & Debby Hagerman of 3125 Tarheel Clubhouse Road; June Guralnick; PRGAB Liaison – Councilor Jessie Taliaferro, Roger Lynn Spears of Szostak Design; Robin Pugh and Lindsey Riddick of Arcadis

Excerpt Parks, Recreation and Greenway Advisory Board Minutes
Pertaining to the SIP for Alvis Farm, Milburnie and Trott-Strickland Properties

Public Comment: **Michael Saunders:** I'm Michael Saunders, 5411 Allen Drive, I just relocated back here from Northern Virginia. My concern is about the Milburnie proposal - park. I spoke with Mr. Bentley today and my concern is that my family has been in that area before the Civil War. That's my maternal father's people, the Sewell's – they have been there every since the Civil War. And one of my concerns is what type of construction will be in that area that will probably damage wildlife and probably intrude on the privacy of the people who live in the area right now. Also that's a very historical area. I don't know how many of you are familiar with the road that called Raleigh Beach Road – that was the main road that connected Raleigh to down east, Tarboro. A very historical area – union soldiers went to that area during the Civil War. They burned the grits mill. The grits mill is an important area, people came to turn there food into meals. It is also the site of commerce and communication. People gathered there with friends to gather information and there were stores there. The union army came through there and burned the grits mill. Has anyone ever thought about suing the federal government because they burnt that area? – Because it wasn't military cartage. My concern is if they develop a park there, there is a lot of history there. There's American history, my history, our history. What I would like to see is some types of historical markers letting people know what took place in the area. My aunt, when she built her house years ago, she found some Native American artifacts, Indian heads. And I would like to see some type of historical markers designating what took place in that area.

Gail Till: Thank you sir for your comments. Right now we are talking about the management plan. This is the kind of conversation we will have when we initiate a master plan – and that is not currently planned. Right now we are learning a little bit about what is there historically.

Jack Duncan: There is an element of the Neuse River plan that was adopted in 1996 – I'm not sure if you're talking about Milburnie East or West

Saunders: West

Jack Duncan: Milburnie West was more recently used as a trailer park. So there may be things our consultants have found already that will contribute to support the position you have taken with the government. Historical interpretation is really what you are basically saying about the site. So those kinds of things are value added to the plans that we have in this area. But for the most part there is no funding to do anything at this site. So I don't think there is any immediate pressure on the property to reconfigure it or change it from what it is currently being used for.

Public Comment: **Teresa Ellerbe:** Hi I'm Teresa Ellerbe, and I live on Strickland Road. When you do begin your process where we can have public involvement, it would be nice if you would send out a newsletter or make your signs larger so we can see them without having to cross a busy highway.

Duncan: We have a pretty progressive notification process once we get to that level.

Stephen Bentley: The SIP is a part of the city's broad master planning policy. The intent is to document the character of the site that is cultural, historical and to also take a thorough look at the environmental resources on the site – an extensive inventory of everything existing on the site. Secondly, it takes a look at an interim management guide so the city can be better stewards of its resources. The SIP is not to plan any facility.

Stephen stated that the goal is for the board to review and approve the Parks Committee's comments on each draft plan and to forward to the City Council for their consideration. Arcadis Consultants, Robin Pugh and Lindsey Riddick reviewed each SIP site.

When discussing the Milburnie property Mr. Saunders indicated that the lake being referred to as Bridges Lakes used to be called Sewell Lake.

Public Comment: **Debby Hagerman** I would like to know if the city is currently actively seeking land at Alvis Farm. The property in the center is next door to my house and I am particularly interested.

Councilor Taliaferro explained that all real estate transactions go first through the City Council's the Budget, Economic and Development Committee in closed sessions held in confidentiality. Once council makes a decision on the real estate investment then it becomes public knowledge.

ACTION: Tina Certo made a motion to move forward with presenting the System Integration Plan information for Alvis Farm, Milburnie, and Trott-Strickland sites to City Council for consideration with the amended information provided by Michael Saunders for the Milburnie site to be included as a part of public comments. Her motion was seconded by Gail Till. The motion passed unanimously.

Appendix E

City Council Approval

COUNCIL MINUTES

The City Council of the City of Raleigh met in regular session on Tuesday, June 19, 2007, at 1:00 p.m. in the City Council Chamber, Raleigh Municipal Building, Avery C. Upchurch Government Complex, 222 W. Hargett Street, Raleigh, North Carolina, with the following present.

Mayor Charles C. Meeker
Mayor Pro Tem James P. West
Tommy Craven
Thomas G. Crowder
Philip R. Isley
Joyce Kekas
Russ Stephenson
Jessie Taliaferro

They Mayor called the meeting to order and invocation was rendered by Pastors Joseph and Marlene Lewis, Awesome Word Ministries. The Pledge of Allegiance was led by Mayor Pro Tem James P. West. The following items were discussed with action taken as shown.

RECOGNITION OF SPECIAL AWARDS

PROCLAMATION – EUGENE WEEKS DAY – PROCLAIMED

Mayor Meeker read a proclamation proclaiming Tuesday, June 19 as Eugene Weeks Day in the City of Raleigh. He indicated Mr. Weeks will be honored at a reception at 301 Hillsborough Street later in the day. He talked about Mr. Weeks service to the City of Raleigh and work on the Human Relations Commission.

In accepting the proclamation, Mr. Weeks expressed appreciation to the Council for showing confidence in him. He pointed out we have accomplished a lot as it relates to human relations in the City of Raleigh but we have a long ways to go. He stated he is finishing up his term on the Human Relations Commission but will still be involved in human relations and promotion of harmony in the City of Raleigh.

SOLID WASTE EMPLOYEES – HONORED

City Manager Allen asked Solid Waste Director Fred Battle to help him recognize employees Adrian Grubb, Edward Wright and Bianca Bradford. City Manager Allen pointed out Adrian Grubb won the first place in the rear loader compactor competition in the recent Rodeo. Mr. Grubb will have a chance to move forward onto the national competition. Edward Wright received second place in the rubber tire loader and will also be competing in the National Rodeo. He expressed appreciation to Mr. Grubb, Mr. Wright and all solid waste employees for doing such a great job in a safe and successful manner. He stated it is very difficult to maneuver this large equipment in an urban environment. City Manager Allen recognized Bianca Bradford who

inventory, an analysis of existing public and private pools; a market and demographic analysis; a needs assessment; analysis of spatial distribution of aquatic facilities, costs; and recommended implementation and prioritization of the results. He explained the City currently has six outdoor seasonal swimming facilities, one outdoor swimming facility that has an air structure over it in the winter months and one indoor facility. He went over the process that will be utilized including a review of the programs and facilities, research area demographics, access national aquatic trends, survey potential user groups, evaluate existing area providers, develop options for programming, develop project cost estimates, identify search areas, estimate revenue potential, estimate operating expenses, determine cash flow and an implementation strategy.

Mr. Hunsaker went over the types of aquatic programming including competitive, recreation instructioned, fitness and therapy, explaining how each is utilized, the benefits and types of opportunities in each category. He talked about developing a tool kit of options, the public process, stakeholders, user groups, etc.

Roger Spears talked about the needs and what other communities in Wake County are doing, talked about other providers, types of facilities, where we are in the study. He stated the study would not select sites but would develop criteria for site selection. They went over the study schedule, the various meetings, talked about the definition of success.

Mr. Crowder talked about getting information on how the City of Raleigh could partner with other folks and gave the example of Lake Johnson/Athens; talked about the different trends, growth, senior citizen population, the need to provide amenities in areas where they are not available, Mr. West talked about starter homes without amenities and whether the group is looking at that kind of factors as it relates to the needs. Life cycles of pools and how that figures into the equation was touched on. The assessments, cross section of responses, how surveys were conducted, how and where information on the meetings was distributed, private facilities and how they play into consideration was discussed. The report was received with no further action.

REPORT AND RECOMMENDATION OF THE PARKS, RECREATION AND GREENWAY ADVISORY BOARD

SYSTEM INTEGRATION PLANS FOR ALVIS FARM, TROTT-STRICKLAND, AND MILBURNIE PARKS – ADOPTED

Last July the City Council authorized staff to negotiate a contract with Arcadis G&M of North Carolina to facilitate System Integration Plans for Alvis Farm, Trott-Strickland and Milburnie Parks. Over the course of several months, Arcadis developed a series of draft Existing Condition Reports for each site. These reports were reviewed by Parks and Recreation staff and brought before the Parks, Recreation and Greenway Advisory Board (PRGAB) for its consideration. The PRGAB referred the review to its Parks subcommittee. In April, the Parks Committee reviewed all three reports and referred them back to the PRGAB. The draft SIPs were posted online for public comment. Signs and letters were sent to nearby property owners, etc. to collect public input. The PRGAB reviewed the draft SIPs at its regularly scheduled meeting on May 17, 2007.

Public comments and questions were addressed at that meeting. The PRGAB unanimously voted to send all three draft System Integration Plans to the City Council for consideration.

Recommendation: Adopt the draft System Integration Plans for Alvis Farm, Trott-Strickland and Milburnie Parks as forwarded by the Parks, Recreation and Greenway Advisory Board.

Parks Planner Stephen Bentley, of the Design Development Division of the City's Parks and Recreation Department, made a slide presentation to the City Council. He showed the location of the three sites and explained that the System Integration Plan (SIP) process is a sub-section of the overall City Park Master Planning Process described in City of Raleigh Resolution No. 2003-735. The objectives of the SIP are to develop a set of guidelines for the interim management of parkland prior to the initiation of a Master Plan, to document existing site conditions and constraints, to establish the park's classification consistent with the Comprehensive Plan, and if applicable, any proposed special intent for the park. The development process began with the consultant. Arcadis performed a thorough documentation of the sites to develop an existing conditions report for staff. Staff reviewed and commented on the report and prepared follow-up information if necessary, then sent the information to the PRGAB. The PRGAB commented on the report and sent it to the Parks Committee. After the Parks Committee review and comments, the report was returned to the PRGAB and is now being presented to the City Council.

Lindsey Riddick of Arcadis G&M also made a slide presentation to the Council showing views of the sites, including terrain and structures, and providing the information summarized below:

Alvis Farm (92.9 acres)

Natural Resources

- ♦ One man-made impoundment on-site
- ♦ Three wetland areas
- ♦ Gently rolling terrain with steeper slopes towards the Neuse River

Cultural Resources

- ♦ Structures are not eligible for listing in the National Register of Historic Places (NRHP)
- ♦ Moderate potential for intact archaeological sites along the levee ridge (northern part of tract)

Interim Management Recommendations

- ♦ Annual comprehensive inspection by a Parks and Recreation Department review team.
- ♦ Mark the property's boundaries with carsonite posts.
- ♦ Review any lease agreements for the property and review the level of care for the property.
- ♦ Determine if structures on the site (*i.e.*, barn, outbuildings, houses) would be useful for park purposes. Remove the abandoned house from the southern portion of the property if it is determined not to be cost effective to maintain it.

- ♦ Research the potential for partnering with (leasing to) a local landowner for growing some type of crop.
- ♦ Continue current management practices (mow fields, grade access road, remove trash, inspections).
- ♦ Continue efforts to acquire adjacent properties.

Mr. Riddick pointed out that the interim management recommendations for Alvis Farm apply to all three properties.

Trott-Strickland (37.53 acres)

Natural Resources

- ♦ Lower Barton Creek
- ♦ One unnamed tributary (UT) to Lower Barton Creek
- ♦ Two man-made ponds
- ♦ Two wetlands
- ♦ Unique features – umbrella magnolias, koi
- ♦ Evidence of terrestrial mammals (white-tail deer and raccoon)
- ♦ Relatively flat topography, sloping toward Lower Barton Creek

Cultural Resources

- ♦ Structures are not likely to be NRHP-eligible
- ♦ Research suggests that the site was part of a mid-to-late 19th-century farm or plantation

Interim Management Recommendations

- ♦ Continue inspection of the dock at the pond three times a year for needed maintenance and repairs.
- ♦ Determine continued need for dock; repairs/replacement costs.
- ♦ Research the origin and create a plan for the koi fish in the pond.
- ♦ Determine if the outbuildings would be useful park purposes. Remove any abandoned structures that are not cost effective to maintain.

Milburnie (91.76 acres)

Natural Resources

- ♦ Bridges Lake (semi-permanent impoundment)
- ♦ One unnamed tributary (UT) to Neuse River
- ♦ Three wetland areas
- ♦ Upland ridges and slopes
- ♦ Archaeological sites (three)
- ♦ Cemetery
- ♦ Milburnie dam (off-site)

Interim Management Recommendations

- ◆ Continue current management practices (remove trash, grade access road, control invasive/exotic species, inspections).
- ◆ Include the cemetery site with other City of Raleigh cemetery locations for management and monitoring.
- ◆ Remove the abandoned mobile home and debris from the Milburnie West site.
- ◆ Evaluate the condition of the greenway access road for potential future improvements.
- ◆ Continue efforts to acquire properties (Milburnie West).
- ◆ Evaluate the effects that removing the Milburnie dam would have on the park site/resources. Develop a contingency plan to address the potential effects.

There was no discussion of this item. Ms. Taliaferro moved to adopt the System Integration Plans for Alvis Farm, Trott-Strickland and Milburnie Parks as forwarded by the Parks, Recreation and Greenway Advisory Board. Mr. Isley seconded the motion and approval was unanimous. The Mayor ruled the motion adopted on a vote of 8-0.

REPORT AND RECOMMENDATION OF THE PLANNING COMMISSION

PLANNING COMMISSION – ANNUAL REPORT AND WORK PLAN – RECEIVED

Per Council Resolution 2002-240 regarding the duties and responsibilities of City Council Boards and Commissions, the Planning Commission submitted its annual report for FY 2007-2008. As requested in the resolution, the Planning Commission's work items for the next fiscal year are described in the report. The two main items are the updated of the Comprehensive Plan and several text changes.

Recommendation: That the report be received.

The report was received without discussion.

REQUEST AND PETITIONS OF CITIZENS

SIDETRACK BREWPUB – VARIANCE FROM RIGHT-OF-WAY DEDICATION ON HARGETT STREET – APPROVED

Andrew Leager, Sidetrack Brewpub, requested a variance from right-of-way dedication on Hargett Street associated with Sidetrack Brewpub at the corner of Boylan Avenue and Hargett Street. This is associated with Building Permit Transaction #179593.

City Manager Allen explained this request with it being pointed out in background information that during the initial review of this project a need for a variance was identified with respect to right-of-way requirements along Hargett Street which is classified as a minor thoroughfare and requires the dedication of ½ of an 80 foot right-of-way. The existing building is located immediately adjacent to the back of the sidewalk which renders the dedication requirement impractical in this case since the building envelop is not being modified. Staff has no issue with