



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401-3640

JANUARY 23 2013

Regulatory Division
SAS-2000-03800

JOINT PUBLIC NOTICE
Savannah District/State of Georgia

The Savannah District has received an application for a Department of the Army Permit, pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), as follows:

Application Number: SAS-2000-03800

Applicant: Mr. Gene Prevatt
City of Savannah
Post Office Box 1027
Savannah, Georgia 31402

Agent: Mr. Brandon Wall
Sligh Environmental Consultants, Inc.
31 Park of Commerce Way, Suite 200B
Savannah, Georgia 31405

Location of Proposed Work: The project site is located in wetlands adjacent to the Hardin Canal, west of Dean Forest Road and the existing Dean Forest Road Landfill, south of Interstate 16, in the city of Savannah, Chatham County, Georgia (Latitude 32.0648, Longitude -81.2329).

Description of Work Subject to the Jurisdiction of the U.S. Army Corps of Engineers: The applicant proposes to expand the existing Dean Forest Road Landfill onto a 98.49 acre site west of the existing landfill. The proposed expansion would result in 0.042 acre of wetland fill for construction of an access road from the existing landfill, 0.696 acre of wetland fill for the actual landfill, and 0.068 acre of wetland clearing impact associated with construction of a stormwater outfall pipe. The wetland boundaries shown on the project drawings were verified by the U.S. Army Corps of Engineers on September 13, 2010. The applicant proposes to purchase 5.24 wetland mitigation credits from a U.S. Army Corps of Engineers approved mitigation bank to mitigate for unavoidable impacts to waters of the U.S.

BACKGROUND

The initial development of the Dean Forest Road Landfill occurred in the 1970's. There have been several expansions since then to meet the need for additional waste disposal area. The first expansion (1A) occurred in the early to mid 1990's. Expansions of Cells 1B and 1C occurred in 2000 and 2004 respectively. All expansions were completed with no impacts to jurisdictional wetlands, so no Section 404 Permits were required for these projects. Previous jurisdictional determinations were completed for the site in 1994 and 2000.

The current proposed expansion site consists of forested upland (pine plantations and mixed pine-hardwood). Uplands are surrounded by bottomland hardwood forest. There is one isolated, jurisdictional wetland in the northern portion of the project area. Past land use for this area includes long rotation silviculture.

This Joint Public Notice announces a request for authorizations from both the U.S. Army Corps of Engineers and the State of Georgia. The applicant's proposed work may also require local governmental approval.

STATE OF GEORGIA

Water Quality Certification: The Georgia Department of Natural Resources, Environmental Protection Division, intends to certify this project at the end of 30 days in accordance with the provisions of Section 401 of the Clean Water Act, which is required for a Federal Permit to conduct activity in, on, or adjacent to the waters of the State of Georgia. Copies of the application and supporting documents relative to a specific application will be available for review and copying at the office of the Georgia Department of Natural Resources, Environmental Protection Division, Water Protection Branch, 4220 International Parkway, Suite 101, Atlanta, Georgia 30354, during regular office hours. A copier machine is available for public use at a charge of 25 cents per page. Any person who desires to comment, object, or request a public hearing relative to State Water Quality Certification must do so within 30 days of the State's receipt of application in writing and state the reasons or basis of objections or request for a hearing. The application can be reviewed in the Savannah District, U.S. Army Corps of Engineers, Regulatory Division, 100 West Oglethorpe Avenue Savannah, Georgia 31401-3640.

State-owned Property and Resources: The applicant may also require assent from the State of Georgia, which may be in the form of a license, easement, lease, permit or other appropriate instrument.

Georgia Coastal Management Program: Prior to the Corps making a final permit decision on this application, the project must be certified by the Georgia Department of Natural Resources, Coastal Resources Division, to be consistent with applicable provisions of the State of Georgia Coastal Management Program (15 CFR 930). Anyone wishing to comment on Coastal Management Program certification of this project should submit comments in writing within 30 days of the date of this notice to the Federal Consistency Coordinator, Ecological Services

Section, Coastal Resources Division, Georgia Department of Natural Resources, One Conservation Way, Brunswick, Georgia 31523-8600 (Telephone 912-264-7218).

U.S. ARMY CORPS OF ENGINEERS

The Savannah District must consider the purpose and the impacts of the applicant's proposed work, prior to a decision on issuance of a Department of the Army Permit.

Cultural Resources Assessment: An initial survey of the proposed site revealed no resources eligible for listing on the National Register of Historic Places. The U.S. Army Corps of Engineers is seeking information from the Georgia State Historic Preservation Office on any other known historic resources that may be impacted by the proposed project. Presently unknown archaeological, scientific, prehistorical or historical data may be located at the site and could be affected by the proposed work.

Endangered Species: Pursuant to Section 7(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), we request information from the U.S. Department of the Interior, Fish and Wildlife Service (USFWS), the U.S. Department of Commerce, the National Oceanic and Atmospheric Administration, and the National Marine Fisheries Service; or, any other interested party, on whether any species listed or proposed for listing may be present in the area.

A review of the USFWS website (<http://www.fws.gov/endangered>) indicates that that the following species may occur on the project site: frosted flatwoods salamander (*Ambystoma cingulatum*), red-cockaded woodpecker (*Picoides borealis*), wood stork (*Mycteria americana*), and eastern indigo snake (*Drymarchon corais couperi*). An initial survey of the proposed site revealed that there is no habitat for any listed threatened or endangered species, nor were any species observed on the site.

Public Interest Review: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and in general, the needs and welfare of the people.

Consideration of Public Comments: The U.S. Army Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Native American Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to

determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Application of Section 404(b)(1) Guidelines: The proposed activity involves the discharge of dredged or fill material into the waters of the United States. The Savannah District's evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under the authority of Section 404(b) of the Clean Water Act.

Public Hearing: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application for a Department of the Army Permit. Requests for public hearings shall state, with particularity, the reasons for requesting a public hearing. The decision whether to hold a public hearing is at the discretion of the District Engineer, or his designated appointee, based on the need for additional substantial information necessary in evaluating the proposed project.

Comment Period: Anyone wishing to comment on this application for a Department of the Army Permit should submit comments in writing to the Commander, U.S. Army Corps of Engineers, Savannah District, Attention: William M. Rutlin, 100 West Oglethorpe Avenue Savannah, Georgia 31401-3640, no later than 30 days from the date of this notice. Please refer to the applicant's name and the application number in your comments.

If you have any further questions concerning this matter, please contact Mr. William M. Rutlin, Regulatory Specialist, Coastal Branch at 912-652-5893.

6 Encls

1. Project Description and Supporting Documentation, 7 pages.
2. Project Location Map
3. U.S. Geological Survey Map
4. 2009 Aerial Photograph
5. Wetland Impacts Figure
6. Mitigation Worksheet

**PROJECT DESCRIPTION AND SUPPORTING DOCUMENTATION
CITY OF SAVANNAH
DEAN FOREST ROAD LANDFILL EXPANSION**

JANUARY 4, 2013

I. Introduction:

The City of Savannah (applicant) is proposing the expansion of the existing Dean Forest Road Landfill onto a 98.49 acre site in Chatham County, Georgia. The project site is located west of the existing Dean Forest Road Landfill and sits approximately 1.4 miles west of Dean Forest Road (GA Hwy 307) and 0.6 mile south of Interstate-16. The approximate center coordinates of the site are latitude 32° 3.78' N longitude -81° 13.94' W. The project site is entirely located within the Lower Ogeechee River Watershed (HUC 03060204). The project site is bordered to the north by Southbridge, to the west and south by Hardin Canal, and to the east by the existing landfill.

The proposed site plan requires unavoidable impacts to 0.806 acres of jurisdictional wetland associated with expansion of the landfill onto the 98.49 acre site. This includes 0.696 acre of fill to an isolated jurisdictional depression wetland associated with construction of the landfill, 0.042 acre of fill associated with improvements to an existing access road, and 0.068 acre of wetland clearing associated with installation of a retention pond outfall pipe. As described in further detail below, all impacts to the high quality wetland system which surrounds the project site have been avoided to the maximum extent practicable. The majority of the impacts are limited to the depression wetland which is centrally located in the project area. This wetland is isolated from other wetlands and contains no hydrologic connection to a jurisdictional wetland or water of the U.S.

II. Existing Site Conditions:

The project site is composed primarily of forested upland areas including pine plantation and mixed pine-hardwood forest. The development activities will be concentrated in these upland areas. The uplands are surrounded by bottomland hardwood forest, and there is an isolated depression pocket on the northern portion of the project area. The past land use for this property has been silviculture with long timber rotations. The project site includes approximately 1.13 acres of depression freshwater wetland pocket not counting the bottomland wetlands surrounding the project site. All habitat types are described below.

Mixed Pine-Hardwood Upland:

The majority of the upland area within the project site (+/- 70%) consists of mixed pine-hardwood forest of fairly even age class and is dominated by species common to the Coastal Plain of Georgia. The mature overstory throughout this habitat type is fairly closed which prohibits sunlight from reaching the forest floor. The overstory pine component throughout this habitat varies in density, but generally overstory species are 30 – 40 years of age with some larger pines throughout. Canopy species common to this habitat type include loblolly pine (*Pinus taeda*), water oak (*Quercus nigra*), and sweetgum (*Liquidambar styraciflua*). Midstory and understory species include live oak (*Quercus virginiana*), blackgum (*Nyssa sylvatica*), American holly (*Ilex opaca*), sweetbay (*Magnolia virginiana*), horsesugar (*Symplocos tinctoria*), blueberry (*Vaccinium spp.*), gallberry (*Ilex glabra*), wax myrtle (*Myrica cerifera*), giant cane (*Arundinaria gigantea*), and dog hobble (*Leucothoe axillaris*).

Pine Plantation:

Approximately 29% of the project area consists of pine plantation. This habitat is approximately 30 years old and consists of relatively dense loblolly pine in the overstory. The midstory consists of sweetgum, water oak, black oak (*Quercus velutina*), yaupon holly (*Ilex vomitoria*), and

sweetbay. The understory layer consists of wax myrtle, gallberry, blueberry, dog hobble, and saw palmetto (*Serenoa repens*).

Depressional Freshwater Wetland:

The only wetland within the project area, and the wetland proposed for impact consists of a depressional wetland. This wetland pocket is isolated but was verified as a jurisdictional area. It has no surface hydrologic connection to any other jurisdictional wetland or water of the U.S. This area does not possess an enclosed woody overstory, but instead contains sporadic trees and saplings. Dominant trees are 10 – 20 years old and consist of swamp tupelo (*Nyssa biflora*), red maple (*Acer rubrum*), and sweetgum. Understory species consist of wax myrtle, sweetbay, dog hobble, Virginia chainfern (*Woodwardia virginica*), and sedge (*Carex spp.*).

Forested Hardwood Wetland:

The project site is surrounded by bottomland hardwood wetland, but the only impacts required to this habitat include minor impacts associated with storm pond outfall installation and access road widening. The mature overstory species common to this habitat type consist of red maple, swamp tupelo, sweetgum, willow oak (*Quercus phellos*), and scattered spruce pine (*Pinus glabra*). The midstory, shrub, and herbaceous layers are fairly open and consist of species such as sweetbay, bald cypress (*Taxodium distichum*) saplings, Chinese tallow tree (*Sapium sebiferum*), wax myrtle, dwarf palmetto (*Sabal minor*), soft rush (*Juncus effusus*), and woodoats (*Chasmanthium spp.*).

III. Project Purpose:

The purpose of the proposed project is to provide additional waste disposal area at the Dean Forest Road Landfill in order to accommodate the waste disposal needs of the City of Savannah. According to the Section 404(b)(1) Guidelines of the Clean Water Act, the U.S Army Corps of Engineers must define the basic and overall purpose of the project. The basic purpose must be known to determine if a project is water dependent. The basic purpose for the proposed project is to provide additional waste disposal areas, which is not a water dependent activity. The overall project purpose is used to evaluate practicable alternatives under the Section 404(b)(1) Guidelines. The overall project purpose is to provide additional waste disposal areas at the Dean Forest Road Landfill.

IV. Project Need:

The proposed project is needed to satisfy a future waste disposal problem which faces the City of Savannah. Solid waste generated and collected within the City by City forces includes residential waste (household garbage and trash, yard trimmings, and bulky waste), commercial waste (from certain commercial generators that contract with the City for service), street cleaning debris, construction and demolition (C&D) waste, and solid waste from other City departments. Waste collected by the City is currently disposed at the Dean Forest Road Landfill which is owned and operated by the City of Savannah. Commercial waste collected within the City by private haulers is currently disposed at undisclosed locations under private contractual arrangements. Commercial waste collected by private haulers is not disposed at the Dean Forest Road Landfill. The need to maintain the Dean Forest Road Landfill as operational is therefore very important. Based on the last operational survey on December 22, 2011, there was 1,692,082 cubic yards of disposal volume available at the existing facility (Phase 1C). Based on recent disposal data and anticipated population growth trends, it is estimated that the landfill will take in an average of 200,000 cubic yards per year. There is only 7.5 years of life left with an estimated date to reach capacity of July 2020. The goals of the City of Savannah Solid Waste Management Plan are: 1) reduce the amount of waste disposed in the Dean Forest Road Landfill; 2) maintain an adequate, cost-effective collection infrastructure; 3) ensure the Dean Forest Road Landfill provides adequate disposal capacity over the ten year planning period; 4) ensure proposed solid waste handling facilities are consistent with the City's Solid Waste Management Plan; and 5) educate the public on the City's Solid Waste Management Plan. Based on the recent projections, the Dean Forest Road Landfill, which handles all of the waste collected by City collection forces, is expected to be out of capacity during the

next ten years which violates the goals of the City's Solid Waste Management Plan. The need to expand the existing landfill is great. Without the project, waste produced within the City would soon overrun the existing landfill facility and would have to be shipped to a private landfill at a significant cost to the City residents.

V. Alternatives Analysis:

The Section 404 (b)(1) Guidelines provide that the discharge of dredged or fill material into waters of the United States will not be permitted "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." 40 C.F.R. (230.10(a)). The guidelines further provide that "[a]n alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." Considering factors such as site location, availability, site access, wetland area, and a variety of economic concerns, the applicant evaluated a number of different alternatives prior to deciding on a final site plan.

Site Selection Screening Criteria:

Chatham County is the most densely populated coastal county in Georgia. Population density, zoning, and land use factors, as well as natural environmental limitations limit the amount of land suitable for development of new landfills or other solid waste facilities. Solid waste disposal facilities and other solid waste handling facilities should be located where they have minimum adverse effects on the community and the environment. Federal, state, county, and city policies contain restrictions on where solid waste facilities can be sited and, in some cases, the design required to site facilities in a specific area, based on natural environmental features. The various siting limitations are briefly described below:

1. Floodplains - Any solid waste landfill located in the 100-year floodplain shall not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the flood plain, or result in a washout of solid waste so as to pose a threat to human health or the environment.
2. Wetlands - Development of a solid waste landfill in wetlands, as defined by the U.S. Army Corps of Engineers, is prohibited unless evidence is provided by the applicant that use of the wetland has been permitted or otherwise authorized under all other applicable state and federal laws and rules.
3. Water Supply Watersheds – The Georgia Department of Natural Resources (DNR) requires that at any location within a water supply watershed, new solid waste landfills must have synthetic liners and leachate collection systems. Two large watershed areas exist in Chatham County, the Savannah River Basin and the Ogeechee River Basin.
4. Groundwater Recharge Areas - In significant groundwater recharge areas, DNR shall not issue permits for new solid waste landfills not having synthetic liners and leachate collection systems. Chatham County is the most densely populated coastal county in Georgia and considers all groundwater recharge areas significant.
5. River Corridors – State rules prohibit the development of new solid waste landfills within protected river corridors. The Savannah River and the Ogeechee River corridors are protected.
6. Geology - A hydrogeological assessment must be conducted at the location of any proposed solid waste disposal facility. Such an assessment must be performed under the direction of a registered geologist or professional engineer. Technical issues which involve seismic activity, fault lines, and unstable areas such as karst areas must be evaluated in the preliminary site selection phase.
7. Zoning – A proposed solid waste facility site must conform to all local zoning/land use ordinances. The Chatham County Zoning Resolution specifies the allowable districts and other criteria for siting solid waste handling facilities in the unincorporated County. Municipal solid waste landfills and transfer stations can only be sited in areas zoned heavy industrial.

8. Cultural Resources - No solid waste handling facility should be located so as to negatively impact an area of concentrated or known archaeological sites on file with the Georgia Archaeological Site File (GASF).
9. Public Water Intake – A solid waste landfill must have engineered modifications such as liners, leachate collection systems, and groundwater monitoring systems if it is to be located within two miles of a surface water intake for a public water source. Unless such a location is the only feasible location, other locations should be considered.
10. Airport Safety – State rules require that new solid waste landfill units or lateral expansions of existing units shall not be within 10,000 feet of any runway planned or used for piston-type aircraft or within 20,000 feet of any runway planned or used for turbo-jet or piston-type aircraft.
11. Political Subdivisions - The Georgia Comprehensive Solid Waste Management Act prohibits the siting of a solid waste landfill within one half mile of another County's borders without the approval of the jurisdiction's governing authority. Unincorporated Chatham County borders two other counties.
12. Other Land Use Considerations - Solid waste handling facilities generate considerable in and out of county truck traffic and should be located near major roads. Odor and noise are also associated with solid waste handling facilities. Therefore, a minimum 200 foot wide buffer is required of landfills adjacent to residential districts and uses and a minimum of 50 foot wide buffer adjacent to public rights of way. Access through any residential subdivision is prohibited.

Alternative Sites Evaluation:

In accordance with the above described siting limitations and parameters, the applicant performed an alternative sites review to determine the best location of the proposed project with the least amount of environmental impact. An expansion of the existing facility is the preferred alternative as opposed to opening a new landfill on a "green site." Expansion allows the existing office and processing facilities to remain in place and takes advantage of existing roads, utilities, etc. Developing a new site would not only require a significant financial commitment and logistical undertaking by the applicant but also has the potential for increased environmental impacts. Preference is therefore given for sites that could be considered an expansion of the existing facility and could use the existing infrastructure that is in place. The geographic area of the search was first limited to Chatham County. Locating the landfill in another county would add to the cost to transport trash for local customers. Secondly, the search was excluded from areas within ½ mile of the county border as this would require additional approvals and coordination with the neighboring county. Thirdly, areas within 20,000 feet (3.78 miles) of the Savannah International Airport and Hunter Army Airfield were excluded. Finally, areas around a public water intake, with significant cultural resources, areas within the Savannah River and Ogeechee River corridors, and areas in significant groundwater recharge areas were rejected from the alternatives sites search.

No Build Alternative:

The only way to completely avoid all wetland impacts would be to not expand the Dean Forest Road Landfill; however, this would not satisfy the project purpose of providing additional waste disposal capacity. The proposed project is needed to satisfy a future waste disposal problem which faces the City of Savannah. All of the waste collected by City forces within the City goes to the Dean Forest Road Landfill, and the need to maintain its operational status is very important. Based on the last operational survey on December 22, 2011, there was 1,692,082 cubic yards of disposal volume available at the existing facility (Phase 1C). Based on this data, it is estimated that there is only 7.5 years of life left with an estimated date to reach capacity of July 2020. Without the project, waste produced within the City would soon overrun the landfill and would have to be shipped to a private landfill at a significant cost to City residents.

Alternative Site 1:

Alternative Site 1 is located approximately 0.4 mile southwest of the existing Dean Forest Road Landfill. The site is currently owned by the applicant. The site is large enough to accommodate a landfill cell of similar size to what is proposed. The site would comply with the majority of the above described siting criteria and would therefore be considered a practicable alternative. However, the environmental impact associated with this alternative is greater than what is proposed. This alternative site is surrounded by the bottomland swamp of Hardin Canal. Access to the site would require a +/- 1,300 foot long road be constructed from the existing landfill to the new site. Wetland impacts associated with the new road alone would be approximately 1.2 acres and would require a bridge or large culvert in Hardin Canal. Based on available aerial photography and other GIS data, development of a landfill cell on the +/- 95 acre site would require an additional +/- 35 acres of wetland impact. Due to the greater amount of environmental impact, the applicant rejected using Alternative Site 1.

Alternative Site 2:

Alternative Site 2 is a "green" site located at the southwestern corner of I-16 and I-95 approximately 1.6 miles west of the existing Dean Forest Road Landfill. The property is privately owned and would have to be purchased by the City which represents a significant increase in project cost. Regardless of cost, the property is close to existing infrastructure, but an existing road leading to the property would have to be widened resulting in approximately 0.3 acre of forested wetland fill. Development of the site to provide similar capacity as proposed would require an additional +/- 1.1 acre of depressional wetland fill. In addition to the required wetland impacts associated with this alternative, the project would be located immediately adjacent to the Savannah – Ogeechee Canal which is listed on the National Register of Historic Places. Development of the alternative site would result in a visual impact to this resource and a social impact for people who use the existing recreational pathway along it. Due to the environmental, social, and archeological impacts associated with this alternative site, Alternative Site 2 was rejected.

Preferred Alternative:

The preferred alternative consists of a 98.49 acre project area currently owned by the applicant and immediately adjacent to the existing landfill. The property is currently zoned for landfill use, and the applicant has applied for a modification to the existing EPD Solid Waste Handling Permit for landfill expansion onto the property. Development of the site would not require any new infrastructure and would only require the widening of an existing access road resulting in 0.042 acre of wetland fill. The site would also be able to use the existing offices making this alternative less costly for the City and its residents. The site contains vast amounts of upland area, and only 1% of the site is wetland. The preferred alternative only requires 0.696 acre of depressional wetland fill to develop the new landfill cell, 0.068 acre of wetland clearing for installation of a stormwater outfall, and 0.042 acre of wetland fill for widening of the existing access road. The preferred alternative is the least environmentally damaging practicable alternative.

On-Site Alternatives:

With the project site chosen, the applicant evaluated several alternative site plans in effort to avoid wetland impacts to the greatest extent practicable.

Total Avoidance

In order to avoid all wetland impacts on the project site, the access road could not be widened, the proposed stormwater outfall could not be installed, and the landfill cell would have to be significantly reduced in size. Without widening the road and impacting 0.042 acres, access

to the site would be a dangerous, one-lane dirt road not suitable to safely transport waste to the site. Without the proposed stormwater outfall, the storm retention area would be in danger of flooding and impacting downstream wetlands and water quality. Without impacting the 0.696 acre of depressional wetland associated with the landfill cell, the landfill capacity would be reduced by 13% and would provide only 11 years of additional life. Total avoidance of wetland impacts is not a feasible alternative due to the required safety and access improvements needed to the road, the retention pond outfall needed to protect water quality, and the need for additional capacity and longer landfill cell life.

Alternative Site Plan 1:

The initial site plan for the project maximized the use of all upland areas on the site and maximized the potential area of the landfill cell. This included expanding the landfill footprint further east and west. This initial plan increased the waste storage capacity to approximately 3,948,593 cubic yards and provided an anticipated 19.74 years of life. However, this site plan encroached into the bottomland wetland to the east of the site and impacted several other bottomland wetland areas on the western side of the site. The initial wetland impacts associated with this site plan totaled 7.2 acres – primarily to high quality bottomland hardwood forest. Although this site plan provided the maximum amount of storage capacity that the site affords, the applicant rejected this site plan in efforts to minimize wetland impacts.

Alternative Site Plan 2:

The second alternative site plan evaluated for the project limited the wetland impacts to several bottomland wetland fingers as well as the depressional wetland on the northern portion of the property. This reduced wetland impacts by 4.5 acres from the original site plan. This second site plan provided 3,629,270 cubic yards of waste storage capacity and provided 18.15 years of expected life; however, this site plan still encroached into the high quality bottomland habitat that surrounds the site. Although this site plan provided 37% more storage capacity than proposed, the applicant rejected this site plan in efforts to minimize wetland impacts even further.

Preferred Site Plan:

The preferred site plan reduces the footprint of the landfill cell even further to avoid all impacts to the high quality bottomland wetland around the site. The preferred site plan avoids 0.434 acre of depressional wetland impact and all impacts to the high quality bottomland wetlands around the perimeter of the site with the exception of the proposed impacts associated with the storm pond outfall and access road widening. The proposed site plan provides 2,652,000 cubic yards of waste disposal which will support the facilities for an additional 13.26 years. The preferred site plan avoids as much wetland as possible while still satisfying the project purpose.

VI. Minimization Measures:

Section 404(b)(1) mandates that once aquatic impacts on the proposed project site have been avoided to the maximum extent practicable, measures should be taken to minimize the effects of the remaining unavoidable impact. In order to minimize the effects of the proposed discharge, all development activities will be performed using best management practices (silt fencing, grassed slopes, etc.) to further avoid and minimize impacts to jurisdictional areas that are to be avoided within the project area. Furthermore, the landfill will be constructed of the appropriate materials and lined to prevent leaching and soil contamination. Stormwater ponds will be incorporated to treat stormwater produced by the site and to protect downstream water quality. A 50-foot wide buffer has been placed on all wetlands not to be impacted by the project to further protect avoided wetland function. Furthermore, all discharge material will be clean material obtained from an upland source. It is anticipated that these measures will minimize the effect of the project on avoided wetlands.

VII. Threatened and Endangered Species:

The property was assessed for the potential occurrence of threatened and endangered species and habitats suitable to sustain these listed species for Chatham County, Georgia. The habitats found on site consist of pine plantation, mixed hardwood upland, bottomland hardwood forest, and depressional wetland. The habitats on-site are very common for this area of the Coastal Plain and do not appear suitable to support any of the species listed for Chatham County. Based on the observation of habitats and lack of evidence of any of the listed species, it is our opinion that the proposed project would have no effect on any of the protected species listed for Chatham County. A formal threatened and endangered species report is attached to this application.

VIII. Cultural Resources:

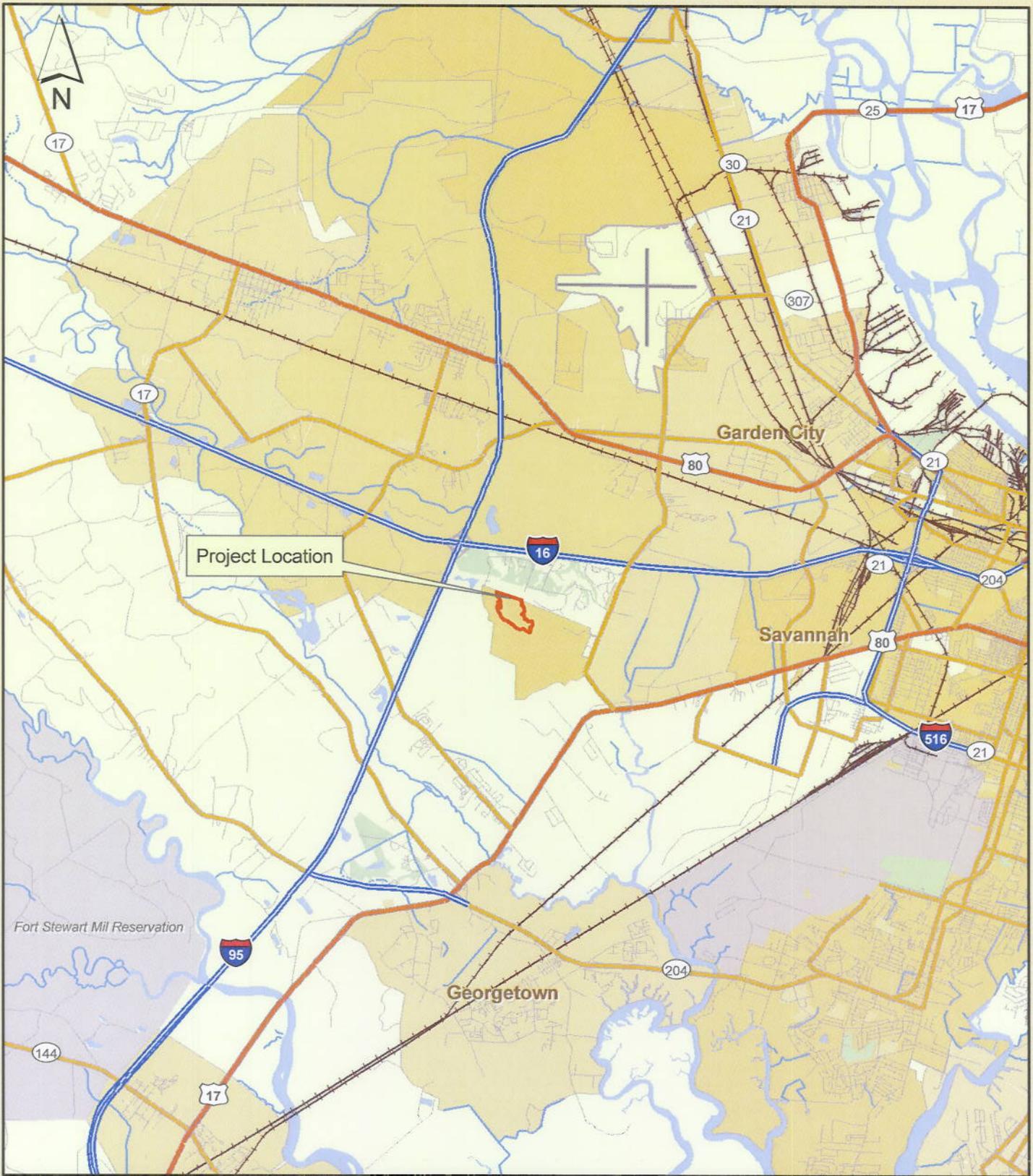
A Phase I archeology survey has been completed within the project area by New South Associates, Inc. Preliminary findings indicate that there are no sites eligible for listing in the National Register of Historic Places within the project area. A copy of the Phase I report will be submitted to the USACE upon completion.

IX. Mitigation Plan:

As indicated on the attached mitigation credit worksheets 5.24 wetland mitigation credits are required to offset the 0.806 acre of wetland impact. The applicant is proposing to purchase these mitigation credits from the Black Creek Mitigation Bank assuming that credits are available at the time of permit approval. Should credits not be available at the time of permit approval, the applicant reserves the right to purchase the credits from another mitigation bank that services the project area. Upon approval of the proposed project and prior to initiation of wetland impacts, the applicant will purchase the 5.24 mitigation credits and provide the USACE with a proper receipt.

X. Conclusion:

In conclusion, the City of Savannah is proposing the expansion of the existing Dean Forest Road Landfill in onto a 98.49 acre site located west of and adjacent to the existing landfill. The project requires impacts to 0.696 acres of depressional wetland pocket and 0.11 acre of bottomland wetland associated with construction of the landfill cell, widening of an existing road, and installation of a stormwater outfall pipe. The applicant has demonstrated that the preferred site is the best site for the development and requires the least amount of wetland impact of all the alternative sites evaluated. The on-site alternative design analysis proves that wetland impacts have been avoided to the greatest extent practicable. Furthermore, all development activities will be performed using best management practices (silt fencing, grassed slopes, etc.), and wetland buffers will be placed around all of the wetlands to be avoided to further minimize environmental impacts.



Project Limits = 98.49 Acres

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Dean Forest Road Landfill Expansion
 Project Location Map
 Chatham County, Georgia

2

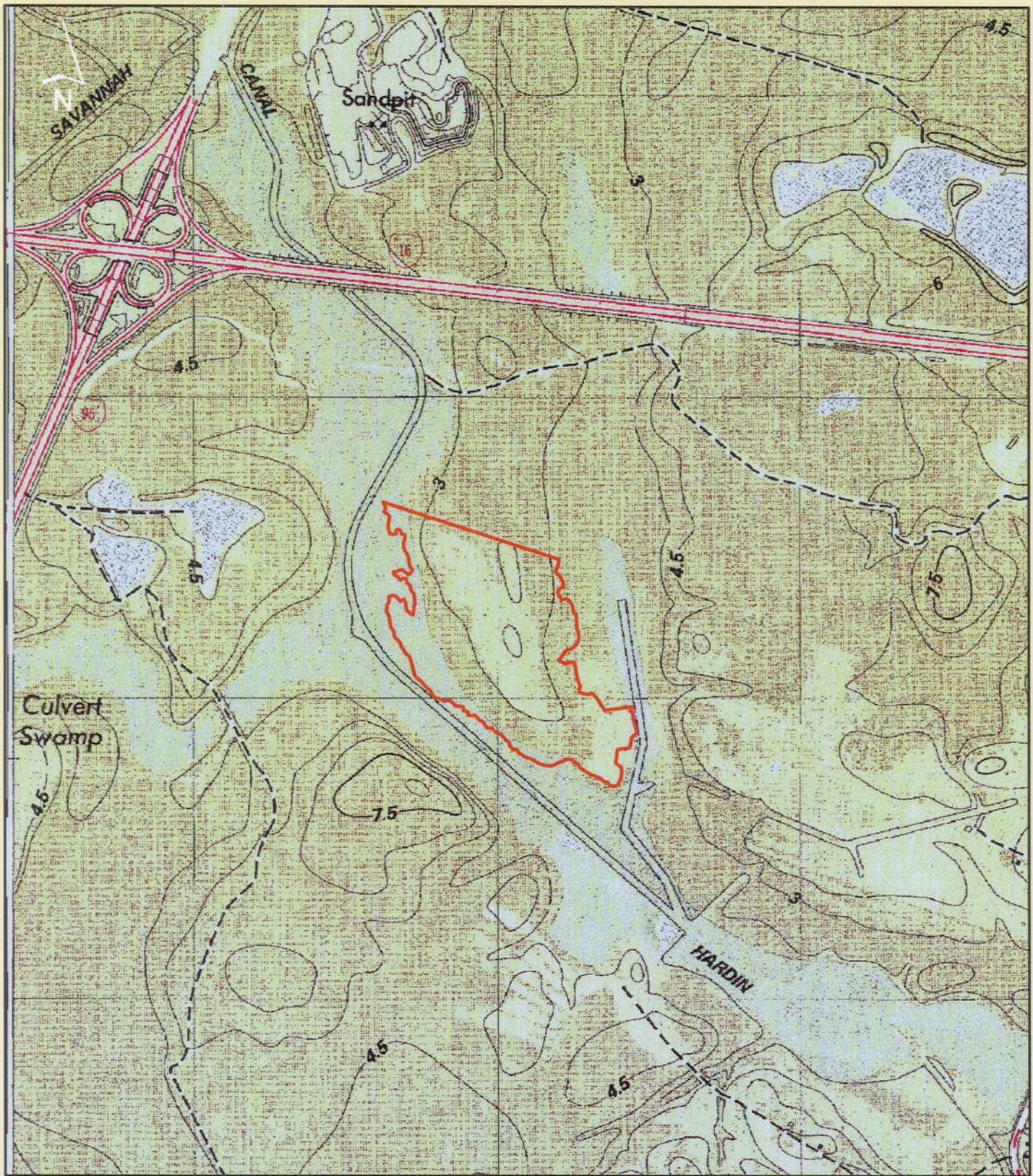
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Exhibit Date: December 18, 2012

Drawn By: BWW

Reviewed By: DJP

Job Number : 01-10-028.1



 Project Limits = 98.49 Acres

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Dean Forest Road Landfill Expansion
 US Geological Survey - Garden City Quad
 Chatham County, Georgia

1,500

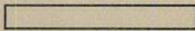
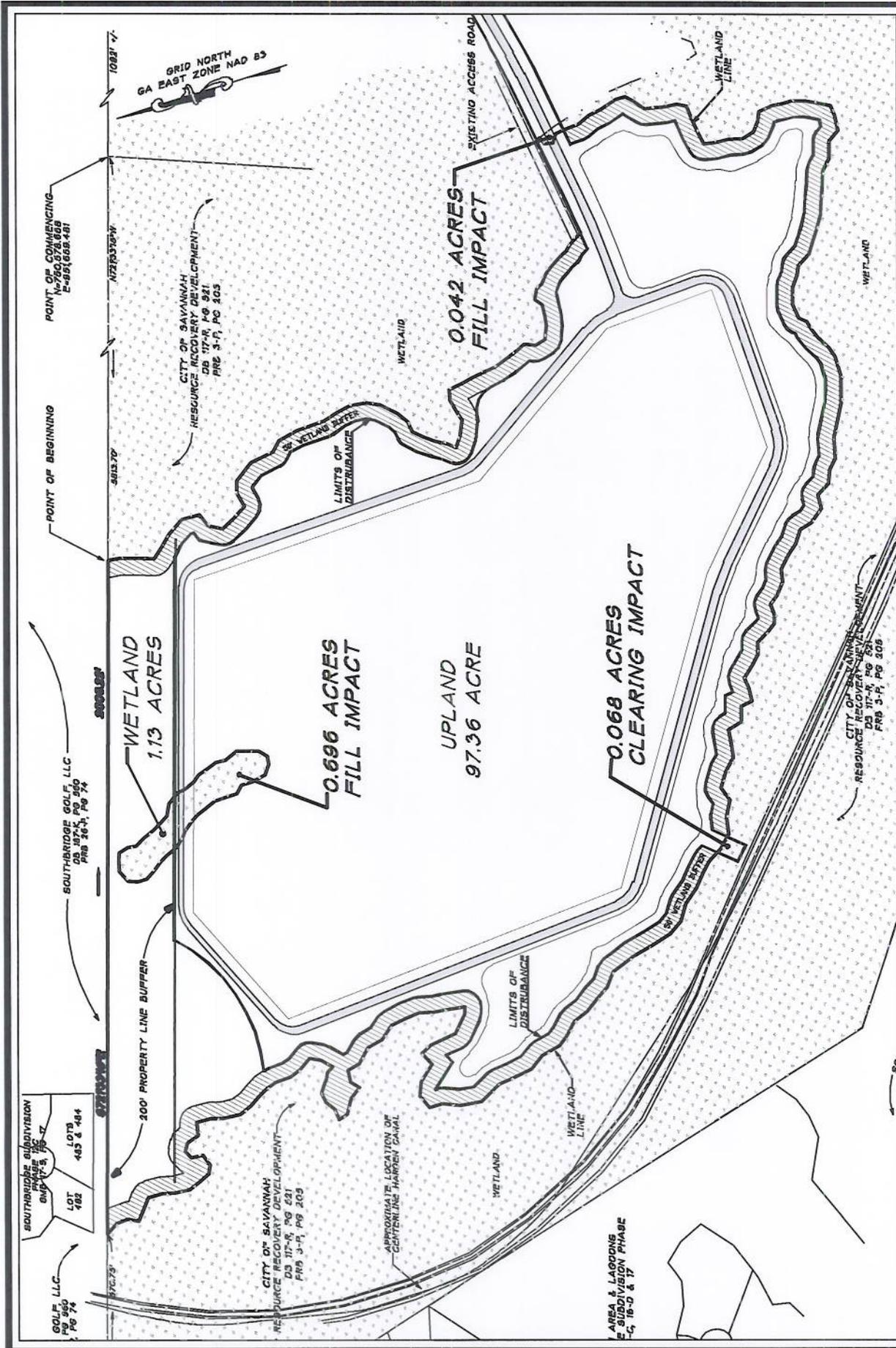
 Feet

Exhibit Date: December 18, 2012

Drawn By: BWW

Reviewed By: DJP

Job Number : 01-10-028.1



WETLAND IMPACTS DFRL PHASE 1D

DATE: DECEMBER 10, 2012 SCALE: 1" = 400'

AREA & LAGOONS
SUBDIVISION PHASE
-C, 1B-D & 17



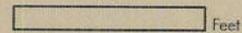
 Project Limits = 98.49 Acres

Prepared By:

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Dean Forest Road Landfill Expansion
2009 True Color Aerial Photograph
Chatham County, Georgia

1,500



Feet

Exhibit Date: December 18, 2012

Drawn By: BWW

Reviewed By: DJP

Job Number : 01-10-028.1

WETLANDS AND OPEN WATERS MITIGATION WORKSHEETS

ADVERSE IMPACT FACTORS

| Factor | Options | | | | | | |
|---------------------|-----------------|------------------|------------------|------------------|-----------------|--------------|--------------|
| Dominant Effect | Fill 2.0 | Dredge 1.8 | Impound 1.6 | Drain 1.4 | Flood 1.2 | Clear 1.0 | Shade 0.5 |
| Duration of Effects | 7+ years 2.0 | 5-7 years 1.5 | 3-5 years 1.0 | 1-3 years 0.5 | < 1 year 0.1 | | |
| Existing Condition | Class 1 2.0 | Class 2 1.5 | Class 3 1.0 | Class 4 0.5 | Class 5 0.1 | | |
| Lost Kind | Kind A 2.0 | Kind B 1.5 | Kind C 1.0 | Kind D 0.5 | Kind E 0.1 | | |
| Preventability | High 2.0 | Moderate 1.0 | Low 0.5 | None 0 | | | |
| Rarity Ranking | Rare 2.0 | Uncommon 0.5 | Common 0.1 | | | | |

† These factors are determined on a case-by-case basis.

REQUIRED MITIGATION CREDITS WORKSHEET FOR JURISDICTIONAL IMPACTS

| Factor | Area 1 | Area 2 | Area 3 | | | |
|--------------------|----------------|----------------|----------------|--|--|--|
| Dominant Effect | 2.0 | 1.0 | 2.0 | | | |
| Duration of Effect | 2.0 | 2.0 | 2.0 | | | |
| Existing Condition | 1.0 | 1.5 | 0.1 | | | |
| Lost Kind | 1.0 | 1.5 | 0.1 | | | |
| Preventability | 0.5 | 0.5 | 0.5 | | | |
| Rarity Ranking | 0.1 | 0.1 | 0.1 | | | |
| Sum of r Factors | $R_3 = 6.6$ | $R_4 = 6.6$ | $R_4 = 4.8$ | | | |
| Impacted Area | $AA_3 = 0.696$ | $AA_4 = 0.068$ | $AA_5 = 0.042$ | | | |
| $R \times AA =$ | 4.5936 | 0.4488 | 0.2016 | | | |

Required Credits = $\sum (R \times AA) =$

| |
|-------------|
| 5.24 |
|-------------|

Area 1 – Isolated depressional wetland fill associated with landfill development

Area 2 – Bottomland hardwood clearing associated with installation of retention pond outfall. Natural contours to be restored following installation of pipe.

Area 3 – Ditch fill associated with widening of existing access road