FINDING OF NO SIGNIFICANT IMPACT
AND ENVIRONMENTAL ASSESSMENT

JOHNSTON COUNTY
WASTEWATER TREATMENT FACILITY 4.0 MGD EXPANSION

RESPONSIBLE AGENCY: NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY

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FINDING OF NO SIGNIFICANT IMPACT

Article I, Chapter 113A of the North Carolina General Statutes requires an action to be subject to the requirements of the North Carolina Environmental Policy Act (NCEPA) if it involves the expenditure of public funds and if a potential impact is anticipated to the environment. The project has been evaluated for compliance with the NCEPA and is determined to be a major agency action, which will affect the environment.

Project Applicant:	Johnston County, North Carolina
Project Description:	The proposed project will expand the capacity of the County's existing Wastewater Treatment Facility (WWTF) by constructing a new 4.0 MGD facility at the County's existing landfill property that will send effluent to be discharged at a site across the Neuse River from the existing facility. The new facility and existing facility will operate under a single 13.5 MGD NPDES permit. Limited improvements will be made at the existing facility to facilitate the split treatment process and take some of the oldest infrastructure off-line. The full expansion to 13.5 MGD will be done in a phased approach. The existing facility will be de-rated from 9.5 MGD to 7.5 MGD to create a combined total capacity of 11.5 MGD in the first phase. Future biosolids handling improvements and nutrient management strategies will allow the combined facility to be re-rated to the full 13.5 MGD permitted capacity under a future phase. The proposed project will also include construction of a secondary clarifier effluent line between the new WWTF and existing WWTF, an effluent outfall line from the new WWTF to the discharge site, and a cascade aerator. Two inter-related project components will be constructed under separate funding but are included in the environmental review because they are required to transfer flow to the new treatment facility. The first associated project includes improvements to the equalization facility at the landfill site and construction of a forcemain from the existing wastewater pump station at the landfill site to the new wastewater treatment facility The second associated project is construction of the new Reedy Creek Wastewater Pump Station and forcemain to the new treatment facility.
Project Number:	CS370560-18
Project Cost:	$81,385,830
Clean Water State Revolving Loan Fund:	$54,691,514
Local Funds:	$26,694,316

The review process indicated that significant adverse environmental impacts should not occur if mitigative measures are implemented, and an environmental impact statement will not be required. The decision was based on information in the Engineering Report/Environmental Information Document (ER/EID) submitted by the applicant and reviews by governmental agencies. The attached Environmental Assessment (EA), prepared by the Division based on the ER/EID, supports this action and outlines mitigative measures that must be followed. This Finding of No Significant Impact (FONSI) completes the environmental review record, which is available for inspection at the State Clearinghouse.

No administrative action will be taken on the proposed project for at least 30 days after notification that the FONSI has been published in the North Carolina Environmental Bulletin.

Sincerely,

Jon Risgaard

Jon Risgaard, Section Chief
State Revolving Fund Section
Division of Water Infrastructure

ENVIRONMENTAL ASSESSMENT

A. Proposed Facilities and Actions

The proposed project will expand the capacity of Johnston County's (County) existing Wastewater Treatment Facility (WWTF) by constructing a new 4.0 MGD facility at the County's existing landfill property that will send effluent to be discharged at a site across the Neuse River from the existing facility. These facilities will be covered under a single 13.5 MGD NPDES permit. Limited improvements will be made at the existing facility to facilitate the split treatment process and take some of the oldest infrastructure off-line. The full expansion to 13.5 MGD will be done in a phased approach. The existing facility will be de-rated from 9.5 MGD to 7.5 MGD to create a combined total capacity of 11.5 MGD in the first phase. Future biosolids handling improvements and nutrient management strategies will allow the combined facility to eventually be re-rated to the full 13.5 MGD permitted capacity under a future phase.

The proposed new 4.0 MGD WWTF will include the following: influent pump station; pretreatment facility (screens, grit, parshall flumes and waste stream handling) sized to be expanded to 13.5 MGD in the future; influent distribution box; two five-stage process basins; blower building; clarifier distribution box; two 115-foot diameter clarifiers; 80-foot diameter WAS holding tank; maintenance/admin building; electrical power supply; retrofit sludge handling tanks with fine bubble aeration; new sludge holding tank with fine bubble aeration (future phase); new dewatering building to house two centrifuges and future additional centrifuges; and new secondary clarifier. The project will also include a secondary clarifier effluent line between the new and existing WWTF and 21,500 lf of 30" effluent outfall line to the County's property along the Neuse River and cascade aerator at the new discharge site.

Two inter-related project components will be constructed under separate funding but are included in the environmental review because they are integral to the treatment expansion. Improvements to the Landfill Equalization Facility will include reusing the existing bar screen and adding grit removal on influent flow; constructing a new pump station and 30" forcemain to convey wastewater from the Landfill Pump Station (PS) to the new WWTF; and new electrical power supply. The new Reedy Creek PS will include a new influent PS; plan for future on-site equalization; new electrical power supply, and new 24" forcemain from the PS to the WWTP.

Funding Status: The estimated total cost for the project is $81,385,830. The County is applying for a Clean Water State Revolving Fund (CWSRF) loan of $54,691,514. Local funds, including bonds, will be used to cover the remaining $26,694,316.

B. Existing Environment

Topography and Soils. Johnston County is the in the transition zone between the Coastal Plain and Piedmont physiographic regions. The existing WWTF is located in the floodway of the Neuse River and is protected by a dike. The floodplain in this area is rising and expected to continue rising. The site for the new facility is already graded and does not include any floodplains.

The primary soil type at the site for the new facility is Lynchburg Sandy Loam, typical of uplands of the Coastal Plain and suitable for the proposed construction. Along the pipeline construction corridors, the primary soil type is Norfolk Loam sand, well-drained with moderate permeability.

Surface Water. The project area is located in the Upper Neuse River subbasin (HUC 03020201). Surface waters in the project areas include the Neuse River, Middle Creek, and Swift Creek. These waters are all designated as Class C and nutrient sensitive waters (NSW).

Water Supply. Public drinking water in the County is provided by the County's Water Treatment Plant in Wilson Mills, which draws from the Neuse River. Some areas are served by community wells and private wells.

C. Existing Wastewater Facilities

Johnston County provides wastewater treatment for the Towns of Smithfield, Selma, Pine Level, Four Oaks, a portion of Clayton that houses the East Clayton Industrial area, and the communities of McGee's Crossroads, Wilson's Mills, and Cleveland area. The collection system consists of two main interceptors, the Neuse River Interceptor and Wilson Street Interceptor, which convey raw wastewater from service areas to the existing Central Johnston County Regional WWTF. The WWTF is rated at 9.5 MGD and discharges to the Neuse River. The facility's NPDES permit (NC0030716) is written to allow up to 13.5 MGD discharge and includes nitrogen and phosphorus mass limits established for 11.5 MGD and 13.5 MGD discharges. The facility is designed for advanced secondary treatment using a two-stage biological nutrient removal activated sludge process with ultraviolet disinfection and cascade aeration. Waste activated-sludge is stored in aerobic digesters and pumped to the County's biosolids facility at the landfill for dewatering and disposal. The existing WWTF has been subject to flooding, and studies indicate that the floodplain is rising in the area. A separate project is underway to expand the dike for flood protection at the WWTF.

D. Need for Proposed Facilities and Actions

The proposed project is needed to meet increasing demand for sewer service in the areas served by the County. Offering adequate sewer capacity for expansion of job-creating industries is important to the County's economy. The County has currently committed 82.4% of its 9.5 MGD capacity to date. The project also allows the County to begin a phased approach of moving wastewater treatment capacity away from the current WWTF, which is located in the floodplain and has been subject to significant flooding.

E. Alternatives Analysis

Alternative 1 – No-Action Alternative: In this alternative, the County would continue operations at current capacity and would not construct any project. With this alternative, the County would face a moratorium on growth within five years, which would have devastating economic impacts. This alternative also does not address potential for future flooding at the existing facility. For these reasons, this alternative was rejected.

Alternative 2 – Plant Expansion on Existing WWTF Site: This alternative would expand the existing WWTF to 13.5 MGD with associated biosolids improvements at the County Landfill and conveyance improvements. This alternative would include expanding the existing dike at the facility for flood protection and filling of wetlands to allow room for plant expansion. Required conveyance improvements to bring additional flow to the plant would require traversing floodplains, wetlands, and riparian buffers and possible impacts to endangered species. This alternative was rejected due to difficulty of construction in the floodplain and limited room for expansion at the current site.

Alternative 3 – New 4 MGD WWTF on County-Owned property at the Neuse River: This alternative would construct a new 4.0 MGD facility on County property across the Neuse River from the existing WWTF and would include some improvements at the existing WWTF to achieve a total combined capacity of 13.5 MGD as well as associated biosolids improvements at the County Landfill, and conveyance improvements. Similar to Alternative 2, this alternative would also involve construction in floodplains, wetlands, and riparian buffers with possible impacts to endangered species. The floodplain in this area is rising, and studies indicate that there is limited area at this site that would be safe from the predicted future 500-year floodplain elevation. This alternative was rejected due to concerns about future flooding.

Alternative 4 – New 4 MGD WWTF on County-Owned Property at the County Landfill: This alternative would decommission some processes at the existing WWTF and construct a new 4 MGD treatment facility at the County Landfill for a combined capacity of 11.5 MGD in the first phase. The project would also include biosolids improvements at the County Landfill and conveyance improvements. Additional biosolids improvements and nutrient management strategies will allow for expansion to 13.5 MGD in a future phase. This site is safe from flooding, and conveyance improvements would be primarily along existing roadways, so the environmental impacts would be less than other alternatives. This alternative is preferred for many reasons including safety from flooding; land is already owned and controlled by the County; adjacent properties are currently used for landfill and biosolids operations, so there will not be any significant new public nuisance; the new WWTF can be fully integrated with the biosolids facility; the main hub for the County's reclaimed water system, including an elevated storage tank, is located at this site; the landfill is already equipped with scales for measuring loads of solids; the site is closer to areas producing the largest amounts of wastewater; there is already piping in place between this site and the existing WWTF; and there is room at the site for future expansion. to achieve 13.5 MGD under a future phase with additional biosolids improvements and nutrient management strategies

F. Environmental Consequences and Mitigative Measures

Topography and Soils: Impacts at the treatment facility site will be minimal as the area has already been graded. Minor grading will be necessary at the pump station sites, but impacts will not be significant. The outfall line and forcemain will be installed largely along roadways with minor, temporary impacts to topography and soils. Impacts from construction of the outfall line and forcemain will be temporary. The treatment facility and pump station locations do not encroach on floodplains. The effluent line and forcemains will cross floodplains with no

permanent impacts or changes to floodplain elevations. Permits will be obtained from the Johnston County Floodplain Administrator for all work in the special flood hazard areas. Soil loss will be minimized by following a DEQ-approved Erosion and Sediment Control Plan and establishing and maintaining grass cover for sewer easements. Secondary and cumulative impacts (SCI) related to future growth with the WWTF's service area will be mitigated through the County planning department's land use and zoning requirements, including floodplain development restrictions, the County's residential sewer service policy that limits sewer service to small, contained regions a density of no more than 1.5 units per acre, and the County's sediment and erosion control program.

Land Use: Construction of the WWTF and associated projects will have minimal impact on land use, and no zoning changes will be required. Future development will have to comply with the County's land use and zoning requirements, with any changes requiring Board approval. Expansion of service areas will have to meet the Residential Sewer Service Policy, including restrictions on development density.

Wetlands: Less than one acre of wetland disturbance is expected due to the project. Wetland areas at the WWTF site will be avoided. Pipeline routes will avoid wetlands as much as possible, and direction drilling will be used for crossing wetlands associated with Swift and Middle Creeks. Permits will be obtained as required from the Division of Water Resources and U.S. Army Corps of Engineers and an approved Sediment and Erosion Control plan will be implemented. Impacts from future development will be mitigated through the County's storm water program, development restrictions, and buffer requirements.

Important Farmlands: Significant impacts to important farmlands are not anticipated. The proposed WWTF site includes soils identified as prime and unique farmland, but the lands are not in farm use and have been designated for other purposes. The pump station sites do not include farmlands. The forcemains and effluent line will follow easements and routes intended to minimize impact to farmland. There are twelve acres of prime and unique farmland currently leased for farming operations at the site of the cascade aerator and discharge to the Neuse River. These facilities are on sites near the edge of the active field and will impact less than an acre of active farmland. The County intends to continue leasing the land for farming if desired by the farmers. Future impacts related to growth will be mitigated by the County's Agriculture Development Plan, Voluntary Agricultural Districts, and a Natural Resource Initiative Green Infrastructure Assessment report, which are all designed to identify prime farmland and encourage protection of these resources.

Public Lands and Scenic, Recreational, and State Natural Areas: There are no formally designated public lands, scenic, recreational, or state natural areas in the project area or service area; thus no impacts are anticipated from construction of the project or future.

Cultural Resources: In a memorandum dated February 3, 2020 (No. ER 17-1468), the North Carolina State Historic Preservation Office (SHPO) stated that they are aware of no historic resources which would be affected by the project.

Air Quality: No significant impacts to air quality are anticipated. Construction activities will produce minor emissions associated with combustion engines and are not expected to have noticeable impact to the local air quality, and all construction equipment will be operated in compliance with state and federal emission control requirements. The WWTF will include open sewer basins with the possibility of odors, which are not expected to be significantly different than odors from the currently operated biosolids facility at the site. The WWTF design includes plans for odor control to be added at the headworks facility if odor becomes an issue.

Noise Levels: No significant permanent noise impacts are anticipated. Temporary noise is expected during construction activities. Noise from operation of the new WWTF is not expected to be noticeable, as the site is adjacent to an operating landfill with regular use of heavy equipment. Construction equipment will be equipped with proper noise attenuation devices and construction will be limited to normal business hours. Generators will be equipped with mufflers and the blower building will include noise dampening material.

Water Resources: No significant impacts to water resources are anticipated. Impacts from construction activities will be mitigated through use of an approved Sediment and Erosion Control plan and adherence to permit and buffer requirements from Division of Water Resources and U.S. Army Corps of Engineers. Crossings of Swift Creek and Middle Creek will use directional drilling. The effluent discharge to the Neuse River will be in compliance with the NPDES permit and nitrogen and mass nitrogen and phosphorus limits. Nitrogen credits have been obtained for the 11.5 MGD capacity for the proposed project. Additional nutrient management strategies will be required by the Division of Water Resources before future expansion to the full 13.5 MGD. Impacts from future development will be mitigated through the County's stormwater program, development restrictions, and buffer requirements.

Forest Resources: The site for the new WWTF has already been cleared. Minor clearing (less than 2 acres total in 30-foot corridors) maybe be required for pipeline and forcemain construction. The County's Agriculture Development Plan, Voluntary Agricultural Districts, and a Natural Resource Initiative Green Infrastructure Assessment report are designed to protect natural resources, including forest areas, and will minimize impacts from future development.

Shellfish or Fish and Their Habitats: Swift Creek and Middle Creek do provide habitat for state and federally threatened and endangered mussel species; however, no significant impacts are anticipated. Impacts from land disturbance will be minimized through adherence to an approved Erosion and Sediment Control plan. Directional drilling will be used for crossing both creeks. Discharges will be in compliance with the NPDES permit limits, including quarterly Chronic Toxicity testing intended to protect sensitive aquatic species. Impacts from future development will be minimized through adherence to the County's stormwater control plans, buffer requirements, and development density limits.

Wildlife and Natural Vegetation: No significant impacts to wildlife and natural vegetation are expected. The project areas do not include habitat for any threatened and endangered species. The WWTF site is already cleared of natural vegetation and does not provide wildlife habitat. The limited clearing required for the forcemains and effluent pipeline will have minimal impact

to wildlife and vegetation. Future development will be in accordance with County planning programs designed to protect natural resources.

Introduction of Toxic Substances: Operation of the WWTF will involve chemicals such as chlorine, gasoline, oil, paint, and other potentially hazardous materials. A safety plan will be in place for handling and storage of such chemicals. With these measures in place, no significant impacts are anticipated.

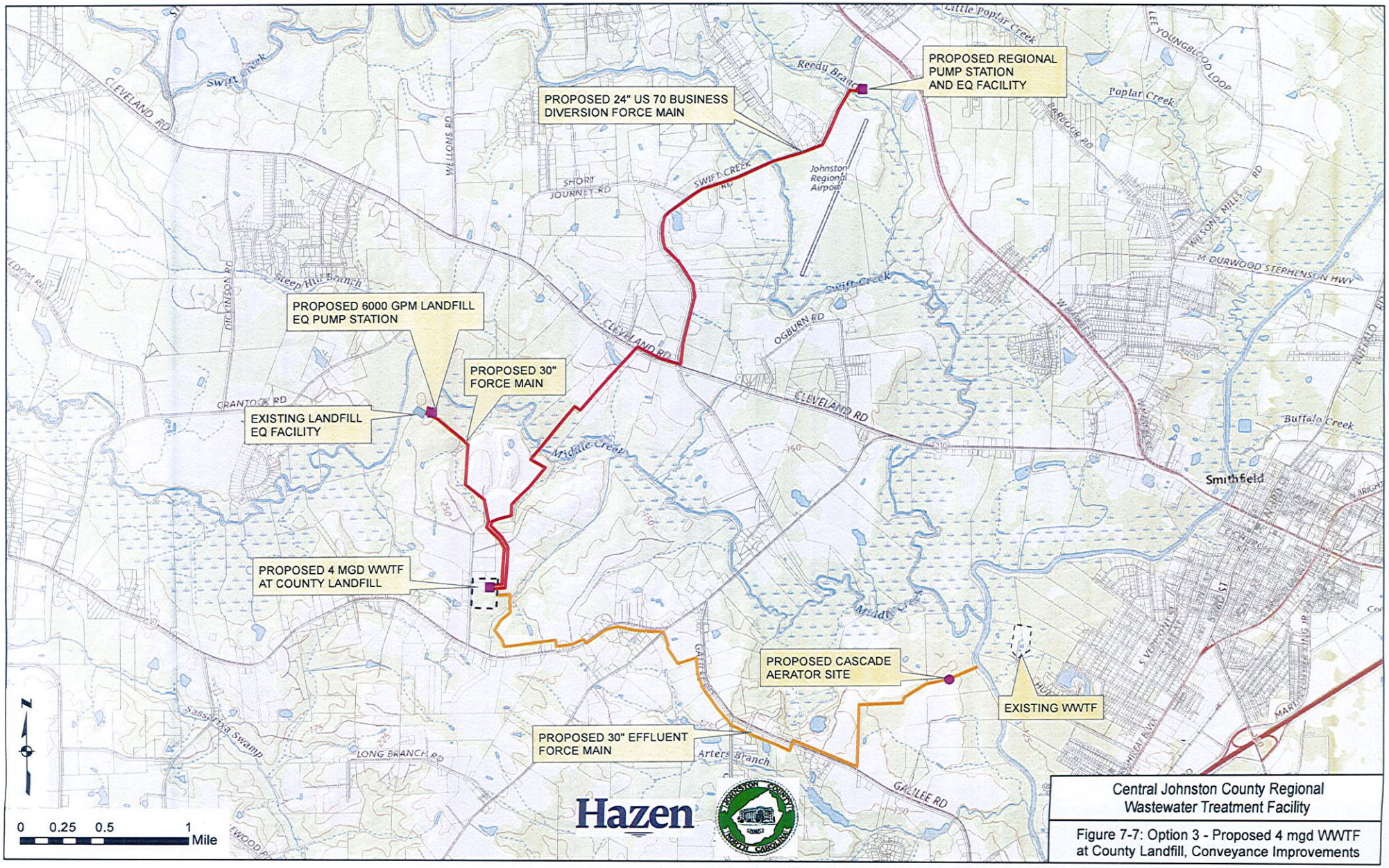
The U.S. Fish and Wildlife Service reviewed the proposed project and did not have any comments (March 26, 2020). The North Carolina Wildlife Resources Commission, Natural Heritage Program, and DWR Raleigh Regional Office concur with the proposed project. The U.S. Army Corps of Engineers was consulted and provided jurisdiction and permitting information with no objections to the project (November 13, 2017, SAW-2017-01596). The North Carolina Department of Natural and Cultural Resources is not aware of historic resources that would be affected by the project (February 3, 2020, ER 17-1468).

G. Public Participation, Sources Consulted

A public meeting was held on June 11, 2020, including a presentation about the project. There were no comments on the project. The current user charge for a typical residential customer is $94.60 per month for 5,000 gallons of water and sewer service combined. The user rate analysis for the proposed project shows an expected rate increase of approximately 56% to $147.49 for 5,000 gallons, which remains less than four percent of median household income. Previously planned rate increases, system development fees, and bulk capacity fees will offset some project costs and reduce the actual impact to residential user rates.

Sources consulted about this project for information or concurrence included

1) Johnston County
4) North Carolina Department of Environmental Quality
   -Wildlife Resources Commission
   -Natural Heritage Program
   -DEQ Raleigh Regional Office
   -Division of Air Quality
   -Division of Water Resources
   -Division of Forest Resources
   -Division of Environmental Assistance and Customer Service
   -Division of Waste Management
5) North Carolina Department of Natural and Cultural Resources
6) North Carolina State Clearinghouse
7) North Carolina Department of Public Safety
8) U.S. Fish and Wildlife Service
9) U.S. Army Corps of Engineers


PROPOSED REGIONAL PUMP STATION AND EQ FACILITY
PROPOSED 24" US 70 BUSINESS DIVERSION FORCE MAIN
PROPOSED 6000 GPM LANDFILL EQ PUMP STATION
PROPOSED 30" FORCE MAIN
EXISTING LANDFILL EQ FACILITY
PROPOSED 4 MGD WWTF AT COUNTY LANDFILL
PROPOSED CASCADE AERATOR SITE
EXISTING WWTF
PROPOSED 30" EFFLUENT FORCE MAIN
Hazen
0 0.25 0.5 1 Mile
Central Johnston County Regional Wastewater Treatment Facility
Figure 7-7: Option 3 - Proposed 4 mgd WWTF at County Landfill, Conveyance Improvements