



FINAL ENVIRONMENTAL ASSESSMENT

Relocation of the Emerald Coast Utilities Authority Main Street Wastewater Treatment Plant



FEMA

Florida Long Term Recovery Office

FEMA-1551-DR-FL

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Appendix 1 Introduction

- Exhibit A Aerial Photograph of current location of the Main Street Wastewater Treatment Plant (MSWWTP)
- Exhibit B Aerial Photographs showing the Proposed Site and Alternate Site locations
- Exhibit C Map of the Proposed Transmission Main Route

Appendix 2 Alternatives Analysis

- Exhibit A Correspondence from Florida Department of Environmental Protection detailing requirements for upgrade
- Exhibit B PSI Interim Report of Findings: Emerald Coast Utility Authority Central Water Reclamation Facility Reuse Water Application Study
- Exhibit C Plans illustrating various components of Proposed Alternative

Appendix 3 Affected Environment and Environmental Consequences

- Exhibit A Chart of Partial/Complete Loss of Service during Storm Events
- Exhibit B FIRM for current MSWWTP Site
- Exhibit C FIRM for Proposed WWTP Site
- Exhibit D *Emerald Coast Utilities Authority Main Street Wastewater Treatment Plant Relocation Project, Listed Species Assessment Report, Plant Site and Pipeline Alignments, Escambia, Florida*
- Exhibit E *Emerald Coast Utilities Authority Main Street Wastewater Treatment Plant Relocation Project; Listed Species Assessment Report; Sites 24, 25 North, 25 South, and 26; Escambia, Florida*
- Exhibit F Letter from Dr. John Lanza, Florida Department of Health

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- Exhibit A Florida Fish and Wildlife Conservation Commission's Gopher tortoise Relocation Permit
- Exhibit B Florida Department of Environmental Protection's Finding of No Significant Impact
- Exhibit C Joint Application for Works in the Waters of Florida (USACE & FDEP)

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- Exhibit A National Resources Conservation Service
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- Exhibit E Seminole Tribe of Florida
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- Exhibit G Poarch Band of the Creek Indians

LIST OF ACRONYMS

APE	Area of Potential Effect
BMP	Best Management Practice
BRA	Biological Research Associates
CEQ	Council on Environmental Quality
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CFR	Code of federal Regulations
dBA	decibels, “A-weighted” noise scale
DHR	Division of Historical Resources
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
ECUA	Emerald Coast Utilities Authority
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
F.A.C.	Florida Administrative Code
FDACS	Florida Department of Agricultural and Consumer Services
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FWC	Florida Fish and Wildlife Conservation Commission
GCTL	Groundwater Cleanup Target Levels
MGD	million gallons per day
MSWWTP	Main Street Wastewater Treatment Plant
MUTCD	Manual on Uniform Traffic Control Devices
NAVD	North American Vertical Datum
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Act
P.L.	Public Law
PA	Public Assistance
PCI	PanAmerican Consultants, Inc.
PW	Project Worksheet
SCTL-CDE	Soil Cleanup Target Level for Commercial/Industrial Direct Exposure

SCTL-RDE	Soil Cleanup Target Level for Residential Direct Exposure
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Officer
STOF	Seminole Tribe of Florida
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Officer
U.S.C.	United States Code
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
WRP	Wetland Resource Permit
WWTP	Wastewater Treatment Plant

1.0 INTRODUCTION

1.1 Project Authority

The Emerald Coast Utility Authority (ECUA) (Applicant) has applied to the Federal Emergency Management Agency (FEMA) for assistance with relocation of the Main Street Wastewater Treatment Plant (MSWWTP) in Escambia County, Florida. The ECUA is a local government body that owns, manages, finances, promotes, improves, and expands the water and wastewater systems of Escambia County and the City of Pensacola. The MSWWTP was damaged by storm water surges associated with Hurricane Ivan. FEMA's Public Assistance (PA) Program proposes to provide assistance for this project under authority of Presidential Disaster Declaration FEMA-1551-DR-FL.

This Environmental Assessment (EA) is prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969, as amended; and the Regulations for Implementation of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] Parts 1500 to 1508). The purpose of the EA is to analyze the potential environmental impacts of the proposed project and alternatives, including no action, and to determine whether to prepare an Environmental Impact Statement (EIS) or Finding of No Significant Impact (FONSI). In accordance with above referenced regulations and FEMA's own regulations for NEPA compliance found at 44 CFR Part 10, FEMA is required, during decision making, to fully evaluate and consider the environmental consequences of major federal actions it funds or undertakes.

1.2 Project Location and Background

Escambia County is located in the Panhandle of northern Florida and is bordered on the south by the Gulf of Mexico, the east by Santa Rosa County, and the north and west by the state of Alabama. Escambia County covers approximately 661 square miles of land, has 64,000 acres of waterways, and an approximate population of 300,000. The current MSWWTP is located at 401 West Government Street in Pensacola, Florida at Latitude 30.408042 North (N) and Longitude 87.221031 West (W). The ECUA proposes to relocate the plant to 2980 Old Chemstrand Road, Latitude 30.588996 N and Longitude 87.262429 W, approximately 25 miles north and inland of the existing facility. An aerial photograph showing the locations of the current MSWWTP, and the Proposed Alternative location are provided in Appendix 1 - Exhibits A and B. Appendix 1 – Exhibit C includes a map of the proposed transmission main route.

The ECUA MSWWTP began operation in 1937 in downtown Pensacola on an 18-acre site located approximately one block from Pensacola Bay. The MSWWTP is designed to treat an average daily inflow of 20 million gallons per day (MGD) of wastewater. It serves the majority of Escambia County and also functions as a biosolids processor for several of the area's other treatment plants. The service provided by the plant is critical to the health and economy of the area.

Due to its advanced age and limitations of the relatively small site, the MSWWTP has been unable to consistently treat the incoming wastewater to the level required by the Florida Department of Environmental Protection (FDEP). Based primarily on continuing FDEP rule violations and the mounting costs of maintaining the MSWWTP, the ECUA, in June 2003, directed its consulting engineers to conduct a Feasibility Study to determine feasible solutions and approximate costs.

The Feasibility Study revealed that replacing the MSWWTP with a modern facility in a more central location offered the best solution for ECUA, its ratepayers, and the citizens of Pensacola and Escambia County. The importance of replacing the MSWWTP was emphasized when Hurricane Ivan struck Pensacola in September 2004, taking the already outdated MSWWTP out of operations for three days. The shut down resulted in numerous health and safety risks by releasing untreated sewage into the streets of Pensacola and Pensacola Bay. The existing site will be adapted for reuse in a manner yet to be determined. Any future use of the site would be required to meet applicable codes and standards, including the local floodplain ordinance.

1.3 Purpose and Need

The location of the MSWWTP on Pensacola Bay and in a flood hazard area exposes the facility to damage from storm water surges associated with tropical storms and hurricanes. Significant rainfall will also cause wastewater overflows at the facility. Over the last five decades, 26 tropical storms and hurricanes have impacted the MSWWTP resulting in release of untreated and partially treated sewage into the streets, adjoining neighborhoods, and Pensacola Bay. During these times, high fecal bacteria counts and occurrence of heavy waste solids have been reported by the Escambia County Health Department. Because of its advanced age and location, ECUA and the community it serves are concerned that the MSWWTP would not withstand another hurricane without prolonged and costly shutdown and significant threat to human health and safety.

Through grant funding, FEMA's PA Program fosters the protection of health, safety, and welfare of citizens; assists communities in recovering from damages caused by disasters; and reduces future losses resulting from natural disasters. The proposed action, as presented in the EA, would comply with the PA Program purposes. It would provide safe and reliable wastewater treatment to the City of Pensacola and Escambia County, reduce repetitive repair costs associated with flooding, and ensure operational efficiency on a continual basis. The proposed project would reduce environmental degradation by removing wastewater discharge into Pensacola Bay and, utilizing advanced wastewater treatment methodologies, would provide water for industrial reuse.

2.0 ALTERNATIVES ANALYSIS

Several alternative courses of action for addressing needs at the MSWWTP were considered. The alternatives were evaluated based upon several factors including engineering constraints, environmental impacts, and available property. Budgetary impacts were considered but were not the controlling factor.

Guidance provided in 40 CFR 1502.14 regarding the NEPA's provision for an alternative analysis states that an agency must rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. Additionally, a No Action Alternative must be included. This section discusses the feasible alternatives that would provide for the purpose and need, including those alternatives that were considered but eliminated from further consideration.

2.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the MSWWTP would not be relocated or repaired; and no construction or corrective measures would be implemented. The existing MSWWTP would continue to be at risk from future flooding and repetitive losses related to future disasters and the affected community could experience service interruptions and human health threats resulting from unavoidable overflow of wastewater into streets and the surrounding waters of Pensacola Bay. Treated wastewater discharge into Pensacola Bay would continue, with negative impacts to water quality, aquatic resources, and recreational activities.

Under this alternative, FDEP would pursue an Administrative Order requiring several system upgrades including installation of an on-site power generation system; flood proofing of process-critical components; increasing reliability throughout the facility; development of additional storage capability; restoring the functional capacity of the existing submerged outfall; and strengthening and armoring, or enclosure of, the process-critical components of the facility. Appendix 2 – Exhibit A contains correspondence from the FDEP detailing these requirements.

2.2 Alternative 2 - Repair in Place Alternative

With the Repair in Place Alternative the existing MSWWTP facility would be repaired to pre-disaster conditions requiring expenditure of approximately \$149,000,000. This cost estimate includes miscellaneous in-kind mechanical repairs, miscellaneous damage repairs, repairs to the damaged outfall, and repair of electrical instrumentation. Although these repairs would restore the basic functions of the MSWWTP, related systems are expected to require replacement over the long term. The plant would continue to experience recurring failures due to storm related submergence and salt-water exposure. Operation and maintenance costs at the outdated facility would increase substantially over the long term.

In accordance with National Pollutant Discharge Elimination System (NPDES) requirements, the FDEP has mandated upgrading the MSWWTP to current codes and standards including a requirement to provide “reasonable assurance” that the MSWWTP would perform as permitted.

This “reasonable assurance” action is required to protect the MSWWTP from the effects another storm with the strength of Hurricane Ivan (Category 3), which would currently render the MSWWTP temporarily out of operation.

Even after armoring the MSWWTP to meet current standards, the MSWWTP would remain vulnerable to hurricanes due to its location. Also, smaller storm events could result in debilitating damage if wind or waterborne debris impacts exceed the resistive capacity of the MSWWTP’s proposed armoring systems. To be practical, the improvements would need to establish a level of protection that would protect the MSWWTP from a hurricane of such magnitude that it would cause severe structural damage and major loss and prolonged shutdown of the MSWWTP’s biological/physical/chemical processes. ECUA estimates the required upgrades would cost approximately \$134,000,000 (PW 3661) plus an additional \$14,900,000 to repair the existing wastewater outfall (PW 3389).

2.3 Alternative 3 – MSWWTP Relocation (Proposed Alternative)

The Proposed Alternative site is a 976-acre parcel located approximately 25 miles north of the current downtown MSWWTP. (See Appendix 1 – Exhibit B for an aerial photograph of the Proposed Alternative Site location in relation to the current MSWWTP location.) The site is located along the Escambia River in Escambia County, Florida, just north of Latitude 30.588996 N and Longitude 87.262429 W. The site is approximately 60 feet higher in elevation than the current location and is located out of the floodplain and storm surge zones. The permanently relocated plant would consist of the wastewater treatment plant (WWTP) facility, a wastewater transmission system, three lift stations, and a treated effluent disposal system.

2.3.1 WWTP Facility Site

Approximately forty acres of the site would be used to construct the treatment plant which would be composed of eight unit processes. These units would consist of pre-treatment (screening and grit removal), biological treatment, clarifiers, filtration, disinfection, odor control, additional treatment, and biosolids processing. Due to its location, the Proposed Alternative site is the preferred location as it would meet both short and long-term needs for wastewater treatment in the area. The Proposed Alternative was selected based on the following considerations:

- The site is well buffered and out of view of its nearest neighbors (almost three-quarters of a mile away). Unlike neighbors of the existing MSWWTP, they would most likely not see, smell, or hear the plant or its operation.
- The site is zoned for heavy industrial use and adjoins the site of an existing industry.
- The access road (Old Chemstrand Road) offers easy truck access.
- The site is inland and out of the Special Flood Hazard Area (SFHA). The plant would not be subject to flooding and would be more resistant to hurricane impacts.
- The site offers potential for beneficial industrial reuse of treated wastewater. This is not economically available at the existing MSWWTP location.
- The site offers hundreds of acres for potential future expansion.

Each process component was evaluated within the context of its ability to contribute to the treatment of wastewater to standards established for the Proposed Alternative. The Proposed Alternative would be designed to handle average daily flows of 20 MGD, with a peak of 36 MGD. Any influent flows in excess of the 36 MGD peak flow capacity would be diverted to an equalization basin for aerated storage. These flows would then be sent to the biological process for treatment during lower flow periods. Other components of the proposed wastewater treatment facility include reject storage basins and chemical addition facilities. Biosolids, which are produced as a byproduct of the treatment of wastewater, would also be handled at the facility. The Proposed Alternative is anticipated to produce 25 dry tons per day of bio-solids at the average daily flow of 20 MGD. The biosolids would be dewatering and dried; this facility would also process biosolids from two other ECUA plants.

2.3.2 Wastewater Transmission System

The Proposed Alternative would include a wastewater transmission system to redirect wastewater flows from the MSWWTP to the proposed facility. Approximately 24 miles of wastewater transmission mains, ranging in size from 16 to 48 inches in diameter, would be installed. The transmission main would begin at the existing MSWWTP and would extend north-northeasterly, approximately 18 miles, to the new proposed wastewater treatment facility. A smaller wastewater transmission main is proposed to convey flows from the northwestern part of the ECUA service area to the new facility. Additionally, small sections of force mains would be extended to connect existing ECUA lift stations along the route to the new transmission main. (See to Appendix 1 – Exhibit C for a map of the Proposed Transmission Main Route.)

2.3.3 Lift Stations

In order to transmit wastewater to the Proposed Alternative location, three new regional lift stations would be constructed. The lift stations would pump flow from the southern part of Escambia County to the new site. The existing MSWWTP would be replaced with a lift station located on the northwest corner of Government and DeVilliers Streets, across the street from the existing administration building. Regional Lift Station A is sited to re-pump flows from the new DeVilliers Street Lift Station on to the Proposed Alternative location. Regional Lift Station B is configured to intercept a major trunk sewer and divert these flows to the new transmission main upstream of the MSWWTP. The conceptual layout of the transmission system also includes the rerouting of discharges from several existing lift stations into the proposed transmission mains. (See to Appendix 1 – Exhibit C for a map of the Proposed Transmission Main Route.)

2.3.4 Treated Effluent Disposal

Treated effluent will receive high-level disinfection and be reused by an industrial partner, Gulf Power. Gulf Power would utilize 100 percent of the treated effluent (17.5 MGD at start-up and 20 MGD at plant capacity) in their cooling towers. Water reclaimed from the cooling towers would then be returned to the ECUA wastewater treatment facility for land disposal. Up to 6 MGD of reclaimed reuse water would be returned to the facility and disposed of in a system consisting of a combination of infiltration basins and spray irrigation fields. Infiltration basins are permeable basins designed to disburse water by a repetitive cycle of flooding, infiltration,

and drying. The infiltration basins would be loaded at an approximate rate of 266 inches per year. Infiltration basins would be installed within 68 acres in the northeast corner of the facility. The infiltration basins would be constructed by leveling off the top of a hill that has been recently timbered by the previous property owner and creating flat shallow basins surrounded by low berms to contain the water. The treated effluent disposal system would be constructed on the side of a hill (elevation varies from 110 feet to 40 feet) to take advantage of the topography; flow could thereby be accomplished by gravity. Clearing, grubbing, grading, and some excavation would be required to develop these sites for their intended purposes.

A spray irrigation system would also be installed to facilitate reclaimed/reuse water disposal. The spray irrigation system would be installed on approximately 868 acres and would be interspersed throughout the property in areas that do not currently contain wetlands. The field irrigation system would apply approximately 35 to 191 inches of reclaimed/reuse water per year. The spray irrigation would be applied to either planted silviculture or seeded hay/grasses. Construction of the spray field irrigation system would follow the existing topography and would be positioned well above natural wetland areas. The vast majority of the property has been cleared prior to ECUA ownership and the remaining portions to be cleared consist of planted pine trees.

Approximately three miles of 30-inch diameter reclaimed water mains would be installed from the proposed facility to the Gulf Power Plant. The majority of the transmission mains would be located within public street right of ways or Gulf Power easements that have been previously cleared. At the more northern section of the project limits, the wastewater transmission mains would be located within areas that have not been previously disturbed. In these areas, the mains would be routed through 50-foot-wide easements; clearing and grubbing within the easements would be required. Appendix 2 - Exhibit C contains plans that illustrate the location of the various components of the Proposed Alternative.

Details of the hydrogeologic study and groundwater modeling associated with the treated effluent disposal are included in the PSI Interim Report of findings of the *ECUA Central Water Reclamation Facility Reuse Water Application Study* (Appendix 2 - Exhibit B).

2.4 Alternatives Considered but Eliminated from Further Consideration

As part of the 2003 Feasibility Study, ECUA examined 23 potential sites throughout Escambia County for relocation of the MSWWTP. The potential sites were evaluated based on a set of minimal pass/fail standards. Ten sites were eliminated through this process. The remaining 13 sites were evaluated based on a weighted scoring system that awarded points based on:

- Amount of usable land outside of the floodplain.
- Proximity to neighborhoods and homes, (number of residents within specified distances of the property, buffer vegetation).
- Proximity to ECUA disposal and wastewater transmission facilities, access to truck routes, and potable water wells.
- Acreage above minimum grade or slope.

In addition to the criteria listed above, ECUA considered the potential for industrial and other reuse opportunities and to ensure that the selected site would have a minimal impact on wetlands, and historical and archeological sites. The executive summary of the facilities plan, which further explains the selection process, is located on the ECUA web site at http://www..org/MSWWTP_ExSumm.pdf.

Of the alternatives considered but eliminated from further consideration, the most feasible alternative (Second Alternative – Relocation of MSWWTP to Site 23) was given the most detailed consideration. The proposed site for this alternative is located north of the Proposed Alternative site and is identified in the Facilities Plan as Site 23. The Second Alternative would establish the same WWTP facility as the Preferred Alternative and would include a similar wastewater transmission system as the Preferred Alternative. (See to Sections 2.3.1. and 2.3.2 for further description of the WWTP facility and wastewater transmission system.) Factors that prevented the Second Alternative from being the preferred alternative were:

- The proposed site is not zoned for heavy industrial use; it is zoned village/agricultural. Conditional uses include wastewater treatment facilities.
- The proposed site is slightly north and east of existing industry, but does not directly adjoin the site of an existing industry.
- While the proposed site offers potential for beneficial industrial reuse of wastewater that is not economically available at the existing MSWWTP location, it is located further from industry than the preferred location.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

In accordance with the technical guidelines set forth in the Regulations for Implementation of the NEPA, this section describes the potential environmental costs and benefits of implementing the No Action, Repair in Place, and Proposed Alternatives. Impacts relating to or involving the physical and biological environments, hazardous and special waste materials, socioeconomics, and cultural resources are discussed in considerable detail. The findings in this section are intended to aid federal decision makers and the public in understanding environmental consequences of each alternative.

An Impact Summary Table is included to provide a review of the issues addressed for each alternative (Table 1). Proposed mitigation is referenced within the respective environmental issue areas and summarized in Section 6.2, Conditions and Mitigation Measures. Environmental resource topics determined to be minor significance and importance with regard to decision making are not discussed in detail and are noted as “None” or “Not Applicable.”

3.1 Impact Summary

The following table summarizes the issues and anticipated impacts from the different alternatives for the replacement of the MSWWTP as well as the mitigation measures.

TABLE 1. IMPACT SUMMARY				
Affected Environment	Section	SUMMARY OF IMPACTS BY ALTERNATIVE		
		No Action Alternative	Repair in Place Alternative	Proposed Alternative
Physical Environment	3.2			
Geology, Topography, and Soils	3.2.1	None	None	No impacts to geology. Long-term minor impacts to topography resulting from grading for the facility and infiltration basins. Short-term soil impacts due to construction resulting in compaction and loss of structure.
Seismicity	N/A	None	None	None
Prime Farmland	3.2.2	None	None	30.24 acres of prime farmland would be impacted.
Water Resources and Water Quality	3.3			
Surface Water Resources	3.3.1	There would be no change to the current adverse impacts resulting from untreated wastewater overflows, and the associated nutrients, toxins,	There would be an elimination of the existing threat of untreated wastewater overflows being discharged to Pensacola Bay. The treated effluent would	Treated effluent would no longer be discharged into Pensacola Bay as a point source. Wastewater effluent at the Proposed Alternative site would

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		bacteria and viruses, to the Pensacola Bay. Discharge of treated wastewater as a point source to Pensacola Bay would continue.	continue to be a point source discharge into Pensacola Bay and affect the health of its ecosystem.	be land applied in a combination of infiltration basins and/or spray irrigations fields. Impacts to the Escambia River from increased groundwater discharge would be insignificant.
Groundwater Resources	3.3.2	Unknown	Unknown	Increase in flow to groundwater by 800,000 cubic feet per day. Increases to groundwater system would be 20 percent to the surficial sand and gravel aquifer.
Floodplain Management (EO 11988)	3.3.3	There would be no change from the current adverse long-term impacts. The current location of the MSWWTP would continue to place the facility at risk to future flood events and continue releasing untreated sewage to the floodplain during plant failures.	Repairing and hardening the MSWWTP to codes and standards would minimize risk of flooding and the risk of releasing untreated sewage to the floodplain during flood events.	Long-term beneficial impact due to relocation of the WWTP outside of the floodplain. Prudent redevelopment of the existing MSWWTP site could be beneficial to the floodplain. The proposed relocated WWTP site is located outside of the floodplain.
Wetlands (EO 11990)	3.2.2	None	None	Temporary loss of wetland vegetation due to transmission main crossing at two creeks. Permanent loss of 0.71 acre; temporary impacts (clearing and ground disturbance) totaling 4.44 acres.
Biological Resources	3.4			
Terrestrial Environment	3.4.1	None	None	Clearing of pine plantation for development of new facility, including WWTP facility site, spray irrigation fields, and

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				infiltration basins. Temporary removal of 10,400 LF of upland forest for wastewater transmission line installation. Temporary impacts for installation of security fence in southern portion of the project.
Aquatic Environment	3.4.2	The MSWWTP would continue to negatively impact the aquatic environment by discharging effluent that reduces water quality and adversely affects the quality and abundance of fishery resources in Pensacola Bay. Impacts from the release of untreated sewage would continue.	The MSWWTP would continue to negatively impact the aquatic environment by discharging effluent that that reduces water quality and adversely affects the quality and abundance of fishery resources in Pensacola Bay. Impacts from the release of untreated sewage would be eliminated.	Adverse impacts to the aquatic environment of Pensacola Bay would be eliminated. No long-term impacts anticipated at new project location.
Threatened and Endangered Species	3.4.3	None	None	No effect to federally listed species. The state-listed gopher tortoise and white-topped pitcher plant would be impacted.
Cultural Resources	3.5	None	None	No adverse impacts to archeological or historic resources are anticipated.
Socioeconomic Resources	3.6			
Zoning and Land Use	3.6.1	None	Positive impacts due to land use change at the existing site.	Same as the Repair in Place Alternative.
Aesthetics and Visual Resources	N/A	None	None	None
Noise	3.6.2	None	Short-term impacts to noise would occur at the proposed	Short-term impacts to noise would occur at the proposed

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			project site during the construction period. After construction there would be no change in the noise level.	project site during construction. Due to the location, there would be no change in noise levels for the nearest neighbors.
Air Quality	3.6.3	The MSWWTP would continue to negatively affect air quality by emitting noxious odors at such a level as to be an unreasonable interference with the quality of life.	There would be long-term benefits due to decreases in noxious odors. Short-term impacts to air quality would occur during construction. No permanent air quality impacts are expected.	There would be long-term benefits due to the elimination of noxious odors. Relocation will remove the WWTP from proximity of residentially populated urban area. Short-term impacts to air quality would occur during construction.
Coastal Barriers Resource Act	N/A	None	None	None
Public Services and Utilities	3.6.5	Loss of service would continue to occur during periods of heavy rain and storms.	None	Limited, short-term impacts during construction. Possible loss of utility services during construction.
Traffic and Circulation	3.6.6	None	There would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the MSWWTP. No long-term impacts are anticipated.	There would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed project site. Long-term impacts are expected to be negligible.
Environmental Justice	3.6.7	Continued impacts to minority and low-income populations due to clean up costs and health risks associated with the releases of untreated sewage, and noxious odors.	The repairs and upgrades of the MSWWTP would eliminate clean up costs and health risks associated with the release of untreated sewage. Other negative impacts such as noxious odors impacts would be reduced but continue to affect	Positive impacts by removing clean up costs and related health risks associated with the release of untreated sewage, and noxious odors currently experience by minority and low-income populations. No disproportionately high or

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			minority and low-income populations.	adverse effect on minority or low-income populations would occur at the new site.
Public Health and Safety	3.6.8	Impacts due to release of disease containing untreated sewage. Potential for discontinued service to surrounding hospitals and water shut off. No impacts to safety are anticipated.	Same positive impacts by removing health impacts associated with the No Action Alternative. Potential short-term impacts to safety due to construction activities.	Positive long-term impacts to public health by removing health impacts associated with the No Action Alternative. Potential short-term impacts to safety due to construction activities.
Hazardous Materials	3.7	None	None	Excavation activities could expose or otherwise affect subsurface hazardous wastes or materials. No impacts to hazardous materials or wastes are anticipated.

3.2 Physical Environment

3.2.1 Geology, Topography, and Soils

The overall geologic nature of Escambia County is characterized by a predominance of marine deposited sands and clastic material over deep carbonate bedrock. The bedrock consists of mainly limestone and occasionally dolomite materials from the Eocene, Oligocene and early Miocene geologic periods. Karst features do not occur in Escambia County due to the extreme depth of the limestone.

Given the extreme low, ground-shaking hazard, Executive Order (EO) 12699, Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction, does not apply. Special seismic related design criteria are not required for construction projects in this project area.

3.2.1.1 No Action Alternative

According to the U.S. Department of Agriculture (USDA) Soil Survey for Escambia County, the majority of the soils present within the existing MSWWTP site are Arents. Arents consist of earthen materials that have been so modified by construction activities that the original soil components are no longer recognizable. The Arents consist of materials hauled in from other sources. They may be highly variable within a short distance and may be sandy, loamy, or stratified with various textures. Fragments of concrete, wood, and metal, as well as other debris from construction activities, are commonly mixed in the Arents.

Under the No Action Alternative, impacts to soils resulting from runoff and erosion would continue to occur due to repeated flooding at the existing MSWWTP site; however, no new or no additional impact on soils and topography would occur.

3.2.1.2 Repair in Place Alternative

The current conditions at the MSWWTP are the same as those discussed in Section 3.2.1.1 above. The Repair in Place Alternative would have no impact on soils and topography.

3.2.1.3 Proposed Alternative

The Proposed Alternative site is located in the east central portion of Escambia County. According to the USDA, Soil Survey for Escambia County, this area has elevations that range from 100 to 280 feet and includes the gentle sloping to strongly sloping part of the county that begins 10 to 12 miles north of the City of Pensacola. This division is characterized by a fairly well-developed branching, or dendric, drainage pattern. The valleys are V-shaped and have slopes that range from 8 to 15 percent. Along the bottomlands of the Escambia and Perdido Rivers, as well as their large tributaries, the

slopes are long and strong and the ridge-tops are narrow and gently sloping. The slopes along the small streams are short and mild, and the ridge-tops are broad and nearly level.

The proposed WWTP facility site location has soils belonging to the Doravan-Fluvaquents soil association, a poorly to very poorly drained alluvial sediment which occurs along freshwater drainage ways. A total of nine soil series are located throughout the proposed project area. Soils along the wastewater transmission system paths are predominantly Lakeland-Eustis association sandy soils, Norfolk-Ruston-Savannah, and Tifton-Carnegie-Faceville association sandy loam soils. Notably, extensive areas of the pipeline that would be located on the west side of Pensacola are located beneath paved city streets and county roads.

Under the Proposed Alternative, no significant impacts to geological features would occur. Minor, long-term topographical alteration would occur on the proposed project site due to grading required for construction. Short-term impacts to soils would occur during construction of the new facility and demolition of the existing MSWWTP. Construction of the spray field irrigation system would follow the existing topographic features and stay well above natural wetland areas. A small trench that would be cut for irrigation piping would be immediately backfilled to the original grade.

Impacts to portions of upland areas are unavoidable with construction of the treated effluent disposal system that includes infiltration basins (potentially 68 acres of the total 936 acres of reuse application sites), and the WWTP facility (approximately 90 acres total including the access road, storm water retention ponds, and the 40-acre WWTP facility site). The infiltration basins would be constructed by leveling off the top of an existing hill (elevation approximately 140 feet) that has been recently timbered by the previous owner, and creating flat, shallow basins surrounded by low berms needed to contain the water. The sides and bottoms of the basins would be lined with sand to prevent the silt and clay particles in native soils from binding over time. Soils in this area would be excavated to achieve the finished floor elevation of the infiltration basins. The Proposed Alternative would be constructed so as to take advantage of the topography so that gravity flow could be used for water transport through the site. Clearing, grubbing, grading, and some excavation would be required to develop these sites for their intended purposes. Implementation of appropriate Best Management Practices (BMPs) would be required. BMPs include, but are not limited to the installation of silt fences and revegetation of bare soils to minimize erosion.

3.2.2 Prime Farmland

The Farmland Protection Policy Act (FPPA) (Public Law [P.L.] 97-98) was enacted in 1981 to protect this resource and minimize unnecessary conversion of farmland to nonagricultural uses as a result of federal actions. The FPPA seeks to assure that federal programs are administered in a manner that will be compatible with state and local policies and programs that have been developed to protect farmland. Prime farmland is characterized as land with the best physical and chemical characteristics for the production of food, feed, forage, fiber and oilseed crops (USDA, 1989). The policy of the Natural Resources Conservation Service (NRCS) is to protect

significant agricultural land from conversions that are irreversible and result in the loss of an essential food and environmental resource. The NRCS developed criteria for assessing the effects of federal actions on converting farmlands to other uses, including a Farmland Conversion Impact Rating Form (AD-1066), which documents a site-scoring evaluation process to assess an area's potential agricultural value.

3.2.2.1 No Action Alternative

The current facility is located in downtown Pensacola, Florida. This is a heavily developed area within the city limits and is not prime farmland. No further consideration of FPPA is required for this alternative.

3.2.2.2 Repair in Place Alternative

The Repair in Place Alternative would have the same impacts as the No Action Alternative.

3.2.2.3 Proposed Alternative

Based on the USDA Soil Survey for Escambia County, portions of the proposed WWTP facility site have been determined to be prime farmland. No prime farmland was identified along the paths of the wastewater transmission system or at the proposed lift station sites. Based NRCS surveys, use of the proposed WWTP facility site would impact 30.24 acres of prime farmland. This is a relatively small portion of the approximately 93,475 acres of prime farmland are known to exist in Escambia County. Coordination was initiated December 11, 2006. Per the scoring provided by NRCS, no further consideration for farmland protection is indicated. The proposed project is fully compatible with the existing use of surrounding farmland.

3.3 Water Resources and Water Quality

This section describes the potential impacts that each alternative may have on water resources and water quality. Existing conditions are described, as well as potential positive and negative impacts from implementation of the alternatives. The potential impacts are described in terms of type (beneficial or adverse), context (site-specific, local, or regional), duration (short-term or long-term) and levels of magnitude (negligible, minor, moderate, or major).

3.3.1 Surface Water Resources

The southern portion of Escambia County borders Escambia Bay and Pensacola Bay. The current location of the MSWWTP is approximately one city block from Pensacola Bay. The location of the Proposed Alternative site is approximately 25 miles north of the current location. The nearest surface water body to these locations is the Escambia River (See Appendix 1 – Exhibit B for aerial photographs showing the Proposed Site in relation to the existing MSWWTP).

Water quality within Pensacola Bay and the Escambia River is identified as Class III. Class III is the statewide default classification intended to meet the goal of the federal Clean Water Act.

Class III Waters as defined by the FDEP, are “for recreation, propagation and maintenance of healthy, well-balanced populations of fish and wildlife”.

3.3.1.1 No Action Alternative

Effluent from the MSWWTP (approximately 14 MGD) is currently discharged directly into Pensacola Bay under permit number NPDES #FL0021440.

Under the No Action Alternative, the MSWWTP would not be repaired except as may be mandated at some future date to meet state and federal pollution abatement requirements. There would be no change in the adverse affects to surface water resulting from both the present point source effluent discharge and potential future spills of untreated sewage. The long-term negative effects on water quality and the quality and abundance of fishery resources in Pensacola Bay would continue.

3.3.1.2 Repair in Place Alternative

Under the Repair in Place Alternative, repairs to the MSWWTP would provide protection from storms by bringing the MSWWTP up to current codes and standards. With the Repair in Place Alternative, spills from the MSWWTP due to storm events would be prevented, thereby reducing current impacts to surface waters. Effluent from the repaired MSWWTP outfall would continue to be discharged into Pensacola Bay and continue to diminish water quality and the quality and abundance of fishery resources. Impacts to the aquatic environment are discussed in Section 3.4.2.

3.3.1.3 Proposed Alternative

Highly disinfected effluent from the proposed WWTP facility can be used for golf course or municipal irrigation and industrial applications. The proposed treated effluent disposal system would be located within the Escambia River watershed. All of the treated effluent from the proposed WWTP facility would be pumped to Gulf Power’s nearby Crist electrical generation facility’s non-contact cooling tower system for reuse. The “blowdown” (the portion of the circulating water flow that is removed in order to maintain the amount of impurities at an acceptable level) from the non-contact cooling towers would be used in other process equipment or returned to ECUA. Treated effluent returned would be disposed of on site using a combination of infiltration basins and spray irrigation fields. Effluent returned from Gulf Power and disposed of through land application would meet state groundwater drinking water standards.

The hydrological impact of adding 6 MGD of reclaimed reuse water to normal groundwater flow would increase the existing discharge to the Escambia River by less than one quarter of one percent. Long-term impacts to surface water quality would therefore be negligible (Table 2).

TABLE 2. HYDRAULIC IMPACTS OF REUSE WATER APPLICATIONS		
	Flow prior to discharge (cubic feet/day)	Flow post discharge (cubic feet/day)
Groundwater system	4,000,000	4,800,000
Wetlands/streams	230,000	390,000
Escambia River	630,720,000	631,300,000

Short-term impacts to surface water quality would occur during construction. These impacts would be minimized through implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would be required for each construction contract for the project. To reduce soil erosion at the construction sites, BMPs for erosion control would be implemented. These BMPs include, but are not be limited to, vegetative planting and use of silt fences and/or hay bales. Silt fences would be utilized to prevent sediment from entering storm water systems and/or surface water. A filter bag would be used to filter water being pumped during trench dewatering operations. Seeding and mulching would be used to reduce soil erosion during construction. Following construction, additional seeding and/or sodding would be provided. In locations where dust control is necessary, the site would be sprinkled with water.

There are no surface waters located on the proposed lift station sites. The wastewater transmission main route would cross under Clear Creek. This crossing would be accomplished using horizontal directional drilling. This installation method would preclude impacts to the surface water of that system.

3.3.2 Groundwater Resources

The hydrogeology of the project area consists of a surficial aquifer (the sand-and-gravel aquifer), a confining unit of Miocene age clay, and a deep non-potable aquifer (the Upper Floridan aquifer). The surficial aquifer is unconfined and extends to a depth of approximately 150 feet within the No Action Alternative and the Repair in Place Alternative project areas, and extends to a depth of 400 feet within the Proposed Alternative project area. The aquifer is comprised predominately of quartz sand, although stringers of gravel and lenses of clay are present throughout the aquifer. The surficial aquifer is classified by the state as Class II groundwater and is the primary drinking water source for Escambia County.

The confining unit consists of Miocene clays which are approximately 600 feet thick. These materials provide a hydraulic separation between the surficial aquifer and the underlying Upper Floridan aquifer.

Groundwater at each of the Alternative sites is initially encountered at depths of approximately ten feet. Drilling at the Proposed Alternative site indicates that the range in ground water depths is approximately 10 to 60 feet below the existing grade at the time of drilling. The six-month trailing rainfall total for the subject areas at the time of drilling was approximately 18 inches,

which was approximately 14 inches below normal. (The average annual rainfall for the subject areas is 64 inches.)

3.3.2.1 No Action Alternative

Under the No Action alternative, the MSWWTP would not be repaired or replaced. As there are no monitoring wells at this location, any impact to groundwater is unknown. No new impacts to groundwater are anticipated since existing baseline conditions would remain unchanged.

3.3.2.2 Repair in Place Alternative

Under the Repair in Place Alternative, repairs to the MSWWTP would address protection from storms and bring the MSWWTP up to current codes and standards. Because there are no monitoring wells at the current location, impacts to groundwater would be undetermined.

3.3.2.3 Proposed Alternative

Modeling was conducted to determine impacts of the Proposed Alternative on groundwater. The groundwater model simulated slow application, by either infiltration basins or spray fields, of treated effluent that is returned after industrial reuse. A water budget analysis was performed to determine the impacts of the applied water to the groundwater system, the area's wetlands and streams, and to the Escambia River. Results, presented in Table 2, Hydraulic Impacts of Reuse Water Applications provided in Section 3.3.1.3, shows the existing flow within each system and the anticipated flow after reuse water application. Increases in groundwater flow of 800,000 cubic feet per day would occur and would increase the current discharge to the groundwater by 20 percent. Notably, the groundwater system impact would occur within the surficial sand and gravel aquifer only. (See Sections 3.3.1 and 3.3.4 for discussion of impacts to the Escambia River and Wetlands, respectively). These changes are not considered to be significant.

The increased flow into the groundwater system in the study area at design capacity (6 MGD) would be relatively low and would not result in flooding of the subject site or surrounding areas. As required by FDEP, the model simulations maintain a minimum one-foot separation between the groundwater mound and the ground surface elevation. Given the more frequent drought conditions experienced in the area, recharging the groundwater system could be positive.

Also, the quality of the applied reclaimed water would meet Florida groundwater drinking water standards. Groundwater monitoring wells would be required by FDEP to assure that ground water standards are maintained at the zone of discharge. The closest boundary of the disposal system to an existing public water supply well is approximately 1,200 feet. Each of the lift station sites under consideration is approximately one-third mile from existing public water supply wells. There would be no impacts on groundwater depth or qualities as a result of building and operating the lift stations.

The infusion of treated effluent into the surficial aquifer is expected to minimally increase seepage into the Escambia River. Additionally, riparian wetlands in the vicinity of the land treatment sites may undergo some change in response to increased groundwater outflow and subsequent increases in surface water and soil saturation. These changes are not considered to be significant.

3.3.3 Floodplain Management (Executive Order 11988)

Presidential EO 11988 requires federal agencies to avoid, to the extent possible, long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid of direct and indirect support of floodplain development wherever there is a practicable alternative. EO 11988 prohibits funding construction in the 100-year floodplain, or construction in the 500-year floodplain for critical facilities, unless there are no practicable alternatives and the opportunity for public involvement has been provided. FEMA procedures are codified in 44 CFR Part 9 – Floodplain Management and Protection of Wetlands, which outlines the actions that a proposed project must follow to ensure compliance with EO 11988 prior to the receipt of FEMA funding.

FEMA uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program. Consistent with EO 11988, FIRMs were examined during the preparation of this EA. The FIRM for the existing MSTTWP (see Appendix 3 – Exhibit B) shows that the existing MSWWTP is located within a SFHA at a Base Flood Elevation of 8 feet (North American Vertical Datum [NAVD]-88). The MSWWTP site is located within the mapped SFHA Zone AE, which is a designated 100-year floodplain. The current effective FIRM was issued in September 2006.

3.3.3.1 No Action Alternative

Under the No Action Alternative, the existing MSWWTP would continue to be located in flood Zone AE, within the 100-year floodplain. Past flood events have resulted in damage to and failure of the treatment plant (Appendix 3 – Exhibit A). Location within the 100-year floodplain places the facility at risk from future flood events. Long-term adverse impacts to the floodplain would persist because the facility would continue to be vulnerable to flooding from heavy rain events and hurricanes. The facility would continue to impact the floodplain by releasing untreated sewage during plant failures.

3.3.3.2 Repair in Place Alternative

Under the Repair in Place Alternative, the existing MSWWTP would continue to be located in flood Zone AE, within the 100-year floodplain and in a SFHA. While upgrades to codes and standards would beneficially impact the floodplain by preventing release of sewage, long-term adverse impacts to the floodplain would continue since the existing MSWWTP precludes natural floodplain uses.

3.3.3.3 Proposed Alternative

A principal purpose of the Proposed Alternative is to relocate services provided by the MSWWTP from the floodplain and SFHA to a less vulnerable location. The Proposed Alternative WWTP facility site is not within the 500-year floodplain as indicated in the FIRM dated September 2006 (Appendix 3 – Exhibit C); the proposed location is in Zone X. Relocating the facility would have a beneficial effect on floodplain by removing the threat of untreated sewage release from the existing facility. Relocating the MSWWTP would also prevent repetitive future damages and repair costs due to flood events.

The Proposed Alternative would also allow for the MSWWTP site to be vacated and used in a manner that conforms to current requirements for floodplain development.

3.3.4 Wetlands (Executive Order 11990)

EO 11990, Protection of Wetlands, requires federal agencies to take action to minimize the loss of wetlands. The NEPA compliance process also requires the identification of any direct or indirect impacts to wetlands that may result from federally funded actions. FEMA's procedures for ensuring compliance with EO 11990 are codified in 44 CFR Part 9 – Floodplain Management and Protection of Wetlands.

3.3.4.1 No Action Alternative

Under the No Action Alternative no construction would occur; therefore, no wetlands would be impacted.

3.3.4.2 Repair in Place Alternative

Under the Repair in Place Alternative no ground-disturbing activities would occur; therefore, no wetlands would be impacted.

3.3.4.3 Proposed Alternative

ECUA contracted two firms to conduct wetland delineations for the Proposed Alternative project areas. Wetland Resources Environmental Consulting was contracted to delineate existing wetlands along the transmission main routes. Biological Research Associates was contracted to conduct wetland delineations of the proposed reuse water application sites. All work was conducted in accordance with the U.S. Army Corps of Engineers (USACE) 1987 Wetlands Delineation Manual and the FDEP Florida Wetlands Delineation Manual.

Regulatory requirements of the USACE, FDEP, and Northwest Florida Water Management District mandate that mitigation must be provided for adverse impacts to wetlands. Areas that would be impacted and located outside of maintained utility easements would be restored to natural grade; re-planted with native forest or herbaceous wetland vegetation; monitored and maintained for a minimum of five years or until they

are deemed successful by the USACE and FDEP. A total of approximately 3.46 acres of the proposed 4.44 acres of temporary impacts would be restored in this manner (Table 3).

TABLE 3. SUMMARY OF WETLAND MITIGATION			
	Permanent (Forested)	Temporary (Non-Forested)	TOTAL
Indirect Mitigation	0.71	0.98	1.69
Direct Mitigation	---	3.46	3.46
TOTAL	0.71	4.44	5.15

None of the treated effluent (reuse water) returned from the Gulf Power facility would be released directly into wetlands. The land application of treated effluent could potentially alter the groundwater table and indirectly affect wetlands. To assess the potential hydrological impact of applied reuse water on wetlands, three of the most potentially impacted wetlands, based on groundwater recharge, were selected for analysis to determine the potential rise in surface water elevation (See Reuse Water Application Study in Appendix 2 - Exhibit B). Table 2, Hydraulic Impacts of Reuse Water Applications, provided in Section 3.3.1.3, displays wetland and stream hydraulic impacts. Based on this analysis, the expected change in surface water elevation in the wetlands due to the application of reuse water ranges from 0.2 inch to 1.4 inches, depending on which segment of the stream is considered.

Biological Research Associates, the wetlands consultant for all of the proposed reuse water application sites, noted that some of the jurisdictional wetland areas contained no visible water at the time of their inspection, and might benefit from additional water. They opined that long-term impacts of an additional 1.5 inches of water in the hydrated wetlands and an additional 3.0 inches of water in the dry jurisdictional areas would be insignificant and would not substantially alter the character of these areas. The expected change in water elevations in the most impacted wetland area was +1.4 inches and permanent increases averaged only +0.5 inch. Although these changes in water level could result in vegetative and other ecological alteration, the projected acreage of change is relatively small and no net loss of wetlands would occur. Consequently, the application of reuse water and the subsequent recharge to wetlands via groundwater should not be significant.

3.3.4.3.1 WWTP Facility Site and Wastewater Transmission System

Wetland impacts associated with the Proposed Alternative include permanent impact to 0.71-acre of forested wetlands. The impact would result from the placement of fill material necessary for the construction of a road crossing. Additional impacts would consist of approximately 4.44 acres of temporary clearing and elimination of forested and herbaceous wetlands from pipe placement and construction activities (Table 3). Most of the temporary impacts are within existing easements or right of ways that are subject to regular or periodic maintenance (mowing, etc.).

The permit process with the USACE and FDEP mandates that mitigation be provided for the proposed adverse impacts to the wetland environment. The impact sites located outside maintained utility easements would be restored to natural grade, re-planted with native forest or herbaceous wetland vegetation, monitored and maintained for a minimum of five years or until they are deemed successful by the USACE and FDEP. A total of approximately 3.46 acres of the proposed 4.44 acres of temporary impacts would be restored in this manner.

The remaining wetland impacts (permanent impacts to 0.71 acre of forested wetland for road crossing, and temporary impacts of 0.98 acre of herbaceous wetlands from pipe placement and construction activities), would be mitigated for through enhancement of 7.96 acres of existing wetland located at the Proposed Alternative site, east of the proposed facility location (Table 3). This wetland would be enhanced via the removal of planted pine currently located in the wetland. The removal of the pine canopy would promote the propagation of native wetland species present in the sub-canopy and ground cover. The enhanced wetland would be monitored and maintained for a minimum of five years or until they are deemed successful by the USACE and FDEP.

3.3.4.3.2 Lift Stations

The proximity to existing wetlands was considered during the regional lift station site scoring and selection process. There are no wetlands on the selected lift station sites.

3.3.4.3.3 Treated Effluent Disposal

No wetland impacts would result from the construction and operation of the treated effluent disposal system including infiltration basins and spray irrigation fields. These components would be constructed around the existing wetlands located at the project location.

3.4 Biological Resources

This section discusses the existing conditions and the potential environmental consequences that each alternative would have on surrounding terrestrial and aquatic environments and special status species.

3.4.1 Terrestrial Environment

The existing MSWWTP is located in downtown Pensacola. Upland habitat in this area is largely confined to that associated with, and limited by, a predominance of buildings; paved roads and sidewalks; paved and unpaved driveways; and grass lawns. Home gardens, small shrubs, weedy native and non-native species occurring along roadsides, and scattered young to mature second-growth trees provide limited habitat for wildlife. The surrounding terrestrial environment is classified as Urban and Built-Up Land according to the Florida Land Use, Cover and Forms Classification System, prepared in 1999 by the Florida Department of Transportation.

According to Biological Research Associates' (BRA) Listed Species Assessment Report – Plant Site and Pipeline Alignments and Listed Species Assessment Report – Sites 24, 25 North, 25 South, and 26 (Appendix 3 - Exhibits D and E, respectively), the majority of the 976-acre Proposed Alternative site has recently been cleared. Prior to and in conjunction with being cleared, the site has been intensively managed for timber production. Timber management generally includes herbicide treatment for control of undergrowth that competes with pine production. Intensive timber management has rendered most of the site unsuitable for use by the relatively large variety of flora and fauna normally associated with undisturbed areas in this region. Remaining native long-lived vegetation occurring on the site would not exceed 30 to 40 years in age.

3.4.1.1 No Action Alternative

Under the No Action Alternative, the terrestrial environment would not be impacted.

3.4.1.2 Repair in Place Alternative

The terrestrial environment would not be impacted by the Repair in Place Alternative.

3.4.1.3 Proposed Alternative

Approximately 300 acres of land near the 40 acres where the proposed WWTP facility would be located has not been cleared. It is dominated by pine plantation with minor inclusions of other types of habitat. Several unimproved roads, un-quantified brushy areas, and power transmission corridors also occur on the Proposed Alternative site. Surrounding lands located to the south, west, and north include undeveloped open areas and low-density residential development. A small area of pine plantation buffers a large industrial site located less than a 0.25 mile to the southeast of the site. The 34,000-acre Escambia River Wildlife Management Area is located along the east bank of the Escambia River, northeast of the proposed project area.

3.4.1.3.1 WWTP Facility Site

According to the BRA report, various plant communities are present on the Proposed Alternative site. These include approximately 300 acres of planted pine with minor inclusions of other plant species; 2.3 acres of scrub and brush; 11.9 acres of pine/mesic oak; and 60.9 acres of forest regeneration occur at the Proposed Alternative plant site. The overall project area has been intensively managed for timber production. This rigorous land management activity has made most of the site unsuitable for habitation by the large variety of flora and fauna normally associated with undisturbed natural locations in this region.

Long-term impacts from construction of the WWTP facility, per se, would include the removal of 60.9 acres of planted pines which does not constitute native habitat. The above-mentioned 2.3 acres of scrub and brush, and the 11.9 acres of pine/mesic oak associates found in the vicinity of the proposed wastewater treatment plant would not be impacted.

3.4.1.3.2 Wastewater Transmission System

The majority of the proposed wastewater transmission system corridors would be located within either the existing public right of way or existing Gulf Power easements that have been previously disturbed. Construction in these locations would result in few environmental impacts due to previous disturbance. Existing native vegetation would be removed along a non-contiguous 10,400-foot-long corridor. This area consists principally of upland forest with mature oaks and pines. In addition to clearing the right of way, a security fence would be installed along the southern portion of the wastewater transmission system. These areas would be returned to grade and allowed to re-vegetate from surrounding native seed and root sources.

According to the BRA report, construction of the wastewater transmission system corridors would result in temporary elimination of 2.48 acres of mixed pine and 0.55 acre of planted pine that is present in the existing power line easements that would be used. These areas would be cleared for placement of the wastewater transmission mains but allowed to re-vegetate with native plants.

3.4.1.3.3 Lift Station

All of the lift station sites are located within heavily developed or otherwise disturbed areas. No significant adverse impacts to native plant communities or wildlife would occur.

3.4.1.3.4 Treated Effluent Disposal

According to the BRA report, areas to be used for treated effluent disposal through infiltration basins and spray irrigation fields have been previously cleared, but contain 24.86 acres of pine/mesic oak and 6.3 acres of xeric oak scrub and forest. Approximately 2.48 acres of mixed pine and 0.55 acre of planted pine are located within an associated power line easement. Installation of the infiltration basins and spray irrigation fields would permanently impact 14.45 acres of pine/mesic oak due to clearing. The remaining 10.41 acres of pine/mesic oak and 6.3 acres of xeric oak would not be impacted by the treated effluent disposal system.

3.4.2 Aquatic Environment (including Essential Fish Habitat)

Pensacola Bay is the principal aquatic system associated with the MSWWTP. Pensacola Bay supports an abundant and diverse assemblage of flora and fauna including many species that are harvested by commercial and recreational fishers. These resources have contributed significantly to the region's economy and quality-of-life. Over the past several decades the cumulative effects of pollution, habitat loss and alteration, and other human related activities have substantially diminished the bay's ecological diversity and productivity.

Effects of the direct discharge of treated effluent from the MSWWTP into Pensacola Bay have not been determined. Increased nutrient loading, elevated levels of turbidity and suspended

solids, and large point-source discharge of freshwater into estuarine waters, which are often associated with operation of wastewater treatment plants, are known to diminish water quality and the quality and abundance of fishery resources. Nearby seagrass beds have been identified as Essential Fish Habitat (EFH) by the National Marine Fisheries Service (NMFS) and may be affected by operation of the MSWWTP since elevated levels of nutrients and turbidity are known to diminish seagrass vitality and distribution.

The proposed facility is located within the Escambia River Drainage basin. The wastewater transmission mains would cross Spanish Mill Creek, an un-named tributary of Clear Creek, and Clear Creek. A qualitative presence/absence study was performed for Spanish Mill Creek and Clear Creek in the Escambia River Drainage basin. These first-second order streams are low gradient coastal systems and normally exhibit highly variable flows throughout the year.

Spanish Mill Creek is a small stream located upstream of an existing dam. A June 9, 2007 inspection revealed no visible flow even though it is believed to be a perennial stream. The un-named tributary of Clear Creek was also not flowing when inspected on that date. This system is also believed to be perennial. Absence of flow is most likely related to severe drought conditions that have persisted throughout much of the southeast in recent years.

3.4.2.1 No Action Alternative

The No Action Alternative would continue to have negative long-term impacts on the aquatic environment and resources of Pensacola Bay. Treated effluent from the MSWWTP is currently discharged directly into the bay. With severe storm events such as hurricanes and prolonged periods of rain the MSWWTP would continue to malfunction and untreated sewage would be released into the bay.

It is reasonable to assume that the MSWWTP's discharge into Pensacola Bay is a source of fecal coliform bacteria, particularly during periods when the facility is inoperable and untreated sewage is discharged directly into the bay. Although a direct correlation between operation of the MSWWTP and shellfish health and harvest ability has not been demonstrated, operation of the plant at its present location is likely to have a negative impact on aquatic resources.

As previously noted, nearby seagrass beds have been identified as EFH by the NMFS. These important aquatic resources may be adversely affected by operation of the MSWWTP since elevated levels of nutrients and turbidity are known to diminish seagrass vitality and distribution.

3.4.2.2 Repair in Place Alternative

The Repair in Place Alternative includes repairing and upgrading the MSWWTP to codes and standards, thereby increasing the level of protection from future storms. Preventing the release of untreated or partially treated sewage would have long-term positive impacts with regard to water quality and the introduction of excess nutrients, toxins, other potentially hazardous chemicals and organisms (viruses and bacteria). Continued

operation of the MSWWTP and the direct discharge of treated wastewater into the bay would diminish water quality and the overall health of the bay's fish and wildlife and plant life. Impacts to EFH would be similar to those associated with the No Action Alternative except that a reduction in storm related discharge of untreated wastewater could reduce impacts to nearby seagrass beds.

3.4.2.3 Proposed Alternative

3.4.2.3.1 WWTP Facility Site

The WWTP plant facility will be constructed almost entirely in upland areas. Additionally, impacts to Pensacola Bay, the Escambia River and associated riparian wetlands would be minimal since no direct discharge or withdrawal of waters from the river would occur. Other wetland impacts and their mitigation are discussed in detail in Section 3.3.4, Wetlands.

3.4.2.3.2 Wastewater Transmission System

The crossing of Spanish Mill Creek would occur within an existing and maintained corridor for an overhead power transmission line. The wastewater transmission pipe would be installed via conventional trenching methods using BMPs for erosion and turbidity control. Post-construction bank and soil stabilization would also be implemented. All anticipated impacts would be minor and temporary.

Clear Creek would be crossed using horizontal directional drilling from upland portions of an existing maintained utility easement. No impacts to the creek would occur.

At the un-named tributary to Clear Creek the transmission pipe would be installed using conventional trenching methods and BMPs that would include erosion and turbidity control and post- construction bank and soil stabilization. All anticipated impacts would be minor and temporary.

3.4.2.3.3 Lift Stations

All of the regional lift station sites are located within heavily developed areas and on previously disturbed or occupied lands. Adverse impacts to the aquatic environment are not anticipated.

3.4.2.3.4 Treated Effluent Disposal

No effluent from the Proposed Alternative would be discharged directly into Pensacola Bay, the Escambia River or wetlands. The application of reuse water does have the potential to cause secondary impacts to aquatic resources due to changes in the groundwater table that would result from land application of re-claimed reuse water. To assess the potential hydraulic impact of the applied reuse water on the Escambia River a

model-based analysis was performed (See Reuse Water Application Study in Appendix 2 - Exhibit B). The analysis relied upon the “Advanced Interconnected Channel and Pond Routing Model” to predict water level elevations in the Escambia River, associated groundwater system and selected wetlands. The hydrological impact of adding reclaimed reuse water to normal groundwater flow would increase the existing discharge to the Escambia River by less than one quarter of one percent. Based on this, it appears that long-term impacts to aquatic resources would be negligible (See Table 2 in Section 3.3.1.3, Hydraulic Impacts of Reuse Water Applications).

The infusion of treated effluent into the surficial aquifer is expected to minimally increase seepage into the Escambia River. Additionally, riparian wetlands in the vicinity of the land treatment sites may undergo some change in response to increased groundwater outflow and subsequent increases in surface water and soil saturation. These changes are not considered to be significant.

With elimination of point and non-point source discharge of wastewater into Pensacola Bay, significant beneficial effects are anticipated. The elimination of input of excess/undesirable nutrients, suspended solids, and pathogenic organisms will improve water quality and the overall health of the bay and its associated biota. A potential, key positive effect is the increased vitality and expansion of seagrass beds that provide essential cover and foraging locations for recreationally and commercially harvestable species and other lesser-known species that support aquatic food webs.

3.4.3 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 is intended to protect and promote the recovery of animals and plants that are in danger of becoming extinct. The ESA requires federal agencies to consider impacts of their actions on threatened and endangered fish, wildlife, and plants, and their habitats and to take steps to conserve and protect these species. With few exceptions, the NMFS is responsible for managing most of the listed marine species; the U.S. Fish and Wildlife Service (USFWS) manages all other threatened and endangered plants and animals. The Florida Fish and Wildlife Conservation Commission (FWC) manages fish and wildlife resources for the State of Florida including state-listed threatened and endangered species.

In addition to the requirements of the ESA, federal agencies must also comply with the Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 United States Code [U.S.C.] 1801 et seq.) that requires the identification of Essential Fish Habitat (EFH) for federally managed fishery species and the implementation of measures to conserve and enhance this habitat.

The No Action, Repair in Place, and the Proposed Alternative site and associated lift station sites and the wastewater transmission route were field surveyed for presence of state and federally listed threatened and endangered species. Based on this survey and information provided in the BRA report, FEMA, by letter dated September 26, 2007, notified the USFWS of its determination that none of the proposed alternatives would adversely affect federally listed threatened or endangered species.

3.4.3.1 No Action Alternative

The existing MSWWTP is located within an urban community comprised of mixed residential and commercial/light industrial facilities. Wildlife habitat at the MSWWTP has been affected by ground disturbance, human activity, and conversion of natural habitat to buildings and roads. No known federally listed threatened or endangered species have been observed or are reported to occur in this area. As discussed, nearby seagrass beds, have been identified as EFH by the NMFS, and may be affected by operation of the MSWWTP since elevated levels of nutrients and turbidity are known to diminish seagrass vitality and distribution. Although the discharge of treated wastewater into Pensacola Bay would continue, there would be no adverse effect on threatened and endangered species in connection with a federal action or expenditure.

3.4.3.2 Repair in Place Alternative

The conditions at the Repair in Place Alternative project area are the same as discussed in Section 3.4.3.1 above. No known federally listed threatened or endangered species have been observed or are reported to occur in this area. The Repair in Place Alternative includes repairing and upgrading the MSWWTP to current codes and standards, thereby increasing the level of protection from future storms and preventing the release of untreated or partially treated sewage into Pensacola Bay. This alternative could adversely impact EFH due to the point-source discharge of treated effluent. Although no new impacts to threatened and endangered species and EFH would result, the expenditure federal (FEMA) funds would perpetuate the point-source discharge of treated effluent and the opportunity to improve EFH would be missed.

3.4.3.3 Proposed Alternative

No federally listed species were observed in the project area by BRA during their surveys. Four federally listed threatened and endangered species that could occur in the vicinity of the Proposed Alternative are discussed below. As noted above, the lack of suitable habitat and other factors such as the relatively low numbers of federally listed threatened and endangered species that may occur on the proposed WWTP facility site greatly limit the likelihood that these species would be affected by the Proposed Alternative. As noted above, FEMA, by letter dated September 26, 2007, notified the USFWS of its determination that the proposed alternative would not adversely affect federally listed threatened or endangered species or their designated critical habitat.

Per their letter dated October 10, 2007 (FWS NO. 41410-2008-I-0025), USFWS concurred with FEMA's determination provided that the following conservation measures are successfully implemented:

1. Utilization of the Standard Protection Measures for the Eastern Indigo Snake and the Excavation Guidelines for gopher tortoises to minimize the occurrence of harm to both species during burrow excavation.
2. Monitoring of disturbed areas for exotic invasive plant species where wetland-associated white-topped pitcher plants will be lost. In the event that invasive species

- are found colonizing these disturbed areas, control and elimination measures would be required.
3. Development of a monitoring plan to evaluate effluent release for accumulation of pollutants and waste pharmaceuticals in surface waters, sediments and animal species; and to demonstrate there will not be any impact to the water quality of the Escambia River or its tributaries.

Details regarding potential impacts to these species are as follows:

3.4.3.3.1 Federally listed species

Eastern indigo snake (*Drymarchon corais*). This species is listed as threatened by both the USFWS and FWC. It is a large, black, non-venomous snake that is found in a wide range of habitats. In xeric environments the eastern indigo snake is closely associated with gopher tortoises whose burrows are used for protection from cold and desiccation. Previous site management for high intensity pine tree production has been a deterrent to site use by the snake and none were observed during biological surveys. A 24.86-acre area of relatively natural pine/mesic oak plant community and a 6.3-acre area of xeric oaks provide the most desirable habitat for Eastern indigo snake on the property. Installation of irrigation fields would permanently impact 14.45 acres of pine/mesic oak due to clearing. According to Section 3.4.1, the remaining 10.41 acres of this habitat type and the 6.3 acres of xeric oak habitat would not be impacted and managed to maintain native plant life.

Loss of the natural pine/mesic oak habitat would be somewhat offset by establishment of a 13.3-acre gopher tortoise protection site to be used for tortoises located within the proposed area of development. Improvement of the tortoise protection site would include conversion of planted pine forest to pine/mesic oak dominated forest. Additionally, it is expected that other portions of the Proposed Alternative site would be allowed to convert to more natural environments that are vegetated with native plant species.

In consideration of the close association of Eastern indigo snakes with gopher tortoise burrows, the FWC requires, as a standard condition of its gopher tortoise relocation permits, that all work must cease when threatened or endangered species are encountered, and the appropriate FWC regional office must be contacted. This requirement would add an additional level of protection for this species. Based on the preceding, the Proposed Alternative would not affect Eastern indigo snake.

Wood stork (*Mycteria americana*). The wood stork is listed by USFWS and FWC as threatened. Wood storks are the largest wading birds breeding in North America; they nest and forage in wetlands. Based on field surveys and know foraging and habitat requirements for wood storks, it has been determined that the wetlands within the proposed project area are not suitable for use by the wood stork. None of these birds were observed during field surveys. Based on these considerations, the Proposed Alternative would not affect wood storks.

Red-cockaded woodpecker (*Picoides borealis*). The red-cockaded woodpecker is listed by USFWS as endangered, and as a species of special concern by the FWC. This small woodpecker nests in mature pines with red-heart disease. Since the entire site is managed for high intensity production of pine trees, no suitable nesting habitat for this species is available. No red-cockaded woodpeckers were observed on the site and no anticipated impacts to this species would occur. Based on these considerations, it has been determined that the Proposed Alternative would not affect red-cockaded woodpeckers.

Gulf sturgeon (*Acipenser oxyrinchus desotoi*). The gulf sturgeon is a federally threatened species and a state species of special concern. The USFWS has designated portions of the Escambia River a critical habitat for this species. The gulf sturgeon is a large fish that migrates between freshwater spawning grounds in spring of the year to estuarine habitats in the fall. Spawning locations for the Gulf sturgeon in the Escambia River are located in Alabama, well north of the proposed project area. Although a minor increase in river flow could be realized as a result increased groundwater discharge, the effect on a strong swimming species such as Gulf sturgeon would be negligible. Based on the preceding and the absence of any other significant project related direct, indirect, or cumulative effects on waters and associated wetlands of the Escambia River, no effect on Gulf sturgeon would occur.

3.4.3.3.2 Observed Species

Four state listed species were observed within the proposed project area.

Southeastern American kestrel (*Falco sparverius paulus*). The southeastern American kestrel is listed by the FWC as threatened; it is not a federally listed species. This bird is the smallest falcon in the U.S. and forages in open pine, woodland, prairie, and pasture habitats. American kestrel were observed in the north portion of the proposed site. The proposed project would alter the habitat value of the site through limited termination of pine monoculture activities and allowing portions of these areas to become vegetated by native species. The effect of this change is not known; however, conversion of monoculture pinelands to more natural environments is not likely to adversely affect American kestrel considering that the species is a known inhabitant of native forest and field environments.

Gopher tortoise (*Gopherus polyphemus*). The gopher tortoise is classified as a “species of special concern” by the FWC; it is not federally protected species. The gopher tortoise is a medium-sized land tortoise that prefers dry upland habitats and digs burrows into mostly well-drained sandy soils. The burrows serve as refuge to more than 360 animal species. There is approximately 36 acres of suitable nesting tortoise habitat available within the proposed project area. Using population estimates developed by the FWC, the proposed alternative could potentially affect 12.4 individuals.

The gopher tortoises found with the potential to be impacted by the project would be relocated to an existing 13.3-acre on-site parcel and other portions of the site would be managed to improve tortoise habitat. The relocation parcel would be fenced with a

reinforced hog wire fence to assure the tortoises would not be impacted by site work or other activities. Potential impacts resulting from gopher tortoise relocation could be fully resolved prior to issuance of the required FWC permit. The relocation would most likely require a long-term management plan for the recipient site. ECUA will coordinate all relocation activities with the FWC. Due to the relocation efforts, impacts to these species are anticipated to be temporary.

Osprey (*Pandion haliaetus*). The osprey is state listed as a species of special concern by the FWC; it is not a federally listed. The osprey is a medium-large fish-eating raptor that nests in large trees near open water. Although no osprey nests were observed on the site, they were observed in wetlands that border the Escambia River. The proposed project would not significantly impact the Escambia River or its associated wetlands. Therefore, no adverse impacts to osprey are anticipated.

White-topped pitcher plant (*Sarracenia leucophylla*). The white-topped pitcher plant is considered endangered by the Florida Division of Agriculture and Consumer Services (FDACS). It is not federally listed or protected. The plant is a perennial herbaceous insectivore plant whose leaf tips form an orbicular white hood over the tubular leaves. The flowers are large, red to maroon, and solitary. This plant prefers bogs and wet flatwoods.

The white-topped pitcher plant was observed in the existing power line easements where wastewater transmission lines would be located and in wetlands that would not be impacted by the proposed action. A total of less than 30 individual plants are expected to be impacted by the proposed project.

Although listed as endangered by the FDACS, regulation of the species is left to local programs, if present. The Escambia County Neighborhood and Environmental Services Department would require that imperiled plants be relocated immediately adjacent to the proposed activity, or to another pre-approved relocation site. The relocation would most likely require preparation and implementation of a long-term management plan for the recipient site.

The plant thrives in managed areas within power lines and utility easements. Continued management of these areas is anticipated. After construction, the easements would be regraded and native vegetation would be allowed to revegetate. Due to the relocation efforts and the nature of construction related ground disturbance, impacts to this species would be minor and temporary.

3.5 Cultural Resources

In addition to review under NEPA, consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA), as amended, and implemented by 36 CFR Part 800. These and other related statutes require federal agencies to take into account the potential consequences of their decisions, and to incorporate into their actions measures as appropriate and to the maximum extent possible or practicable to avoid,

minimize or mitigate any adverse impacts to historic resources. Requirements include identification of significant historic properties or cultural resources that may be impacted by the proposed action or that fall within the project's area of potential effect.

A Historic Property is defined as “any district, building, structure, site, or object that is significant in American history, architecture, archeology, and culture” and that is listed in or eligible for listing in the National Register of Historic Places (NRHP) (36 CFR 60.4). As defined in 36 CFR Part 800.16(d), the Area of Potential Effect (APE), “is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist.”

In addition to identifying historic properties that may exist in the proposed project’s APE, FEMA must also determine, in consultation with the State Historic Preservation Officer (SHPO) and (if applicable) Tribal Historic Preservation Officer (THPO), what effect, if any, the action will have on historic properties. Moreover, if the project would have an adverse effect on these properties, FEMA must consult with the appropriate agencies on ways to avoid, minimize, or mitigate the adverse effect.

3.5.1 No-Action Alternative

FEMA has determined that this alternative would have no effect on a Historic Property.

3.5.2 Repair in Place Alternative

The ECUA MSWWTP began operation in 1937 in downtown Pensacola. The facility underwent substantial remodeling and reconstruction in 1968. The current location has been the site of significant industrial use that has likely impacted any archaeological resources that may have been present. No additional impacts are anticipated. It is not listed in and does not meet the criteria for listing in the NRHP. FEMA has determined that this alternative would have no effect on a Historic Property.

3.5.3 Proposed Alternative

ECUA utilized the services of the University of West Florida Archaeology Institute and the Pensacola Field Office of Panamerican Consultants (PCI) to conduct archeological and historical surveys of the proposed APE in 2006 and 2007. The purpose of these surveys was to assess possible adverse impacts due to construction associated with this project on any cultural resources listed or eligible for listing in the NRHP. All determinations were coordinated with the SHPO (Appendix 7 - Exhibit D).

As part of the process a request for information on the presence or absence of known archaeological and Indian Religious sites was sent to the Seminole Tribe of Florida (STOF), Miccosukee Tribe of Indians of Florida and Poarch Band of Creek Indians (Appendix 7 - Exhibits E, F and G, respectively). Results of these surveys were made available to FEMA, the SHPO and to the THPO of the three tribal governments. The STOF has expressed interest in this

project and the STOF THPO requested and received recognition as a consulting party (Appendix 7 - Exhibit E).

The Cultural Resource investigation was conducted in compliance with the guidelines set forth in the Historic Preservation Compliance Review Program of the Florida Department of State, Division of Historical Resources (DHR). The survey was completed in accordance with Section 106 of the NHPA, Chapters 267 and 373 of the Florida Statutes and Florida's Coastal Management Program.

3.5.3.1 WWTP Facility Site

Historic and archeological surveys included the approximately 300-acre site around the proposed WWTP facility site and the infiltration basins. A FEMA historical specialist has reviewed this project and in particular the three identified archaeological sites of interest, which include:

- 8ES955 Escambia River Bluffs site survey indicated that erosion has altered the landscape so drastically as to leave the area culturally sterile.
- 8ES956 Wetland Bluff site survey in 1983 recovered diffuse artifacts indicating a Late Woodland Period occupation, but the current survey indicated the site was heavily eroded and found only a few historic artifacts such as white ware and brick fragments.
- 8ES1294 Monsanto site survey in 1984 recovered Late Archaic and Woodland era artifacts. The current survey established that the site was not disturbed by erosion to degree of the other sites, but that the portion of the site located within the project area is not significant.

The three sites were first discovered as a result of the University of West Florida's Escambia Bay Drainage Archaeological Research Project conducted in 1983-1984. Subsequent review and evaluation by the Florida SHPO determined that these sites were not likely to yield important new information in prehistory or history and therefore did not meet the criteria necessary for inclusion in the National Register of Historic Places.

The most recent survey of this area was the June 2006 University of West Florida's *Phase I Cultural Resource Survey of the Proposed ECUA Wastewater Treatment Plant Facility Escambia County, Florida*. One of the principal tasks of the survey was to re-locate the three previously identified sites and to re-evaluate their potential significance for inclusion in the National Register of Historic Places. The University of West Florida 2006 Phase I Survey concluded after additional investigation that no significant new information was found and that sites lacked the criteria and integrity necessary for inclusion in the National Register. On October 23, 2006, the Florida SHPO again reviewed data and concurred with the report's conclusion that none of the three sites possess those qualities necessary for listing in the National Register (DHR # 2006-08810).

FEMA has determined and the consulting parties have concurred that avoiding any ground disturbing activities on or adjacent to known archaeological sites will afford sufficient protection to the sites. FEMA is cognizant and the STOF has expressed concerns that future activities at the

facility may adversely affect the archaeological integrity of the sites in the future. To minimize and provide additional safeguards FEMA will require the applicant and its designated contractors to adhere to the Project-wide Conditions and Discovery as stated in 3.5.4 of this document.

The STOF expressed specific concerns regarding the identified archaeological sites within the boundaries of the ECUA facility. The STOF has requested specific measures be taken to avoid additional deterioration at three locations:

Escambia River Bluff Site (8ES955) – No ground disturbance activity is anticipated to occur at this site. In the event the applicant has any changes to the proposed activity at the site the applicant shall notify FEMA, SHPO and the STOF THPO in accordance with the procedures outlined below in the Project-wide Conditions and Discovery Clause.

Wetland Bluff Site (8ES956) – A small section of an existing access road traverse the site, but no ground disturbance activity is anticipated to occur at this site. In the event the applicant has any changes to the proposed activity at the site the applicant shall notify FEMA, SHPO and the STOF THPO in accordance with the procedures outlined below in the Project-wide Conditions and Discovery Clause.

Monsanto Site (8ES1294) – A section of existing access road traverse the site, but no ground disturbance activity is anticipated to occur at this site. The STOF has requested that at least 36 cm of appropriate fill material be placed on top of access road to support banks and prevent ongoing erosion at this site. In the event the applicant has any changes to the proposed activity at the site the applicant shall notify FEMA, SHPO and the STOF THPO in accordance with the procedures outlined below in the Project-wide Conditions and Discovery Clause.

3.5.3.2 Wastewater Treatment System and Lift Stations

Approximately 24 miles of effluent and reclaimed wastewater pipeline and three lift station properties were surveyed by Panamerican Consultants, Inc (PCI) as part of the *Archaeological and Historical Survey of the Proposed Emerald Coast Utilities Authority Main Street WWTP Relocation pipeline Routes, Lift Stations, Rapid Infiltration Basins and Central Water Reclamation Facility Addition, Escambia, Florida* completed in May of 2007. The proposed pipeline right of way or APE is an 80-foot corridor extending the entire length of the effluent transmission, reclaimed water mains, and the entirety of each proposed lift station property.

The Phase I field investigation resulted in the identification of eight previously unrecorded archaeological sites (8ES3335-8ES3341 and 8ES3344) and two previously documentation sites (8ES2383 and 8ES2795). The sites recorded include five nineteenth and/or early twentieth-century historic artifact scatters (8ES2383, 8ES3335, 8ES3337, 8ES3341, and 8ES3344), apparent early twentieth-century mill, (8ES3338) and sandstone quarry (8ES3339) sites, a redeposited prehistoric shell midden (8ES3336), and a prehistoric artifact scatter site (8ES3340). Three previously recorded sites could not be re-located. A single new site (8ES3338) is

considered potentially eligible for inclusion in the National Register. A second site (8ES3341) was determined to be located in an archaeologically sensitive area.

Clear Creek Tram (8ES3338) appeared potentially eligible for listing in the NRHP due on its integrity and association with a historic mill site. Directional boring will be used to avoid adverse effects to the site.

Government Street Lift Station (8ES3341), a late 19th to early 20th century domestic site, was subjected to a Phase II evaluation due to its location in the archaeologically sensitive downtown Pensacola area. It does not appear to be eligible for listing in the NRHP due to limited research potential. Archaeological monitoring of construction activities was recommended at this site, particularly at paved parking areas that could not be thoroughly investigated at the time of the survey.

Archaeological monitoring of construction activities was also recommended at any portion of the pipeline route currently covered by pavement and that are located near recorded sites, including extensive areas of the pipeline which were not tested because the proposed route is beneath paved city streets and county roads. In these areas, archaeological monitoring would be conducted during the initial construction phase of the proposed project, particularly in areas that deemed archaeologically sensitive. In the event the applicant has any changes to the proposed activity at the site the applicant shall notify FEMA, SHPO and the STOF THPO in accordance with the procedures outlined below in the Project-wide Conditions and Discovery Clause.

On June 28, 2007 the Florida SHPO concurred with the study's conclusions (DHR# 2007-3676). FEMA has determined and consulting parties have concurred that the proposed archaeological monitoring of sensitive areas would sufficiently mitigate any effects the proposed project may have on any potentially historic properties.

On June 28, 2007, the Florida SHPO concurred with the conclusions of the initial study (DHR # 2007-3676) and on November 27, 2007 with those of the *Clements Realignment Addendum* (DHR# 8110). FEMA has reviewed the available information including; the archaeological site reports, SHPO Archaeological Master Site Files, maps and aerial photographs of the project area. FEMA has determined and consulting parties have concurred that the proposed directional boring and the archaeological monitoring of sensitive areas would sufficiently mitigate any effects the proposed project may have on historic properties. This would be added as a condition of federal funding for the project.

3.5.3.3 Treated Effluent Disposal System

The ECUA will establish infiltration basins and spray fields at the new WWTP as part of their treated effluent disposal system. The historic and archeological surveys discussed above in Section 3.5.3.1 included the areas around the proposed infiltration basins. The spray irrigation system will be installed in five separate areas interspersed on approximately 875 acres surrounding the WWTP. Previous archaeological surveys identified three sites situated within or partially within the project area.

FEMA recognizes that minimal ground disturbing activity will be required to establish the spray field irrigation system. This will require clearing, grubbing and grading the spray-field area, and excavating a network of narrow shallow trenches approximately 3 to 5 feet deep across the project area. Spray irrigation rates are estimated to be 35 to 191 inches per year. To minimize any possible adverse effects from erosion the applicant intends to establish Bahia grasses throughout the project area. Bahia grass is a sturdy, hardy plant with a deep root system which is well suited for holding soils in place. Establishing the grass will require tillage of approximately 3 inches of top soil throughout the project area. Root systems may extend to 5 feet in depth.

In December 2007, Panamerican Consultants, Inc. completed the most recent survey of the project area, a comprehensive *Archaeological and Historical Survey of the Proposed Emerald Coast Utilities Authority Main Street WWTP Relocation Infiltration Basins and Spray Fields Escambia, Florida*. Field investigations identified six previously unrecorded archaeological sites (8ES3369–8ES3374) and two previously identified sites, 8ES952 and 8ES953. One previously identified site, 8ES951 was not relocated and is believed to have been destroyed by subsequent construction, not related to this project. The identified sites were tested, recorded and evaluated for inclusion in the National Register of Historic Places. The survey recommendations were submitted to the Florida SHPO for review. The Florida SHPO identified two sites, 8ES953 and 8ES3371 that were determined to be potentially eligible for listing in the National Register under Criterion D. Under Criterion D properties may be eligible for listing in the National Register if they have yielded, or may be likely to yield, information important in prehistory or prehistory.

- 8ES953 Moat Site is considered significant as a multi-component prehistoric and historic site with intact stratified Late Archaic and Woodland remains.
- 8ES3371 Flat Brick Site is a Second Spanish colonial or Early American historic scatter site with possible associations with the nearby Carrera and Floch mill site (8ES982).

On January 24, 2008 the Florida SHPO recommended that the two sites that appear to be eligible for listing on National Register (8ES953 and 8ES3371) be preserved (DHR # 2007-8921). In the event that the sites can not be avoided and preserved the SHPO recommended that a Phase II archaeological survey be completed. FEMA reviewed the project and all consulting parties agreed that in order to minimize any adverse impact to the sites, the spray field irrigation system will not be established in this area and any ground disturbing activities on or near the site will be avoided.

Moat Site (8ES953)

The Moat Site is considered significant and potentially eligible for listing in the National Register as a multi-component prehistoric and historic site with intact stratified Late Archaic and Woodland remains. The site is situated in a wooded area adjacent to the site perimeter. The site has been severely impacted by the excavation of a ditch or moat which surrounds and delineates the site. The moat is modern and associated with the late 20th century zoo activities. The STOF has requested, and all parties have concurred that a 5-6 meter buffer zone be maintained around the perimeter of the site. The STOF has also requested that engineering drawings be prepared which delineates the location of the

proposed buffer zone and that the STOF be afforded the opportunity to review the drawings prior to making any final determination. In the event the applicant has any changes to the proposed activity at the site the applicant shall notify FEMA, SHPO and the STOF THPO in accordance with the Project-wide Conditions and Discovery Clause.

Flat Brick Site (8ES3371) The Flat Brick Site consists of a small, late 18th to early 19th century historic artifact scatter. Based on artifact analysis the site is attributed to the Second Spanish, Colonial or Early American periods. The site was determined potentially eligible for listing in the National Register for its historical association with the Second Spanish period and possible association with the Carrera and Folch Mill site (8ES982). According to field observations the site has been recently impacted by clear cutting and previous silvicultural practices. The STOF has requested and all parties have concurred that a 5-6 meter buffer zone be established and maintained around the site. The STOF has also requested that engineering drawings be prepared showing the proposed buffer zone and that the STOF afforded the chance to review the drawings prior to any final determination. In the event the applicant has any changes to the proposed activity at the site the applicant shall notify FEMA, SHPO and the STOF THPO in accordance with the procedures outlined in the Project-wide Conditions and Discovery Clause.

Per their letter of February 15, 2008 (DHR#2008-00138), the Florida SHPO has requested that in the event that there are any subsequent changes, alternations or expansion to the project area a new cultural resource survey will be conducted by a professional archaeologist and the findings sent to the SHPO for review and comment

3.5.4 Project-wide Conditions and Discovery

To minimize any possible adverse impacts to cultural resources in the project area, ground disturbing activities on or adjacent to sites identified as potentially eligible for listing on the NRHP shall be avoided. Archaeological monitoring of construction activities in high probability areas, or in areas deemed archaeologically sensitive shall be conducted. Should significant cultural features or artifacts be discovered during archaeological monitoring the archaeologist doing the monitoring shall be empowered to redirect construction activities away from the area. During any activities which involve excavation or ground disturbance, ECUA and its designated contractors shall monitor all construction activities. In the event that fortuitous finds or unexpected discoveries, such as prehistoric or historic artifacts, including pottery or ceramics, stone tools or metal implements, or other physical remains that could be associated with North American cultures or early colonial or American settlement are encountered at any time within the project areas (including the pipe/transmission lines), the project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. If the excavation process uncovers items, or evidence thereof, which might be of archaeological, historic, or architectural interest, ECUA will require its designated contractors to stop work immediately and take all reasonable measures to protect the items in a manner sufficient to avoid additional harm until the significance of the discovery can be determined. If items of significance are discovered, or if there are changes to the proposed activity or to the project area, the applicant shall contact the Seminole Tribe of Florida at (863) 902-1113, the Florida Department of State, Division of Historical Resources, Compliance and Review Section at (850) 245-6333 or (800) 847-7278, as

well as the FEMA Environmental Liaison Officer (407) 268-8812. Project activities should not resume without verbal and/or written authorization from FEMA. In the event that any human remains are unearthed, all work will stop immediately and the area will be secured in accordance with local, state, and federal statutes.

3.6 Socioeconomic Resources

This section considers effects of the various alternatives in relation to the basic characteristics of the surrounding human environment. Associated factors include demographics, land use, zoning, public services, safety, work, and recreational lifestyles.

3.6.1 Zoning and Land Use

This section considers current zoning and land use and the effect of each alternative on each of these.

3.6.1.1 No Action Alternative

The MSWWTP property is currently designated M-1 or Light Industrial. The area surrounding the plant is zoned C-2, C-3, and WRD. C-2 is residential and retail; C-3 is residential, retail, and wholesale. WRD is the Waterfront Redevelopment District which was established to promote redevelopment of the city's downtown waterfront.

The No Action Alternative would perpetuate the negative effects (odor, visual, and general negative perception) associated with sewage treatment facilities. This would result in continued diminution property values and land use options.

3.6.1.2 Repair in Place Alternative

Effects of the Repair in Place Alternative are the same as those discussed in Section 3.6.1.1 above.

3.6.1.3 Proposed Alternative

The site for the Proposed Alternative is zoned ID-2 as identified by the Escambia County Comprehensive Plan. This classification allows for multiple uses including "solid waste transfer stations, collection points and/or facilities." No residential development is permitted in areas having this zoning classification.

The current use of the Proposed Alternative site is silviculture (planted pines). Intensive timber management generally includes herbicide treatment for control of undergrowth that competes with pine production. The resulting monoculture habitat does not support a diverse assemblage of wildlife species that is typical of natural lands in this region. Most of the site has been cleared by International Paper, the previous property-owner, prior to sale to ECUA. The site was cleared of planted pines as a normal part of the International

Paper company's paper production. There are no buildings, homes, or industrial facilities at the Proposed Alternative site.

The Proposed Alternative would result in a permanent change in land use from silviculture to wastewater treatment. There would be no zoning changes with construction of the Proposed Alternative and its associated ancillary facilities.

The MSWWTP site would become available for development allowed in accordance with land use and zoning requirements for the downtown business district of the City of Pensacola. According to the Pensacola City Planner, desired zoning changes would be addressed when the property is available for new development. Any future use of the site would comply with all local, state, and federal environmental protection requirements.

3.6.2 Noise

Sound is most commonly measured in decibels (dBA) on the "A-weighted" scale, which includes the range of sounds detectable by the human ear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses.

Undesirable sound, or noise, is regulated by the federal Noise Control Act of 1972. The Noise Control Act gives the U.S. Environmental Protection Agency (EPA) authority to prepare guidelines for acceptable ambient noise levels; however, implementation of noise standards is generally limited to federal agencies that operate noise-producing facilities or equipment. EPA guidelines state that outdoor sound levels in excess of 55 dBA DNL are "normally unacceptable" for noise-sensitive land uses such as residences, schools, or hospitals.

3.6.2.1 No Action Alternative

The MSWWTP is located in an area that includes residential structures. Noise receptors around the facility include homes and businesses that are located across the street from the facility in all directions. Noise associated with the existing facility has not been measured, but it is not believed to exceed 55 dBA. With this alternative, no long-term changes in ambient noise levels are anticipated.

3.6.2.2 Repair in Place Alternative

With the Repair in Place Alternative, minor noise impacts could occur during construction. To reduce noise levels, construction activities would take place during normal business hours. Equipment and machinery installed at the MSWWTP would comply with all local, state, and federal noise regulations.

Following construction, noise levels would return to pre-construction levels. No long-term changes in ambient noise levels as a result from this alternative.

3.6.2.3 Proposed Alternative

The proposed project site consists mainly of cleared and new growth pine plantation. There are no noise-sensitive areas in the vicinity of the proposed project site. The proposed site is nearly 0.75 mile away from the nearest residence and is located next to a large chemical manufacturing facility. There would be no increase in noise for any of the nearby noise receptors.

Minor noise impacts could occur during construction of wastewater transmission lines and lift station. To reduce noise levels, construction activities would take place during normal business hours. Equipment and machinery installed at the lift stations would comply with all local, state, and federal noise regulations.

3.6.3 Air Quality

Under the Clean Air Act, the EPA establishes primary and secondary air quality standards. Primary air quality standards protect the public health, including the health of “sensitive populations, such as people with asthma, children, and older adults.” Secondary air quality standards protect the public welfare by promoting maintenance of natural ecosystems, and preventing decreased visibility and damage to crops and buildings. EPA has established National Ambient Air Quality Standards for the following pollutants: ozone (O₃), particulate matter (PM 2.5 and 10), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and lead (Pb).

Air pollution within the Escambia County project areas has not been extensively documented; however, no portions of any of the alternative sites are located within a designated non-attainment area (www.epa.gov/air/oaq_caa.html/ last updated on March 2, 2006).

In addition to air quality effects associated with operation of the treatment facility per se, minor short-term impacts, including elevated dust and equipment exhaust levels, would occur in connection with the Repair in Place and the Proposed Alternatives.

3.6.3.1 No Action Alternative

Under the No Action Alternative, the MSWWTP would not be relocated and no short-term change in air quality, as affected by the facility, would occur.

Currently, the MSWWTP emits a high level of nuisance odors typical to this type of facility in its current condition. Nuisance odors become more prevalent when untreated sewage is released due to severe storm events. Prior to Hurricane Ivan, the existing facility had eight odor control units. Two of the units were damaged beyond repair due to the event. The remaining units are unable to operate simultaneously, which allows noxious odors to be emitted from the MSWWTP. Although there are no known health effects from these noxious odors, they have a negative impact on the quality of life in the surrounding community. Under the No Action Alternative the nuisance odors would continue and the negative long-term impact on the surrounding community would persist.

3.6.3.2 Repair in Place Alternative

The Repair in Place Alternative would repair and/or replace the odor control units as part of the upgrades to the existing facility. The repaired odor control units would reduce nuisance odors and a long-term air quality improvement would be realized.

Minor short-term air quality degradation would result from operation of construction equipment causing elevated levels of dust and equipment exhaust emissions. These impacts would occur only while construction is in progress and air quality would return to normal with project completion.

To reduce temporary impacts to air quality, construction contractors would be required to water down construction areas when necessary to control dust. Emissions from fuel-burning internal combustion engines (e.g., heavy equipment and earthmoving machinery) would be reduced by reducing running times to a minimum and requiring that engines be properly maintained. Dust and airborne dirt generated by construction activities would be controlled through general dust control best management practices. If warranted, specific dust control measures could be implemented. Possible dust control measures include minimizing the tracking-out of soil onto nearby publicly-traveled roads, reducing speed on unpaved roads, covering (tarpaulin-covered) haul vehicles, and applying chemical dust suppressants or water to exposed surfaces used by construction vehicles. If any burning of materials or vegetation debris takes place, relevant laws and ordinances, including but not limited to, the current City of Pensacola ordinances and regulations of the FDEP would be adhered to.

3.6.3.3 Proposed Alternative

The Proposed Alternative would have the same short-term construction-related air quality impacts as the Repair in Place Alternative; however, because of the greater level of work required the overall impact would be greater. Effects on the human population may be less, however, since the Proposed Alternative site is not located in a developed or residential area as is the MSWWTP. The contractor would employ and the same minimization techniques, as discussed above in Section 3.6.3.2.

Under the Proposed Alternative, the existing MSWWTP would be taken out of operation. Therefore, the neighboring residential and commercial districts would experience a beneficial long-term impact as the release noxious orders into the surrounding community would cease.

The Proposed Alternative would have minimal long-term impacts on air quality at the proposed new location. The proposed facilities would be designed to reduce odor generation or release, and they would be paired with odor control units. Odor control units and chemical (wet) scrubbers would be installed at the screening and grit removal area of the plant, as well as the sludge handling facilities. Any odor release would be offset through these controls. In addition, the nearest residence is located almost three-quarters of a mile away.

3.6.4 Coastal Zone Management

The Coastal Zone Management Act enables coastal states, including Florida, to develop coastal management programs to improve protection of sensitive shoreline resources and guide sustainable use of coastal areas. Under Section 307 of the federal Coastal Zone Management Act certain federal activities affecting Florida's coastal resources are subject to review for consistency with the 23 Florida Statutes that compromise the Florida Coastal Management Program. Consistency reviews are conducted in conjunction with the processing of permit applications by the FDEP and Northwest Florida's Wetland Resource Permit program.

It is anticipated that the Proposed Alternative would require a Joint Wetlands Resource Permit, and therefore require review by the FDEP and the Northwest Florida Water Management District; upon permit issuance the Proposed Alternative would be in compliance with the Coastal Zone Management Act.

3.6.5 Public Services and Utilities

Local governments, utility districts, and private companies provide public services and utilities to the residents, visitors, and other customers within their service boundaries. Public services include fire and police protection, schools, community centers, parks, and recreational facilities, etc. Utilities include electricity, natural gas, water, wastewater and stormwater collection and treatment, and telecommunications. If a project will adversely affect public services or utilities by increasing demand beyond the capacity of service providers or by disrupting service, NEPA requires that these impacts be described and considered during decision making.

3.6.5.1 No- Action Alternative

Under the No Action Alternative, loss of wastewater treatment service would continue to occur during periods of heavy rain and storms. The community surrounding the MSWWTP would continue to be exposed to untreated sewage and subjected to elevated risks to their health and safety.

In the event of a major storm, three major area hospitals could lose sewage treatment service. Additionally, the city offices, including fire and public safety, rely on the MSWWTP. Sixty-nine public and private schools would have to be closed if no services are available. Thirteen athletic parks, twelve community centers, the equestrian center, and a seventy-seven site camping facility would also be affected.

According to the Escambia County Health Department, after a week's time without sewer service, potable water for the entire service area would be shut off. This includes potable water in residences and facilities that use septic tanks. If potable water were shut off, a public health emergency for this area would be issued by the Florida Department of Health (Appendix 3 – Exhibit F). The No Action Alternative poses a significant long-term threat to public services and utilities.

3.6.5.2 Repair in Place Alternative

This alternative would repair and upgrade the existing facility to current codes and standards. This would provide reasonable assurance that the MSWWTP would operate as permitted. No impacts to public services or utilities would be anticipated with the Repair in Place Alternative.

3.6.5.3 Proposed Alternative

Under the Proposed Alternative, the new plant would accommodate current and future needs of the Pensacola and the north central part of Escambia County. No long-term adverse impacts to public services would occur. Short-term reductions in public services would be minimal since the majority of the proposed transmission mains would be located within either existing public rights of way or purchased easements within Gulf Power's existing transmission route easement. The proposed lift station sites are located off of public streets, on vacant parcels or vacant portions of parcels of land.

During the final design phase, information pertaining to locations of existing utilities would be gathered from utility companies. Field surveys would be performed to locate above-ground utility structures and underground utilities. The proposed project would be designed to minimize disturbance to existing utilities. Where there is a potential for a conflict with existing utilities, either the project design would be adjusted or coordination with the conflicting utility made for temporary or permanent relocation prior to construction. The ECUA would be responsible for contacting the various utility companies to locate their facilities through the Sunshine State one-call of Florida system. Short-term, isolated interruptions in underground utility service may be necessary during construction. In these cases, the affected areas would be notified in advance of any interruptions in service. Any disruption in utility service would be repaired or replaced as soon as the disruption is discovered.

Additional electrical lines would likely be required for Gulf Power to provide the necessary electrical service at the regional lift stations. The additional electricity demand would not be a significant impact to public services or utilities. There would be no adverse long-term impacts resulting from this alternative.

3.6.6 Traffic and Circulation

This section addresses impacts to traffic and traffic patterns for each alternative. Data from the 2005 Annual Average Daily Traffic Report was used to determine traffic flow for each alternative.

3.6.6.1 No Action Alternative

Under the No Action Alternative, the MSWWTP would not be relocated. No changes to traffic would occur.

3.6.6.2 Repair in Place Alternative

The current MSWWTP site is bordered on the south by Main Street, on the north by Government Street, on the East by De Villiers Street, and on the west by Clubs Drive. Each of these roadways is maintained by the City of Pensacola. The 2005 Annual Average Daily Traffic Report computed a count of 13,500 vehicles on Main Street at a location located 500 feet east of Barrancas Avenue. This is approximately 0.5 mile west of the MSWWTP. A computed count of 2,800 vehicles was reported at Government Street, 300 feet west of “A” Street, which is less than 0.5 mile from the MSWWTP. No long-term impacts to traffic or public transportation would occur under the No Action Alternative.

Some short-term construction-related impacts are anticipated. Traffic disturbances would be temporary and considered negligible compared to normal traffic in the area.

3.6.6.3 Proposed Alternative

The computed traffic count taken 300 feet west of the intersection of County Road 749 (Chemstrand Road) and Old Chemstrand Road is 2,600 vehicles. There are no residential areas; all traffic is related to the industrial facilities in the area. Under this alternative, there would be an increase of seven trucks per day on local roads. Currently, Chemstrand Road serves 75 to 100 trucks a day which support one large and two small nearby manufacturing facilities. The impact from added truck traffic would be negligible; no significant adverse long-term impacts would occur.

During construction of the wastewater treatment lines, lane and/or street closures would be required in some locations along the proposed transmission main routes. Maintenance of traffic would be performed in accordance with the applicable chapters of the U.S. Department of Transportation Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and local regulatory requirements. Prior to construction, the ECUA would require the contractor to provide a Maintenance of Traffic Plan for review and approval by the local regulatory agencies having jurisdiction over the right of way. The ECUA would also ensure that the contractor would place and maintain adequate barricades, construction signs, flashing lights, and uniformed traffic control officers during progress of construction work in accordance with applicable MUTCD requirements. Additionally, the ECUA would ensure that the contractor has the necessary construction traffic control devices present and flagmen are properly deployed. Public notifications regarding lane and/or street closures would be coordinated through emergency service providers prior to construction.

Overall, some short-term impacts would occur during construction. These impacts would be limited to the temporary re-routing of traffic within limited areas of the project area. However, they would be negligible compared to normal traffic patterns of the area.

3.6.7 Environmental Justice (Executive Order 12898)¹

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) requires federal agencies to achieve environmental justice as part of their mission. Agencies are required to identify and correct programs, policies, and activities that have disproportionately high and adverse human health or environmental effects on minority and low-income populations. The goals of the EO are to achieve environmental justice, foster non-discrimination in federal programs that substantially affect human health or the environment, and to give minority or low-income communities’ greater opportunities for public participation and access to public information on matters relating to human health and the environment.

Socioeconomic and demographic data for the project area were analyzed to determine if a disproportionate number (greater than 50 percent or meaningfully greater than the minority population percentage in the general population) of minority or low income persons have the potential to be adversely affected by the proposed project (EPA 1997b).

Low-income populations were identified using either Department of Health and Human Services poverty guidelines or the Department of Housing and Urban Development statutory definition of very low-income for the purposes of housing benefits (EPA 1997b). The percentage of people living below the poverty limit in the potentially affected area was compared with the percentage of this demographic in the general population to determine if a significant difference existed. Minority and low-income population totals and percentages were estimated from the 2000 U.S. Census data (Table 4). The area surrounding the MSWWTP has a significantly higher percentage of both low-income and minority residents than the Escambia County population. According to the Poverty Guidelines issued by the U.S. Department of Health and Human Services, \$20,610 is the threshold of poverty for a family of four.

Area	Percentage Minority	Percentage 17 and Younger	Percentage 65 and Older	Number of Households	Average Median Household Income	Income Below Poverty Level (Percent)
Escambia County	28	24	13	111,006	\$35,234	15
No Action and Repair in Place Alternatives	59	15	25	2,021	\$23,877	30

Proposed Alternative	15	29	10	9,018	\$39,135	16
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3.6.7.1 No Action Alternative

According to the U.S. Census Bureau, 59 percent of the residents in the vicinity of the MSWWTP are minorities. Of the total population, 25 percent are age 65 or older, and 15 percent are under the age of 18. The median household income is \$23,877, which is below the average median of \$35,234 for Escambia County. Forty one percent of the households in this area receive less than \$20,000 per year as compared to the county average of 26 percent.

Based on historic data, the area surrounding the current MSWWTP has experienced disproportionately adverse impacts on multiple occasions due to the release of partially treated or untreated sewage. When partially treated or untreated sewage is released into the community, the low-income, minority neighborhood is flooded with contaminated water that poses a serious health risk.

These overflow releases in turn create a significant economic burden. The EPA has estimated the cost of cleaning a sewage spill at between \$700 and \$4,000 per household; these costs are predicted to increase.

The proportion of residents 65 years old and older is considerably greater than the county average of 13 percent. This segment of the population often lives on fixed incomes; they too are affected by the cost of cleaning their homes and yards after a sewage spill.

Minority and low-income populations are also exposed to odors that are currently released from the MSWWTP (Section 3.6.3, Air Quality). Both the residential and commercial areas are affected by the odors from the MSWWTP. Such odors can interfere with the enjoyment of life and property, including outdoor recreation. The No Action Alternative would continue to negatively impact the quality of life for residents due to noxious odors.

The surrounding community would also be subject to loss of service, although this would not be a disproportionate effect. All populations could potentially be adversely affected by service interruptions if the temporary repairs to the existing MSWWTP fail or if the facility is flooded.

The No Action Alternative would have significant adverse impacts on public health, the natural environment, and quality of life. Many of these impacts would have a disproportionate impact on minority and low-income populations.

3.6.7.2 Repair in Place Alternative

The Repair in Place Alternative would repair and/or replace the odor control units and protect the facility against overflow as part of the upgrades to the MSWWTP.

Although the potential for overflow flooding would be decreased, the repair of the MSWWTP would not eliminate the other negative impacts associated with air quality and potential damage from storm events that would continue to affect these populations. The Repair in Place Alternative would have a disproportionately adverse impact on the minority or low-income populations.

3.6.7.3 Proposed Alternative

Social characteristics for the Proposed Alternative area are different from those of the population surrounding the current MSWWTP location. Statistics from the U.S. Census Bureau report a minority population of only 16 percent. Persons 65 years old and older make up 10 percent of the population, while those under the age of 18 comprise 29 percent. The median household income is \$39,135, which is higher than the average median for Escambia County of \$35,234. Only 24 percent of the households receive less than \$20,000 per year as compared to the county average of 26 percent.

The plant site boundaries of the Proposed Alternative location are 0.75 mile away from the nearest neighbor. The homes closest to the Proposed Alternative are middle to upper middle class homes primarily of non-minority residents. These homeowners would not be negatively affected by the Proposed Alternative due to the large surrounding buffer.

The Proposed Alternative would have a positive impact on the minority or low-income populations of the communities surrounding the existing MSWWTP by removing a source of odors and potential health risks that currently exist. The Proposed Alternative would be able to provide more economic benefits to the community surrounding the MSWWTP by eliminating the costs associated with clean up following a storm or spill event.

3.6.8 Public Health and Safety

Safety and security issues considered in this EA include the health and safety of the area residents and the public at-large, and the protection of personnel involved in activities related to the proposed construction. EO 13045, Protection of Children, requires federal agencies to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children.

Overflows at the MSWWTP, either due to significant rainfall or hurricane related storm surges, release untreated sewage into the surrounding community, thereby contaminating homes and waterways. These situations have been blamed for health advisories at local recreational water areas. The Escambia County Health Department considered quarantining the area due to the

release of bacteria associated with MSWWTP overflow flooding experienced from Hurricane Ivan.

Although ECUA has attempted to address the noxious odors coming from the existing plant by adding chemical scrubbers and covers to the tanks, they have been unable to control odors emitting from the dryers. These odors continue to be a concern to nearby residents and business owners.

The MSWWTP services three of the five trauma centers that are located within a 300-mile radius of Pensacola. A loss of wastewater treatment service could inhibit the ability of these hospitals to service the area, severely impacting public health and safety.

3.6.8.1 No Action Alternative

The No Action Alternative would continue to adversely affect the population in the immediate area. Historically, tropical storms and hurricanes have caused a variety of effects including the release of untreated and partially treated sewage into the streets and adjoining neighborhoods. Untreated sewage contains disease-causing pathogens. Children, the elderly, and people with suppressed immune systems face added risk of contracting serious illnesses. Exposure to waterborne diseases would continue at current levels or increase with implementation of the No Action Alternative. The potential for system failure and the likelihood of overflows and spillage would perpetuate the current negative impact on public health in the surrounding community.

The Escambia County Health Department also has the authority to suspend the supply of potable water to facilities and homes that have their water treated by the MSWWTP. As previously discussed, if sewer service is unavailable for a week, the Escambia County Health Department would order that water be shut off. The inability to have access to water would exacerbate public health concerns.

3.6.8.2 Repair in Place Alternative

Bringing the MSWWTP up to codes and standards and armoring the facility would significantly reduce the potential for untreated sewage spills and associated disease-causing illness from reaching the surrounding public. If spills do not occur, then it is unlikely that the Escambia County Health Department would need to shut off the area water supply. The Repair in Place Alternative would have long-term, positive impacts on public health.

Short term, temporary impacts to safety could occur as a result of construction activities. To minimize risks, all construction activities would be performed using qualified personnel trained in the proper use of the appropriate equipment, including all appropriate safety precautions. All construction activities would be conducted in a safe manner in accordance with the standards specified in Occupational Safety and Health Act (OSHA) regulations. Safety barriers and appropriate signage, alerting pedestrians and motorists of project activities, would be in place prior to construction activities.

3.6.8.3 Proposed Alternative

The Proposed Alternative project area would have similar impacts to health and safety as the Repair in Place Alternative as discussed above (See Section 3.6.8.2). Greater long-term benefits could be realized due to the distance between the relocated WWTP facility and residential areas.

3.7 Hazardous Materials

In general, hazardous materials are substances that are classified as either corrosive, ignitable, reactive, or toxic. Improper management and disposal of hazardous substances can lead to pollution of groundwater or other drinking water supplies, and the contamination of surface water and soil. The primary federal regulations for the management and disposal of hazardous substances are the Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act.

None of the proposed relocation sites are located near any identified Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) sites included in the latest (October 28, 2005) EPA CERCLIS listing.

3.7.1 No Action Alternative

Under the No Action Alternative the MSWWTP would not be relocated and the existing MSWWTP would continue to operate; no impacts to hazardous materials or wastes would occur. Sludge from the MSWWTP would continue to be disposed of in accordance with local, state, and federal regulations.

3.7.2 Repair in Place Alternative

Under the Repair in Place Alternative, no impacts to hazardous materials or wastes are anticipated. Although subsurface hazardous materials are not anticipated to be present, excavation activities could expose or otherwise affect subsurface hazardous wastes or materials. Any hazardous materials discovered, generated, or used during implementation of the proposed project would be disposed of and handled in accordance with applicable local, state, and federal regulations. During the construction upgrades, requirements for National Emissions Standard for Hazardous Air Pollutants permits and any other requirements for lead-based paint and asbestos would be followed.

3.7.3 Proposed Alternative

A Phase I Environmental Assessment on the Proposed Alternative site did not identify any recognized hazardous materials in connection with the site; however, the following concerns were noted:

- “Laboratory data provided by Solutia Inc. indicated that background soil concentrations of arsenic exceed the Chapter 62-777, Florida Administrative Code (F.A.C.) Soil Cleanup

Target Level (SCTL) for Residential Direct Exposure (SCTL-RDE), but are below the SCTL for Commercial/Industrial Direct exposure (SCTL-CDE). As long as ECUA is willing to establish a non-residential deed restriction on the property and to prepare a soil management plan to maintain all soils on-site during construction, the presence of arsenic in the soil should not be a significant health concern.”

- “Laboratory data provided by Solutia Inc. indicated groundwater concentrations of arsenic, aluminum, bis (2-ethylhexyl) phthalate, iron, lead, manganese, mercury, methylene chloride, phenol a, and sodium at one time during the assessment performed exceeded the State of Florida groundwater cleanup target levels (GCTLs) at the Solutia Inc. plant. It should be noted that the background well for the Solutia Inc. plant is nearly one mile away from the subject site. However, background concentrations of the above-referenced constituents in the groundwater may be similar on the subject property.”

Based on these concerns, Professional Service Industries, Inc. recommended that ECUA conduct a Phase II Environmental Site Assessment to evaluate soil and groundwater conditions beneath the subject property. The scope of the Phase II Environmental Site Assessment was intended to address the Phase I Environmental Site Assessment report recommendations.

ECUA would place a non-residential deed restriction on the site and would establish a soil management plan that would ensure that all soils are maintained on-site during construction. Using these mitigation measures, no remedial action for arsenic in soil is likely to be required. ECUA purchased the property which included a special warranty deed restrictive covenant for industrial use only. The construction contracts would include a requirement that all soils are to stay on site during construction.

Results from analysis of groundwater samples collected during the current assessment showed no constituents above the respective GCTLs established in Chapter 62-777, F.A.C., except three ubiquitous metals (aluminum, iron, and manganese) for which the GCTLs are based on secondary drinking water standards and one organic compound (phenol) for which the GCTL is based on organoleptic (taste/odor/color) criteria. Groundwater monitoring is planned for both land application around the site and for the infiltration basins and spray irrigation fields. The monitoring would include both upstream and downstream wells that would identify any changes in these metals and ensure no impacts would occur that affect groundwater quality.

Any hazardous materials discovered, generated, or used during implementation of the proposed project would be disposed of and handled by the project applicant in accordance with applicable local, state, and federal regulations. Proper handling would ensure that there would be no significant impacts due to hazardous or special waste materials.

4.0 CUMULATIVE AND SECONDARY EFFECTS

In accordance with NEPA, this EA considers the overall cumulative impact of the Proposed Action and other actions that are related in terms of time or proximity. According to the Council on Environmental Quality (CEQ) regulations, cumulative impacts represent the “impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what federal agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

Cumulative effects are those impacts “...which result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions...” (40 CFR 1508.7). Secondary effects are those impacts which are “...caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable.” (40 CFR 1508.8). The statutory basis for considering cumulative and secondary effects of federal actions is the NEPA of 1969, 42 U.S.C. 4321 et seq. In the context of evaluating the scope of a proposed action, direct, indirect, and cumulative impacts must be considered.

To address cumulative impacts, this section examines FEMA actions as well as non-FEMA actions occurring or proposed in the vicinity of the proposed project. The combined effects of these actions are evaluated to determine if they could result in any cumulative impacts. It is expected that the implementation of the Proposed Alternative would have an overall positive impact on human health and the environment as compared with the No Action and Repair in Place Alternatives.

In addition to NEPA, other statutes require federal agencies to consider cumulative and secondary effects. These include the Clean Water Act section 404 (b)(1) guidelines; the regulations implementing the conformity provisions of the Clean Air Act; the regulations implementing Section 106 of the NHPA; and the regulations implementing section 7 of the ESA.

4.1 No Action Alternative

Past federal actions include authorization of expanding the MSWWTP at its current location in 1968. Associated impacts of that action include continuation and expansion of threats to human health that might result from storm related discharge of untreated sewage into surrounding streets and waters of Pensacola Bay. Expansion and continued operation of the MSWWTP also resulted in a greater discharge of treated effluent into Pensacola Bay and further diminution of water quality and overall health of the aquatic environment. Since the No Action Alternative would perpetuate the current situation, potentially greater harm to public health could occur as the overall project area becomes more populated.

4.2 Repair in Place Alternative

While the Repair in Place Alternative would provide protection from storms, up to a Category 3 hurricane, by bringing the MSWWTP up to current codes and standards, release of effluent from the plant would continue. Additionally, this alternative would not provide protection from the effects of a storm in excess of Category 3. As with the No Action Alternative, this alternative would perpetuate the current situation and future operational disruptions at the MSWWTP could result in even greater harm to public health as the overall project area becomes more populated.

4.3 Proposed Alternative

No other past or present actions would combine with the Proposed Alternative to result in increased or cumulative adverse impacts on human health or the environment. This alternative would, however, preclude the cumulative and secondary impacts associated with maintaining the MSWWTP as explained in the preceding No Action and Repair in Place Alternatives.

Relocation of the treatment facility to a new location could spur ancillary development of facilities that would provide goods and services to the new plant. However, this development should be minimal since the proposed new facility would be largely self-contained, and all related new or related effects such as increased vehicular traffic have been identified and presented in previous sections of the EA.

Abandonment of the current MSWWTP would create the opportunity for conversion of the site to uses that could have negative environmental consequences. However, since the initial construction of the MSWWTP and any subsequent modifications that have been undertaken since that time, state and federal environmental protection requirements have increased substantially. Any new development would be subject to current codes and standards, including the local floodplain ordinance. Consequently, and in view of the significant negative environmental effects of the current facility, the cumulative and secondary impacts of the Proposed Alternative should be negligible when viewed from an overall project perspective.

A secondary impact that would occur as a result of the Proposed Alternative is that the current administration and laboratory facilities at Government Street would eventually be relocated. ECUA would construct a laboratory building at 9250 Sturdevant Road, Pensacola, Florida, 32514 in Ellyson Industrial Park. Ellyson Field is an abandoned military airfield that was converted into a commercial/industrial park in 1980.

The site for the Laboratory Building is zoned ID-1, which is an Industrial District according to the Escambia County Comprehensive Plan. No residential development is allowed in this zoning classification. Changes to current zoning would not be needed.

Based on the above facts, the relocation of the lab facilities to Ellyson Industrial Park would not combine with any other past or present actions resulting in any secondary or cumulative impacts on human health or the environment. The existing plant would be adapted for reuse in a manner

to be determined. All actions will meet applicable codes and standards, including the local floodplain ordinance. At this time, no federal funding has been or plans to be allocated to such activities.

5.0 PUBLIC INVOLVEMENT

NEPA requires that federal agencies must carefully consider information concerning environmental impacts including views of the affected public. FEMA is the lead federal agency ensuring that requirements of the NEPA are met. FEMA strives expedite preparation and review of Environmental Impact Statements and Environmental Assessments so that the needs of the community can be efficiently and effectively met.

A disaster-wide initial public notice was published by FEMA in the *Pensacola News Journal* on December 3, 2004 giving notice to the public of FEMA's intent to reimburse tribal, state and local governments and agencies for eligible costs under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121, *et seq.*, as amended; Stafford Act), that are incurred to repair facilities damaged by Hurricane Ivan beginning September 13, 2004. Cumulative final public notice was filed statewide November 11 through December 1, 2005. No written comments were received (Appendix 5).

Three public information meetings were held regarding alternatives associated with proposed relocation of the MSWWTP. The first was held at Booker T. Washington High School in Pensacola on July 11, 2006. Notice for the meeting was given in the *Pensacola News Journal* on June 2, 2006, and a reminder was published in that paper on the day of the meeting. The public notices for the meeting and comments from the meeting are provided in Appendix 5.

The second public meeting was held on August 17, 2006, at the Gonzalez Baptist Church Fellowship Hall in Cantonment, FL. Notice for the meeting was given in the *Pensacola News Journal* on July 30, 2006. No written comments were received (Appendix 5).

The third public meeting was held on April 3, 2007 at the ECUA Board Meeting room in Pensacola. The purpose of this meeting was to present a proposed capital finance plan for the Proposed Alternative. Notice for the meeting was given in the *Pensacola News Journal* on March 1, 2007. No written comments were received (Appendix 5).

In accordance with FEMA procedures and NEPA requirements, the ECUA has notified the public of the availability of the Draft EA through publication of a final public notice in the *Pensacola News Journal* on January 13 and 14, 2008.. The Draft EA is also available on the ECUA website at <http://www.ecua.org> and has been made available to interested parties through publication on FEMA's website (<http://www.fema.gov/lan/ehp/envdocuments/ea-region4.shtm#2>). The Draft EA is also available for review at the following locations:

ECUA Main Street Wastewater Treatment Plant
401 West Main Street
Pensacola, FL 32591
Telephone: (850) 969-3380 ext. 4224

Pensacola Public Library
200 W. Gregory Street
Pensacola, FL 32502
Telephone: (850) 436-5060

The public is hereby encouraged to comment on this Draft EA and the proposed project. The public comment period commences on the initial date of publication of the public notice and will expire 30 days after publication. Questions or comments should be sent to:

Rebecca M. Peterson, Project Manager
Baskerville-Donovan, Inc.
449 West Main St.
Pensacola, FL 32591
Email: rpeterson@baskervilledonovan.com
Phone: 850-438-9661
Fax: 850-433-6761

OR

Richard Myers, Environmental Liaison Officer
Federal Emergency Management Agency
Florida Longer Term Recovery Office
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Comments must be received by February 15, 2008. If no substantive comments are received following agency and public review, the Draft EA will be considered the final EA and no substantive additional information or modifications will be incorporated. We look forward to your input.

6.0 PERMITS AND MITIGATION MEASURES

6.1 Permits and Approvals

This section provides a summary of permits required for the Proposed Alternative. In accordance with applicable local, state, and federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the proposed project site. All construction activities will be conducted pursuant to applicable facility planning regulations at the state and county level. Coordination between the Applicant and the appropriate agencies will be required to ensure that the facility’s structural and mechanical integrity meets current codes and to ensure that the permits necessary for planning, design, and operation are obtained and conditions are met (Table 5).

Permit or Approval	Anticipated Timeframe
Alabama and Gulf Coast Railway Company	Complete
City of Pensacola Right-of-Way Permit	Complete
CSX Railroad Crossing Permit	1 month
Effluent Transmission Mains and Life Station	Complete
Escambia County DRC Application for CWRF	2.5 months
Escambia County Right-of-Way Permit	Complete
FDEP Stormwater	3 months
FDEP Stormwater Pollution Prevention	30 days
FDEP Water Distribution	30 days
FDEP Wetland Resource	3 months
FDEP WW Facility	Complete
FDEP/ACOE Dredge and Fill	3 months
FDEP/COE Dredge and Fill	3 months
FDOT Utility Permit	Complete
FWC Gopher Relocation Permit	Complete
Gas Pipeline Crossing	1 month
Government Street Lift Station City of Pensacola Site Plan Approval	1.5 months
Gulf Power Coordination	2 months
Industrial Reuse	Complete
Lift Station A Escambia County Site Plan Approval	1.5 months
Lift Station B City of Pensacola Site Plan Approval	1.5 months
Transmission and Lift Stations	Complete

6.2 Project Conditions and Mitigation Measures

Mitigation in this EA refers to actions that would reduce or eliminate potential adverse environmental and historic preservation impacts that could result from implementation of the

project alternatives. All necessary permits will be obtained and the permit requirements will be outlined as performance specifications of the construction bid documents.

The following table summarizes the anticipated project conditions required to offset the potential impacts of the Proposed Alternative (Table 6). The Applicant must obtain and comply with all applicable federal, state and local permits for construction and operation of the facility. More detailed information on these requirements is available in the text of the EA and in the specific laws, regulations, ordinances, etc.

TABLE 6. MITIGATION			
Affected Environment	Section	Anticipated Impacts from Proposed Alternative	Mitigation
Physical Environment	3.2		
Geology, Topography, and Soils	3.2.1	No impacts to geology. Long-term minor impacts to topography resulting from grading for the facility and infiltration basins. Short-term soil impacts due to construction resulting in compaction and loss of structure.	Implementation of appropriate BMPs would be required. BMPs include, but are not limited to the installation of silt fences and revegetation of bare soils to minimize erosion.
Prime Farmland	3.2.2	30.24 acres of prime farmland would be impacted	Per the scoring provided by NRCS, no further consideration for farmland protection is indicated.
Water Resources and Water Quality	3.3		
Surface Water Resources	3.3.1	Treated effluent would no longer be discharged into Pensacola Bay as a point source. Wastewater effluent at the Proposed Alternative site would be land applied in a combination of infiltration basins and/or spray irrigations fields. Impacts to the Escambia River from increased groundwater discharge would be insignificant.	Short-term construction-related impacts would be minimized through implementation of a SWPPP. BMPs for erosion control would be implemented. These BMPs include, but are not limited to, vegetative planting; use of silt fences and/or hay bales; filter bags; seeding, mulching, and/or sodding; In locations where dust control is necessary, the site would be sprinkled with water. Site-specific construction methods

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			including horizontal directional drilling will be utilized.
Groundwater Resources	3.3.2	Increases in groundwater flow of 800,000 cubic feet per day would increase the current discharge to the groundwater by 20 percent. Notably, the groundwater system impact would occur within the surficial sand and gravel aquifer only.	None
Floodplain Management (EO 11988)	3.3.3	Long-term beneficial impact due to relocation of the WWTP outside of the floodplain. Prudent redevelopment of the existing MSWWTP site could be beneficial to the floodplain. The proposed relocated WWTP site is located outside of the floodplain.	Achieved through compliance with the local floodplain ordinance.
Wetlands (EO 11990)	3.2.2	Temporary loss of wetland vegetation due to transmission main crossing at two creeks. Proposed Alternative components would result in permanent loss of 0.71 acre and 0.98 acres temporary impacts (clearing and ground disturbance).	Areas that would be impacted and located outside of maintained utility easements would be restored to natural grade; re-planted with native wetland vegetation; monitored and maintained for a minimum of five years or until they are deemed successful by the USACE and FDEP. Additional mitigation for the proposed impacts would occur on site, and includes enhancement of an existing wetland via removal of planted pine.
Biological Resources	3.4		
Terrestrial Environment	3.4.1	Clearing of 60.9 acres pine plantation for development of new facility, including WWTP; Installation of the infiltration basins and spray irrigation fields would permanently impact 14.45 acres of pine/mesic oak due to clearing. Temporary removal of 3.03 acre of upland forest for	Upland forest impacts from 10,400 LF of transmission line will be returned to grade and allowed to re-vegetate from surrounding native seed and root sources. Undeveloped portions of the facility are likely to be managed to enhance the natural environment.

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		wastewater transmission line installation. Temporary impacts for installation of security fence in southern portion of the project.	
Aquatic Environment	3.4.2	Adverse impacts to the aquatic environment of Pensacola Bay due to the release of untreated or partially treated sewage would be eliminated. Long-term impacts to aquatic resources from water reuse application would be negligible.	BMPs for erosion and turbidity control would be implemented during crossings of Spanish Mill Creek and the unnamed tributary to Clear Creek. Post-construction bank and soil stabilization would also be implemented.
Threatened and Endangered Species	3.4.3	No effect to federally listed species. The state-listed gopher tortoise and white-topped pitcher plant would be impacted.	Collection and relocation prior to site development, utilization of the Standard Protection Measures for the Eastern Indigo Snake and the Excavation Guidelines for gopher tortoises, monitoring of disturbed areas for exotic invasive plant species where wetland-associated white-topped pitcher plants will be lost, monitoring to evaluate effluent release for accumulation of pollutants and waste pharmaceuticals in surface waters, sediments and animal species, and water quality of the Escambia River and its tributaries.
Cultural Resources	3.5	No impacts to archeological or historic resources are anticipated.	Ground disturbing activities on or adjacent to sites identified as potentially eligible for listing on the NRHP shall be avoided. Archaeological monitoring of construction activities in high probability areas, or in any archaeologically sensitive areas will be conducted. If excavation uncovers items which might be of archaeological or tribal interest, or project area changes, work will immediately stop, and appropriate agencies notified.

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Socioeconomic Resources	3.6		
Noise	3.6.2	Short-term impacts to noise would occur at the proposed project site during the construction period. There would be no increase in noise for any of the nearby noise receptors.	Construction would take place during normal business hours; construction methodologies, equipment and machinery installed at the proposed WWTP would meet all federal, state and local noise regulations.
Air Quality	3.6.3	There would be long-term benefits due to the elimination of the release of noxious odors. Relocation will remove the WWTP from proximity of residentially populated urban area. Short-term impacts to air quality would occur during the construction period. The Proposed Alternative would have minimal long-term impacts on air quality at the proposed new location.	Construction contractors would be required to water down construction areas when necessary and fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained. Possible dust control measures include minimizing the tracking-out of soil onto nearby publicly-traveled roads, reducing speed on unpaved roads, covering (tarpaulin-covered) haul vehicles, and applying chemical dust suppressants or water to exposed surfaces used by construction vehicles. If any burning of materials or vegetation debris takes place, relevant laws and ordinances, including but not limited to, the current City of Pensacola ordinances and regulations of the FDEP would be adhered to.
Coastal Zone Management	3.6.4	No impact to coastal resources.	Applicant will obtain FDEP-issued Wetland Resource Permit
Public Services and Utilities	3.6.5	Limited, short-term impacts during construction. Possible loss of utility services during construction.	Field surveys would be performed to locate above-ground utility structures and underground utilities. The proposed project would be designed to minimize disturbance to existing utilities
Traffic and Circulation	3.6.6	There would be a minor temporary increase in the volume of construction traffic	Construction vehicles and equipment would be stored on-site during project construction

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		on roads in the immediate vicinity of the proposed project site. The long-term impact from added truck traffic would be negligible; no significant adverse long-term impacts would occur.	and appropriate signage would be posted on affected roadways. Maintenance of traffic and detours for public services. Per MUTCD regulations, the contractor will provide a Maintenance of Traffic Plan. The ECUA would also ensure that the contractor would place and maintain adequate barricades, construction signs, flashing lights, and uniformed traffic control officers during progress of construction work.
Environmental Justice	3.6.7	Positive impacts by removing costs related to clean up and health risks from sewage spills, noxious odors. No disproportionately high or adverse effect on minority or low-income populations would occur.	None
Public Health and Safety	3.6.8	Positive long-term impacts to public health by removing health impacts associated with the No Action Alternative. Potential short-term impacts to safety due to construction activities.	All construction activities would be performed using qualified personnel and in accordance with the standards specified in OSHA regulations. Appropriate signage and barriers should be in place prior to construction activities to alert pedestrians and motorists of project activities.
Hazardous Materials	3.7	No impacts to hazardous materials or wastes are anticipated.	Excavation activities could expose or otherwise affect subsurface hazardous wastes or materials. Any hazardous materials discovered, generated, or used during construction would be handled and disposed of in accordance with applicable federal, state and local regulations.

7.0 AGENCY COORDINATION

The following federal, state, and local agencies were contacted by a letter requesting project review during the preparation of this EA. Coordination letters sent to the agencies and their comments are provided in Appendix 7.

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Mr. David Bernhart
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Mr. Robert Thrower
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Poarch Bank of Creek Indians
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Mr. Steve Terry
Real Estate Director
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8.0 SUMMARY AND CONCLUSION

In compliance with requirements of the National Environmental Policy Act, this EA describes the anticipated effects the Proposed Action and other alternatives on the physical environment, water resources and water quality, biological resources, cultural resources, and socioeconomic resources.

Hurricane Ivan made landfall as a Category 3 hurricane on September 16, 2004, near Gulf Shores, Alabama (approximately 35 miles west of Pensacola, Florida) causing a significant storm surge within major portions of the ECUA service area. The storm surge caused significant damage to the MSWWTP causing it to be out of service for approximately three days during which untreated sewage flowed into surrounding streets and Pensacola Bay.

FEMA's Public Assistance Program is considering providing funding to ECUA to assist in relocating the sewage treatment facility. The 976-acre site is approximately 25 miles north and inland of the existing facility, and is currently zoned for industrial use. The vast majority of the property was previously used for sliviculture and consisted of planted pine trees that had been cleared prior to ECUA ownership. The proposed project also includes the installation of approximately 24 miles of 16 to 48-inch diameter wastewater transmission mains and three new regional lift stations for transport of wastewater to the Proposed Alternative location. Treated wastewater would be reused for industrial purposes, with remaining effluent disposed of using upland spray irrigation and infiltration basins. The existing plant would be abandoned and adapted for reuse according to current codes and standards. Discharge of treated wastewater into Pensacola Bay would be terminated.

Long-term beneficial impacts are anticipated to the surface waters of Pensacola Bay, air quality, and public health and safety. During the construction period, short-term impacts involving ground disturbance, air quality, noise, and local roadway transportation are may occur. There will be no significant impacts to water quality due to plant operations. There will be no effect to any federally listed threatened or endangered species or their critical habitat. No significant long-term impacts to the floodplain or wetlands would occur. There will be no effect to historic properties or cultural resources. All adverse impacts would be minimized to the extent practicable through the implementation of appropriate BMP and project conditions; and mitigation would be implemented to offset impacts to wetlands and other high quality or important resources.

Conclusion

Based on this EA and in accordance with NEPA, the CEQ regulations for implementing NEPA (44 CFR Parts 1500 through 1508) and FEMA regulations for environmental consideration pertaining to NEPA compliance (44 CFR Part 10), FEMA has determined that the proposed action will have no significant adverse impact on the biological or human environment. As a result of the FONSI, an EIS will not be prepared and the proposed project may proceed.

9.0 REFERENCES AND LIST OF PREPARERS

9.1 References

2005 Annual Average Daily Traffic Report;

<http://www.dot.state.fl.us/planning/statistics/trafficdata/AADT/48.pdf>

Comprehensive Environmental Response Compensation and Liability Act (CERCLA), [42 U.S.C. 6901 et seq.], and the Resource Conservation Act, [42 U.S.C. 6901 et seq.], as amended

Earthquake History of Florida; http://neic.usgs.gov/neis/states/florida/florida_history.html

Emerald Coast Utilities Authority Main Street Wastewater Treatment Plant Relocation Project Listed Species Assessment Report, Plant Site and Pipeline Alignments, Escambia County, Florida prepared by Biological Research Associates, Environmental Consultants

Escambia County Comprehensive Plan

<http://www.municode.com/resources/gateway.asp?sid=9&pid=10700>

Escambia County Long-Term Recovery Plan; prepared by Department of Community Affairs and FEMA with public participation.

Ewing and Lopez, 1991 #2003; <http://pubs.usgs.gov/ds/2004/90/A/layers.htm>

EO 12898; signed 11 February 1994; 59 FR 7629, 16 February 1994; amends EO 12250, 2 November 1980; amended by EO 12948, 30 January 1995

EO 13045; signed 21 April 1997; [62 FR 19885], 23 April 1997; revoked EO 12606, 2 September 1987; amended by: EO 13229, 9 October 2001; EO 13296, 18 April 2003

FEMA regulations for NEPA compliance [44 CFR Part 10]

Florida Land Use, Cover and Forms Classification (1999), Dept. of Transportation;

http://www.dot.state.fl.us/surveyingand_mapping/fluccmanual.pdf

Ground Shaking Hazards of Earthquakes; <http://earthquakes.usgs.gov/research/hazmaps/design/>

Gulf-margin normal faults, Alabama and Florida (Class B) No. 2654; <http://qfaults.cr.usgs.gov>

State of Indiana, Asthma Fact Sheet, Strong Odors in Homes;

<http://www.in.gov/isdh/programs/asthma/breatheasyville/triggers/strongodors.html>

USDA/NRCS Soils Survey for Escambia County (2004)

Natural Atlas of the United States of America; <http://www.nationalatlas.gov/>

National Environmental Policy Act of 1969 (NEPA)

National Register of Historic Places (NRHP) [36 CFR 60.4]

Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by Public Law 106-390, the Disaster Mitigation Act of 2000

Stewart, Stacy R.; “Tropical Cyclone Report Hurricane Ivan 2-24 September 2004”, National Oceanic & Atmospheric Administration, National Weather Service, National Hurricane Center 16 December 2004, Revised 3 June 2005

CEQ regulations implementing NEPA [40 CFR Parts 1500 through 1508]

EPA established air quality standards (<http://www.epa.gov/oarqps/greenbk>)

9.2 List of Preparers

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