

Draft Supplemental Environmental Assessment

Diamondhead Waste Water Treatment Plant Sewer Line and Outfall Structure

Hancock County, Mississippi

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Draft Supplemental Environmental Assessment for
Diamondhead Wastewater Treatment Plant Sewer Line and Outfall Structure
Diamondhead, Hancock County, MS

Prepared for

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ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FTN	FTN Associates, Ltd.
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HDD	Horizontal Directional Drilling
I-10	Interstate 10
MDAH	Mississippi Department of Archives and History
MDEQ	Mississippi Department of Environmental Quality
MDMR	Mississippi Department of Marine Resources
MDOT	Mississippi Department of Transportation
MGD	million gallons per day
NAAQS	National Ambient Air Quality Standards
NCA	Noise Control Act
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NO ₂	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
O ₃	ozone
OSHA	Occupational Safety and Health Administration
PA	Public assistance
Pb	lead
PM _{2.5}	Particulate matter less than 2.5 microns
PM ₁₀	particulate matter less than 10 microns

ACRONYMS AND ABBREVIATIONS (CONTINUED)

SO ₂	sulfur dioxide
SEA	Supplemental Environmental Assessment
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WWTP	Wastewater Treatment Plant

1.0 INTRODUCTION

The Diamondhead Water and Sewer District (District) in Hancock County, Mississippi has applied to the Federal Emergency Management Agency (FEMA) for assistance with construction of a 30-inch-diameter underground sewer line that would connect the District's proposed Wastewater Treatment Plant (WWTP), north of Interstate 10 (I-10) to the outflow structure located on the Jourdan River, south of I-10. The existing outflow structure would be capped by filling the end of the pipe with cement. This project is part of an overall plan to relocate the District's existing WWTP and improve the District's services. FEMA proposes to provide assistance for this project through the Public Assistance Program under Presidential Disaster Declaration FEMA-1604-DR-MS.

An Environmental Assessment (EA) for the WWTP relocation project was finalized and approved by FEMA in January of 2007. The EA analyzed the potential environmental impacts of the District's proposed project to relocate the WWTP to higher ground outside of the floodplain to increase reliability and minimize future damages and service disruptions. A Supplemental Environmental Assessment (SEA), dated October, 2008 also analyzed the District's proposed relocation of a water line. Portions of the outflow line will be installed in areas already approved for the waterline. FEMA determined that relocation of the WWTP and the construction of a new waterline would result in a Finding of No Significant Impact (FONSI).

In accordance with 44 Code of Federal Regulations (CFR) for FEMA, Subpart B, Agency Implementing Procedures, Part 10.9, this SEA has been prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ; 40 CFR Parts 1500-1508). This SEA hereby incorporates the Final EA for the relocated WWTP and the SEA for the waterline dated October 2008, in accordance with 40 CFR Part 1508.28. The purpose of this SEA is to analyze the potential environmental impacts of the 30-inch treated effluent discharge line that would connect to the proposed WWTP and the decommissioning of the existing outflow structure and to determine whether to prepare an Environmental Impact Statement (EIS) or a FONSI.

2.0 PURPOSE AND NEED

On August 29, 2005, Hurricane Katrina struck the Mississippi Gulf Coast, causing a storm surge that reached nearly 25 ft and devastated large portions of the District's service area, which includes approximately 4,300 customers. District facilities, including the Diamondhead WWTP, were severely damaged by the storm's wind and floodwaters. The WWTP will be relocated to higher elevations, outside of the floodplain, to increase reliability and minimize future damages and service disruptions.

Coordination between the District and the Mississippi Department of Environmental Quality (MDEQ) identified that a proposed treated effluent discharge of 2.5 million gallons per day (MGD) at the existing Diamondhead WWTP outfall would be impermittable in order to be protective of water quality in the receiving stream (unnamed tributary of the Jourdan River). Additionally, limitations for a 1.25 MGD discharge appeared to be significantly more stringent such that any proposed treatment upgrades would have difficulty consistently meeting compliance requirements. Information provided by the District regarding an alternative outfall location was reviewed by MDEQ and determined that the limitations of the alternative outfall location appeared to be more achievable than those anticipated for the existing outfall. MDEQ determined that relocation of the current discharge point to the alternative location would allow for more manageable limitations at the 1.25 MGD discharge and would allow the treated effluent flow to increase to 2.5 MGD once the necessary improvements were completed (MDEQ, 2011). Based on MDEQ's response, the District is in need of a new outfall structure at a location that would allow for the discharge of treated effluent to meet water quality standards in the Jourdan River.

The proposed pipeline and outfall structure would be a component of the District's wastewater system which services approximately 4,300 residents and commercial customers within Diamondhead, Mississippi.

3.0 ALTERNATIVES CONSIDERED

The following alternatives are considered for the construction of the proposed effluent outfall line and outfall structure:

Alternative 1: No Action

Under the No-Action Alternative, the proposed effluent outfall line and outfall structure would not be constructed. The proposed WWTP would not connect to the existing sewer system and outfall structure from the existing plant. MDEQ has ruled the results of a wasteload allocation indicate that the previously allowed discharge of 2.5 MGD is now “unpermissible since the water quality model resulted in water quality standards violations at this flow.” MDEQ also states that “the current outfall does not appear to be a possible option for the proposed wastewater facility”. The new permit limits for BOD₅ are much more stringent at the existing outfall (existing limit is a monthly average of 30 mg/L and the new limit is a monthly average of 2 mg/L). Meeting the new permit limits would require the installation of advanced wastewater treatment technology that is cost prohibitive.

Alternative 2: Construction of 30-Inch Outfall Line and Outfall Structure (Proposed Action)

Under the Proposed Action Alternative, a 30-inch diameter, underground pipeline and outfall structure would be constructed to connect the District’s proposed WWTP, north of I-10. The proposed pipeline would be approximately 7,700 linear feet in length. The proposed pipeline would commence at the proposed WWTP site, located south of Park Ten Drive, and extend south along the existing 12-inch waterline corridor on the north side of I-10, that was previously evaluated in the SEA dated October 2008. The proposed sewer line would then extend an additional 300 linear feet west from the terminus of the water line corridor along an existing unnamed logging road and parallel to I-10, then south under I-10 to Akoko Street. The proposed outfall line would then extend west along Akoko Street to its terminus, 96 ft into the Jourdan River. Preliminary plans have illustrated that construction would occur within the existing 30 ft wide unpaved road corridors of the logging road and Akoko Street and not require the removal of

any vegetation. The trench for the sewer line would be dug approximately 7 ft deep within the existing road.

To avoid disturbance, the sewer line would be installed underneath the interstate and a marsh area using horizontal directional drilling (HDD). HDD is a technique that uses underground boring to install a pipeline with ground disturbance occurring only at entrance and exit holes. The entrance and exit holes will be located north and south of the interstate right-of-way at the east end of the construction area. The areas immediately south of I-10 would require two, temporary construction corridors to store pipe only. The temporary construction corridors are 75 ft by 150 ft and 75 ft by 550 ft. Some vegetation removal and no ground disturbance would occur in both areas. The areas adjacent to the marsh will use the existing road bed and a barge in the Jourdan River to alleviate construction corridors and ground disturbance at the west end of the construction area. The final outfall segment will be installed beneath the marsh area by boring through stable subsoils below the marsh to avoid disturbance of sensitive areas.

The outfall line and outfall structure will be constructed to service the proposed WWTP. The outfall structure will consist of a 30-inch pipe. The pipe will extend 56 ft into the Jourdan River. A six-nozzle diffuser design will add 40 ft to the length. The outfall will extend a total length of 96 ft, from the shore, into the Jourdan River.

Preparation of construction plans and specifications for the new WWTP have been initiated and are anticipated to be completed by the end of 2012. Construction of the proposed sewer line and outfall structure would take approximately 7 months to complete. Construction is scheduled for completion in the winter of 2013 for the outfall. The WWTP is scheduled for completion in the winter of 2014.

4.0 AFFECTED ENVIRONMENT AND IMPACTS

Table 4.1 summarizes the potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts. Following the summary table, any areas where potential impacts were identified are discussed in greater detail.

Table 4.1. Potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts.

Affected Environment	Impacts	Mitigation
Geology, Topography, and Soils	No impacts to geology or topography are anticipated; short-term impacts to previously impacted soils in the roadbed are anticipated during the construction period.	Appropriate Best Management Practices (BMPs), such as installing silt fences and revegetating bare soils immediately upon completion of construction would be used to stabilize soils. The applicant would obtain an NPDES permit and submit a SWPPP that would include BMPs to minimize erosion and off-site sediment transport.
Groundwater	Potential impacts to shallow groundwater may occur during excavation and during HDD.	The applicant would coordinate with MDEQ for mitigation of any impacts to shallow groundwater as necessary.
Surface Water	Temporary impacts to surface waters are anticipated via the transport of sediment from disturbed soils in storm water runoff during construction.	The applicant would submit a SWPPP that would include BMPs to minimize erosion and off-site sediment transport and comply with the statewide General Stormwater Permit for construction activities.
Floodplains	No impacts to the floodplain are anticipated because installation of the proposed outfall line would not result in modifications to the floodplain. No Indirect impacts will occur with future developments.	None

Table 4.1. Potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts (continued).

Affected Environment	Impacts	Mitigation
Transportation	There would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed project site. No road closures are anticipated. No impacts to the I-10 right-of-way are anticipated because the outfall line would be installed underneath I-10 using HDD.	Construction vehicles and equipment would be stored on-site during project construction and appropriate signage would be posted on affected roadways.
Public Health and Safety	No impacts to public health and safety are anticipated.	All construction activities would be performed using qualified personnel and in accordance with the standards specified in Occupational Safety and Health Administration (OSHA) regulations. Appropriate signage and barriers would be in place prior to construction activities to alert pedestrians and motorists of project activities.
Hazardous Materials	No impacts to hazardous materials or wastes are anticipated.	Any hazardous materials discovered, generated, or used during construction would be disposed of and handled in accordance with applicable local, state, and federal regulations.
Socioeconomic Resources	No adverse impacts to socioeconomic resources are anticipated.	None
Environmental Justice	No disproportionately high or adverse effect to minority or low-income populations is anticipated.	None
Air Quality	Short-term impacts to air quality are anticipated to occur during the construction period; no adverse long-term impacts are anticipated.	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.
Noise	Temporary short-term increases in noise levels are anticipated during construction.	Construction would take place during normal business hours. Equipment and machinery used for the project would meet all local, state, and federal noise regulations.

Table 4.1. Potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts (continued).

Affected Environment	Impacts	Mitigation
Biological Resources	Limited vegetation removal would occur along the construction corridor. No impacts to federally listed species are anticipated.	None
Cultural Resources	No impacts to archeological resources or historic structures are anticipated.	If during the course of work, archaeological artifacts or human remains are discovered, the applicant shall stop work in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. The applicant shall inform their Public Assistance (PA) contacts in FEMA, who will in turn contact FEMA Historic Preservation staff. Work will not proceed until FEMA Historic Preservation staff has completed consultation with SHPO and MBCI.

4.1 Geology, Topography, and Soils

Upper elevations of the proposed project area consist of red sand and gravel and white clay terrace deposits of the Citronelle Formation deposited during the Early Pleistocene (or possibly Pliocene) Epoch (Bicker, 1969). Coastward, lower elevations consist of fluvial deposits of the Late Pleistocene Prairie Formation, which are overlain by mostly sandy fine-grained silt and clay alluvial deposits of the Holocene Epoch (Otvos, 1985).

The topography at the proposed project site is generally level (typically less than 2% slope). Elevations within the proposed project site range from 0 ft above mean sea level (amsl) to 12 ft amsl.

The proposed project site contains soils from the Atmore, Handsboro, Smithton, and Escambia soil series (USDA/NRCS, 2011a). All of these soils are hydric or contain hydric components within the mapunits (USDA/NRCS, 2011b). Some small depressions can be ponded for several days or weeks during wet seasons.

The Farmland Protection Policy Act (FPPA) states that Federal agencies must “minimize the extent to which Federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses....”

The National Pollutant Discharge Elimination System (NPDES) is a U.S. Environmental Protection Agency (EPA) stormwater program that requires operators of construction sites one acre or larger (including smaller sites that are part of a larger common plan of development) to obtain authorization to discharge stormwater under an NPDES construction stormwater permit.

NPDES permit requirements include submittal of a Stormwater Pollution Prevention Plan (SWPPP) that outlines the temporary and permanent Best Management Practices (BMPs) that will be used to prevent erosion and the transport of sediment off-site during and after construction activities (i.e., mulching, revegetating bare soils, silt fence, etc.). The NPDES program is administered by MDEQ.

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to geology, topography, or soils would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, impacts to geology or topography are not anticipated. Temporary, impacts to soils would occur during construction due to the potential for erosion during trenching and HDD activities.

A letter requesting project review was sent to the NRCS and MDEQ on May 31, 2011. Because the area of ground disturbance would be greater than one acre, the applicant would be required to submit a SWPPP and request coverage under the Mississippi General Stormwater Permit. MDEQ has responded in a letter dated June 23, 2011 regarding the location of CERCLA/Uncontrolled Sites. MDEQ has also responded in a letter dated December 15, 2011. The letter on December 15, 2011 addresses the location of the current and proposed outfall. Although MDEQ did not respond with recommendations for the required SWPPP permit, the applicant would submit a SWPPP and be covered under the Mississippi General Stormwater Permit for construction activities exceeding 5 acres of ground disturbance.

A response was received on June 28, 2011 from the NRCS. NRCS response indicates FPPA is not applicable as the project is located along a national right-of-way.

4.2 Groundwater

Groundwater beneath the proposed project site is located within the Coastal Lowlands Aquifer System, which is divided into several permeability zones. Groundwater in Holocene alluvium and Late Pleistocene Prairie Formation sediments comprises the shallowest permeability zone. Groundwater in Early Pleistocene Citronelle Formation deposits is the next deeper groundwater zone, freshwater parts of which are typically located about 500 ft below sea level. The two permeability zones are not separated by a confining unit; rather, they are distinguished by differences in vertical hydraulic gradient and hydraulic conductivity. Both zones yield large quantities of water for agricultural, public supply, domestic and commercial, and industrial uses. Recharge of the aquifer system in the vicinity of the proposed project site occurs at outcrops at higher elevations, and groundwater flows under the influence of gravity coastward to the Gulf of Mexico. Dissolved solids concentrations in groundwater increase along flow paths to the coastline as minerals from aquifer materials are dissolved and mixing with salt water increases (USGS, 2006).

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to groundwater would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, trenching activities and HDD would result in digging to approximately 7 ft below the ground surface with trenching and deeper with HDD. Shallow groundwater is expected to be impacted during trenching activities. Because excavation would impact shallow groundwater, the applicant would coordinate with the MDEQ and obtain any required permits from MDEQ for impacts to shallow groundwater. A letter requesting project review was sent to MDEQ on May 31, 2011. Because the area of ground disturbance would be greater than one acre, the applicant would be required to submit a SWPPP. MDEQ has responded in a letter dated June 23, 2011 regarding the location of CERCLA/Uncontrolled Sites. MDEQ has also responded in a letter dated December 15, 2011. The letter on December 15,

2011 addresses the location of the current and proposed outfall. Although MDEQ did not respond with recommendations for the required SWPPP permit, the applicant would submit a SWPPP and request coverage under the General Stormwater Permit.

4.3 Surface Water

The proposed project site is located along the east bank of the Jourdan River and approximately 0.75 miles north of Bay St. Louis. Elevations within the proposed project site range from 0-12 ft amsl. Elevations are highest at the northeastern corner of the project site and in the areas adjacent to I-10. Stormwater flows to the south and west into tidal marsh and tributaries to Bay St. Louis. The area adjacent to I-10 is elevated due to construction of the road bed. Within the northern portion of the project site, surface water flows southwest across into the drainage ditches located along I-10 and the logging road.

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to surface water would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, temporary impacts to offsite surface waters, potentially including the Jourdan River and the tidal marsh north of Bay St. Louis, may occur due to the transport of sediment from disturbed soils in storm water runoff during construction. The effluent discharged to the Jourdan River through the new outfall will not impair the designated use of the Jourdan River. The effluent will be discharged through a specially-designed diffuser with six ports to provide appropriate dispersion of the effluent to the receiving waters that will meet MDEQ's Water Quality Criteria.

To minimize impacts to surface water, the applicant would prepare a SWPPP that would include BMPs to minimize erosion and off-site sediment transport. The proposed sewer line alignment would be co-located with existing roadways and WWTP utility lines (water line) to minimize impacts to undisturbed areas. The project, as proposed, is not anticipated to impede or

modify the existing drainage ditches located along the project corridor by keeping construction within the existing logging road.

Because the area of ground disturbance would be greater than one acre, the applicant would be required to submit a SWPPP. MDEQ has responded in a letter dated June 23, 2011 regarding the location of CERCLA/Uncontrolled Sites. MDEQ has also responded in a letter dated December 15, 2011. The letter on December 15, 2011 addresses the location of the current and proposed outfall. Although MDEQ did not respond with recommendations for the required SWPPP permit, the applicant would submit a SWPPP in conformance with requirements for coverage under the Mississippi General Stormwater Permit.

4.4 Floodplains

EO 11988 (Floodplain Management) requires that a Federal agency avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP). Diamondhead is a participant in the NFIP.

Consistent with EO 11988, FIRMs were examined during the preparation of this EA. The FIRMs for Mississippi have been updated since Hurricane Katrina to more accurately delineate flood zones. The project area is located on the Hancock County, Mississippi (Unincorporated Areas) FIRM with Community Panel Number 28045CO332D (FEMA, 2009); the proposed outfall line along the interstate is located in flood zone AE. The outfall structure and a portion of the sewer line are located in flood zone VE, i.e., Coastal flood zone with velocity hazard.

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to floodplains would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, no direct impacts to the floodplain would occur. Installation of the proposed outfall line and outfall structure would not result in modifications to the floodplain because the outfall line and outfall structures will be buried and left at the current elevation. Indirect impacts are not anticipated since the project will not provide service to areas outside of the previous service area. The proposed plan was designed to service the Diamondhead community and the existing WWTP. Individual projects would be required to adhere to current regulations of the appropriate agency.

4.5 Waters of the U.S. including Wetlands

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into the waters of the United States. The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or filled material into waters of the United States, including wetlands, pursuant to Section 404 of the Clean Water Act. Additionally, Executive Order (EO) 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impact of wetlands.

A review of the National Wetlands Inventory (NWI) Map indicates wetlands were identified throughout the project corridor. A wetland delineation was conducted by FTN Associates, Ltd. (FTN) biologists on February 4, 2011, in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual*. The Corps manual requires the presence of all three parameters (dominance of hydrophytic vegetation, evidence of hydric soils, and presence of hydrologic indicators) for an area to be considered a wetland.

The FTN delineation identified three jurisdictional areas within the project corridor from the proposed HDD workspace north of I-10 to the location of the outfall structure. The Jourdan River is a navigable, other water of the U.S. The wetland communities contain two, forested, bottomland hardwood wetlands and one area of tidal marsh. The wetland communities are designated as Area 1, Area 2 and Area 3 on Figure 2. The forested, bottomland hardwood wetland communities were found south and north of I-10, near the extreme east end of the project. The forested, bottomland hardwood wetland included the following species: sweetbay

magnolia (*Magnolia virginiana*), red maple (*Acer rubrum var. drummondii*), black gum (*Nyssa sylvatica*), water oak (*Quercus nigra*), titi (*Cyrilla racemiflora*) roundhead rush (*Juncus validus*) and greenbrier (*Smilax laurifolia*). The tidal marsh area contained big cordgrass (*Spartina cynosuroides*), smooth cordgrass (*Spartina alterniflora*), needlegrass rush (*Juncus roemerianus*), and bulrush (*Scirpus americanus*). The remaining areas within the project are previously disturbed, logging roads. The logging roads have been filled and are non-wetlands.

According to NRCS data, soils within the wetland areas consist of Smithton fine sandy loam, Escambia loam, Handsboro and Atmore silt loam (USDA/NRCS,2011a), all of which are listed as hydric or hydric inclusive soils (USDA/NRCS, 2011b).

Soil test pits were dug to verify the presence of positive indicators of hydric soils. Soils had a high organic content in the surface layer and chroma values of 1 with sandy redox, a hydric soil characteristic. Hydrology indicators consisted of areas with water stained leaves, inundation, drift lines, and soils with oxidized root channels.

The Coastal Zone Management Act (CZMA) enables coastal states, including Mississippi, to designate state coastal zone boundaries and develop coastal management programs to improve protection of sensitive shoreline resources and guide sustainable use of coastal areas. According to the National Oceanic and Atmospheric Administration, the proposed project site is located within the Mississippi Coastal Zone (NOAA, 2004).

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to waters of the U.S., including wetlands would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, two areas totaling 1.25 acres of forested, bottomland hardwood wetlands would be temporarily impacted. Area 1 is located north of the I-10 right-of-way, between the proposed HDD workspace and an unnamed logging road. Area 1 is approximately 0.25 acres. Area 2 is located south of the I-10 right-of-way, between the proposed HDD workspace at Akoko Street and approximately 175 ft south of said road. This

area is approximately 550 ft long by 75 ft wide. Area 2 is approximately 1.0 acre in size. Both areas would be temporarily impacted. Following construction, the impacted areas will be restored to pre-construction elevations and allowed to revegetate naturally. Installing the outfall structure within the Jourdan River will require a Section 10 permit and a tidelands lease from the Mississippi Secretary of State. There will be no impacts to the marsh wetlands as the outfall pipe will be installed using HDD. Surface ground disturbances at the temporary workspaces will not be required as the pipe will be stored within the existing road and on a barge to alleviate any ground disturbances.

The applicant would be required to coordinate with MDMR and USACE for impacts to wetlands in the coastal zone and installation of the outfall structure within the Jourdan River. The project, as proposed, is eligible for Nationwide Permits for utility lines. An application for impacts associated with the outfall line and outfall structure will be submitted to MDMR and the USACE. Installation of the outfall structure within the Jourdan River and the pipe under the marsh will require a permit from MDMR and the USACE. An application for a tidelands lease will also be submitted to the Mississippi Secretary of State for approval. A letter requesting project review was sent to MDMR and the USACE on May 31, 2011. MDMR and USACE have notified the applicant that permits would be required for wetland impacts. An application will be submitted and approved by both agencies once the impacts have been verified and before commencing work.

4.6 Transportation

The proposed WWTP is located north of I-10 and west of Park Ten Drive. Park Ten Drive, Gex Drive, Yacht Club Road and Akoko Street provide access to the proposed project site. I-10 runs through the middle of the proposed project site. Akoko Street and logging roads (shown on Figure 2) occur within the proposed project site. The logging road corridor has no homes that are located within the proposed work area. There is minimal traffic activity in the proposed project area and on nearby roads.

The Mississippi Department of Transportation (MDOT) Office of Highways regulates the I-10 right-of-way encroachment and oversees permitting for any activities that occur in the right-of-way.

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to transportation would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, no significant adverse impacts to transportation or site access are anticipated. Existing logging roads would be used to access the proposed sewer line route. These logging roads are private, gated roads that do not contain authorized traffic.

A minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed project site, which could potentially result in a slower traffic flow for the duration of the construction phase, is anticipated for the residents south of I-10. To mitigate potential delays, construction vehicles and equipment would be stored on site during project construction and appropriate signage would be posted on affected roadways. No road closures are anticipated since Akoko Street and the logging road do not contain residential or commercial traffic. The areas where trenching activities will occur are gated and are private.

To avoid disruption to I-10, the applicant would install the outfall line underneath the interstate using HDD. The applicant would be required to coordinate with MDOT to obtain any necessary permits for installing a pipeline beneath the I-10 right-of-way prior to the start of construction.

A letter requesting project review was sent to MDOT on May 31, 2011; no response has been received to date.

4.7 Environmental Justice

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) requires federal agencies to make achieving environmental justice

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.

Socioeconomic and demographic data for the project area were analyzed to determine if a disproportionate number (greater than 50%) of minority or low-income persons have the potential to be adversely affected by the proposed project. According to the 2010 Census of Population, in 2009 the median household income reported in the State of Mississippi was \$36,919 with 22.6% of individuals living below the poverty level. Within Hancock County the median annual household income was \$45,956, with 15.9% of the population living below the poverty level. In 2010, the annual median household income reported within Diamondhead was \$63,914, with 6.1% of the population living below the poverty level.

In addition, minorities represented 40.9%, 11.7%, and 6.1%, respectively, of the population of the State of Mississippi, Hancock County, and Diamondhead (USCB, 2010).

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to minority and low-income populations would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, no adverse impacts on minority or low-income populations are anticipated. Implementation of the Proposed Action Alternative would benefit all populations equally within the WWTP service area. Without the proposed construction of the outfall and wastewater treatment facility, future projects that could potentially benefit low-income populations or minority populations may not proceed.

4.8 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 public welfare by promoting ecosystems health, preventing decreased visibility, and damage to crops and buildings. The EPA has set national ambient air quality standards (NAAQS) for six of the following criteria pollutants; ozone (O₃), particulate matter (PM_{2.5} and 10), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), and lead (Pb). According to MDEQ, the entire state of Mississippi is classified as in attainment, meaning criteria air pollutants do not exceed the NAAQS (MDEQ, 2011).

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to air quality would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, short-term impacts to air quality are anticipated to occur during construction. To reduce temporary impacts to air quality, the construction contractors would be required to water down construction areas when necessary in order to minimize dust. Emissions from fuel-burning internal combustion engines (e.g., heavy equipment and earthmoving machinery) could temporarily increase the levels of some of the criteria pollutants, including CO, NO₂, O₃, and PM₁₀. To reduce the emission of criteria pollutants, fuel-burning equipment running times would be kept to a minimum and engines would be properly maintained.

4.9 Noise

Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. 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.

Noise, defined herein as undesirable sound, is federally regulated by the Noise Control Act of 1972 (NCA). Although NCA gives the EPA authority to prepare guidelines for acceptable

ambient noise levels, it only charges those federal agencies that operate noise-producing facilities or equipment to implement noise standards. EPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses such as residences, schools, or hospitals. The proposed project site consists mainly of undeveloped forested land and rarely-used public roads. The closest noise-sensitive receptors to the proposed outfall line are located within 0.2 mile to the north and east of the northern end of the project site and include several businesses. Diamondhead has no noise ordinance.

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to noise levels would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, no long-term impacts to noise are anticipated. During the construction period, temporary short-term increases in noise levels are anticipated. To prevent potential noise disturbances to the community, construction activities would be limited to normal business hours to the extent possible. Equipment and machinery used for the project would meet all local, state, and Federal noise regulations.

4.10 Biological Resources

The proposed project area consists of pine flatwoods of the coastal plain and tidal marsh. The proposed project site supports wildlife common to undeveloped, suburban areas in coastal Mississippi including songbirds, reptiles, amphibians, small mammals, feral hogs, and white-tailed deer.

USFWS lists the following federally endangered (E) and threatened (T) animal species for Hancock County (USFWS, 2010) as shown in Table 4.2:

The site reconnaissance visit on February 3, 2011, indicated that the proposed project site probably does not contain the necessary or critical habitat for any federally listed species;

therefore, it was considered unlikely that any threatened and endangered are present. A letter requesting project review was sent to the USFWS on May 31, 2011; an email response, dated July 26, 2011, stated a survey should be done to determine if suitable habitat exists within the project site. A survey was performed and the results were submitted to the USFWS on October 11, 2011. An email dated October 20, 2011, from USFWS confirmed there is a lack of potential for adverse impacts to federally listed species as a result of this project.

Table 4.2. Federally endangered and threatened animal species in Hancock County.

Common Name	Scientific Name	Status
Louisiana black bear	<i>Ursus americanus luteolus</i>	T
West Indian manatee	<i>Trichechus manatus</i>	E
Bald eagle	<i>Haliaeetus leucocephalus</i>	Bald and Golden Eagle Act
Piping plover	<i>Charadrius melodus</i>	T (CH)
Gopher tortoise	<i>Gopherus polyphemus</i>	T
Green turtle	<i>Chelonia mydas</i>	T
Loggerhead turtle	<i>Caretta caretta</i>	T
Gulf sturgeon	<i>Acipenser oxyrhynchus desotoi</i>	T (CH)
Inflated heelsplitter	<i>Potamilus inflatus</i>	T
Louisiana quillwort	<i>Isoetes louisianensis</i>	E
Kemp's Ridley turtle	<i>Lepidochelys kempii</i>	E
Ringed map turtle	<i>Graptemys oculifera</i>	T
Leatherback sea turtle	<i>Dermochelys comacea</i>	E

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to biological resources would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Under the Proposed Action Alternative, the majority of the proposed outfall line and outfall structure would be constructed in previously disturbed areas or using HDD drilling techniques; however, limited vegetation removal would only occur within the 75 ft. x 150 ft. (± 0.25 -acre) and 75 ft. x 550 ft. (± 1.0 -acre) temporary construction areas near the interstate. The

email dated October 20, 2011 from USFWS confirms there is a lack of potential for adverse impacts to federally listed species as a result of this project.

4.11 Cultural Resources

Section 106 of the National Historic Preservation Act, as amended, and implemented by 36 CFR Part 800, requires federal agencies to consider the effects of their actions on historic properties and provide the Advisory Council on Historic Preservation an opportunity to comment on federal projects prior to implementation. Historic properties are defined as archeological sites, standing structures, or other historic resources listed in or eligible for listing in the National Register of Historic Places.

No-Action Alternative

Under the No-Action Alternative, the proposed outfall line and outfall structure would not be constructed; therefore, no impacts to cultural resources would occur. The proposed WWTP would not connect to the existing sewer system and outfall structure.

Proposed Action Alternative

Because the proposed outfall line would be constructed mostly in areas that have been disturbed by the construction of existing roads, it is unlikely that any cultural resources would be affected by the proposed project. In addition, a Phase I Cultural Resource Survey (00-227) was completed adjacent to the site for the installation of a fiber optic line. This survey line was only several meters away and parallel to the APE and produced negative results. Site number 22HA527 is located slightly northwest of the project area but no associated deposits were encountered during the 00-227 survey (Pearce and Mikell 2000).

A consultation letter dated May 31, 2011, was submitted to MDAH State Historic Preservation Office and to the Mississippi Band of Choctaw Indians (MBCI) requesting review and comments regarding the proposed project. A letter was received from MDAH with no objections or recommendations on June 22, 2011. No response has been received to date from the MBCI.

If during the course of work, archaeological artifacts (prehistoric or historic) or human remains are discovered, the applicant shall stop work in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. The applicant shall inform their Public Assistance (PA) contacts in FEMA, who will in turn contact FEMA Historic Preservation staff. Work will not proceed until FEMA Historic Preservation staff has completed consultation with the SHPO and the MBCI. Non-compliance with this requirement may jeopardize the receipt of federal funding.

5.0 CUMULATIVE IMPACTS

According to the Council on Environmental Quality (CEQ) regulations, cumulative impacts represent the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what 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).” In accordance with NEPA and to the extent reasonable and practical, this EA considered the combined effect of the Proposed Action Alternative and other actions occurring or proposed in the vicinity of the proposed project site.

Diamondhead and the entire Mississippi Gulf coast are undergoing recovery efforts after Hurricane Katrina caused extensive damages. The recovery efforts in Diamondhead include demolition, reconstruction, and new construction. Recovery efforts including the relocated WWTP project and the proposed project may have a cumulative temporary impact on ground water, surface water, wetlands, air quality and noise pollution during construction activities. No other cumulative effects are anticipated.

6.0 PUBLIC INVOLVEMENT

FEMA is the lead federal agency for conducting NEPA compliance process for sewer line construction project in Diamondhead, Mississippi. It is the goal of the lead agency to expedite the preparation and review of NEPA documents and to be responsive to the needs of the community and the purpose and need of the proposed action while meeting the intent of NEPA and complying with all NEPA provisions.

The District notified the public of the availability of the draft SEA through publication of a public notice in a local newspaper. The public notice was published on <date> and <date>, in *The Sea Coast Echo* (Appendix C). FEMA conducted an expedited public comment period commencing on the initial date of publication of the public notice and ending on <date>. <Number> comments were received from the public.

Once the district notifies the public of the document, the above dates will be entered.

7.0 AGENCY COORDINATION AND PERMITS

The following agencies and organizations were contacted by a letter requesting project review during the preparation of this SEA. Letters sent to the agencies and received to date are included in Appendix B.

- U.S. Army Corps of Engineers, Mobile District
- U.S. Department of Agriculture, Natural Resources Conservation Service
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- Mississippi Department of Agriculture and Commerce
- Mississippi Department of Archives and History
- Mississippi Band of Choctaw Indians
- Mississippi Department of Environmental Quality
- Mississippi Department of Marine Resources
- Mississippi Department of Transportation
- Mississippi Soil and Water Conservation Commission

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.

8.0 CONCLUSIONS

No impacts to geology, topography, floodplains, public health and safety, hazardous materials, socioeconomics, environmental justice, threatened/endangered species, and cultural resources are anticipated with the Proposed Action Alternative. During the construction period, short-term impacts to soils, groundwater, surface water, wetlands, other waters of the U.S., transportation, air quality, and noise are anticipated. All short-term impacts require conditions to minimize and mitigate impacts to the proposed project site and surrounding areas. Potential impacts to surface water, soils, and shallow groundwater would require permits from MDEQ. There would be limited vegetation removal along the project corridor, which is mostly disturbed and follows an existing right-of-way. Temporary impacts to wetlands (1.25 acre) would require a permit from the USACE. The installation of the outfall structure will require a tidelands lease and permit from MDMR. The HDD pipeline installation would require a permit from the Mississippi Department of Transportation.

9.0 REFERENCES

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