Appendix L – Agency Consultation/Correspondence

FRA Scoping Meeting Email – January 26, 2021

MDEQ – Water Quality Certification and Correspondence

February 1, 2021 – Letter to Mr. Cevion Span, MDEQ Stormwater Branch and Mr. Rudolph Villareal, USACE – Section 401 Water Quality Certification Request

March 12, 2021 – Letter from MDEQ to Sandy Feathers issuing Section 401 Water Quality Certification WQC No. 2021002

NMFS – EFH Assessment and Correspondence

MDMR – Coastal Zone Consistency and Correspondence

USFWS – Correspondence

SHPO and THPO Correspondence - (See Appendix K)

USACE – Correspondence

Correspondence with USACE as a Cooperating Agency - January 28, 2021

Correspondence with USACE for Section 404 Permit

February 25, 2021 – Letter from USACE (Rudolph Villareal) request for additional information for Section 404 permit application and transmittal of letters in response to Public Notice (from MDAH, NOAA/NMFS and MDEQ).

March 10, 2021 – Letter to Mr. Rudolph Villareal in response to February 25, 2021 request for additional information

FRA

SCOPING MEETING EMAIL – JANUARY 26, 2021

Lisa D. Morrison

From: Murphy, Amanda (FRA) <amanda.murphy2@dot.gov>
Sent: Tuesday, January 26, 2021 3:01 PM
To: Rudolph.C.Villarreal@usace.army.mil; Greg.Christodoulou@dmr.ms.gov; willa.brantley@dmr.ms.gov; FBass@mdeq.ms.gov; cspan@mdeq.ms.gov; hbell@mdah.ms.gov; bwhite@mdah.ms.gov; david_felder@fws.gov; January.Murray@noaa.gov; KCarleton@choctaw.org; ithompson@choctawnation.com; mmiller@mserr.com; Rashard_Howard@csx.com; Will_Roseborough@csx.com; mwilliams@mdeq.ms.gov; anika.morgan@cityofmosspoint.org; msilverman@cityofpascagoula.com; nicole.hodges@mmns.ms.gov; sfeathers@portofpascagoula.com; cwalters@mdot.ms.gov; dseyfarth@mdot.ms.gov; agreer@portofpascagoula.com; msmith@portofpascagoula.com; Joey Duggan; Lisa D. Morrison; Brian_Fulton@co.jackson.ms.us; melton_harris@co.jackson.ms.us
Cc: Dixon, Marc (FRA)
Subject: Save the date: North Rail Connector Project Meeting (2/1/21 @1:30 PM CST)
Attachments: NRC project figures.pdf

Importance: High

****Apologizes if you're receiving this email a 2nd time. The attachment was too large for many people, and I received undelivered messages. Attached are three project figures, others will be provided ahead of the meeting****

The Federal Railroad Administration (FRA) awarded the Jackson County Port Authority (JCPA) a grant for the proposed North Rail Connector Project (Proposed Project). The Proposed Project would connect rail owned by Mississippi Export Railroad (MSE) that crosses over the Escatawpa River just east of Highway 63 in Moss Point, Mississippi to an existing JCPA-owned rail line that crosses through the Moss Point Industrial and Technology Complex (MPITC). FRA anticipates preparation of an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) for the Proposed Project, and invites you to be a participating agency. FRA would coordinate the NEPA process with requirements for other environmental laws including, but not limited to, the National Historic Preservation Act, Endangered Species Act, and Clean Water Act.

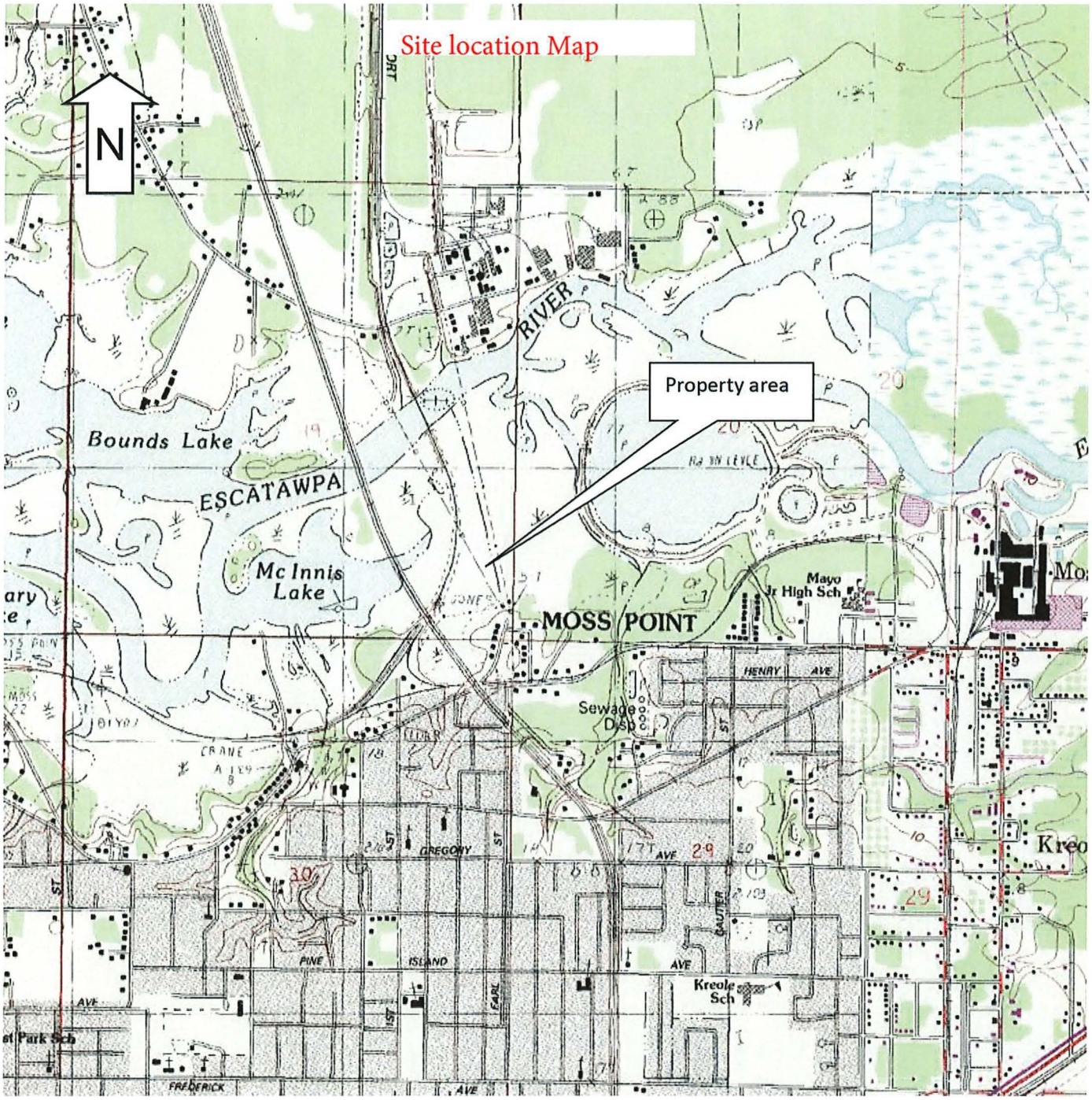
JCPA and FRA invite you to an informational meeting on February 1, 2021 at 1:30 pm CST. Details on a conference call in number or Zoom meeting number will be provided separately.

The purpose of the Proposed Project is to provide additional railroad capacity and connectivity between existing infrastructure to support the growing needs of the Port of Pascagoula, Bayou Casotte Harbor. Currently, freight trains that travel from the north on the MSE line must pass through downtown Moss Point and Pascagoula to the Pascagoula Interchange to join CSX rail. This operation regularly blocks vehicular traffic and creates delays at four major roadway intersections. Also, the curve between the existing MSE line that joins with the rail line that enters into the MPITC is too tight to allow unit trains to travel. The Proposed Project is needed remove operational conflicts between railroads, reduce congestion, and accommodate the proposed restoration of passenger rail service.

Enclosed are figures of the Proposed Project. The proposed rail would be a total length of approximately 3,659 linear feet with 2,852 feet of elevated rail and 807 feet of rail constructed on fill or existing uplands. The total wetland impact is approximately 0.90 acres. The rail line begins at approximate latitude/longitude 30.251207/-88.310005 on the north and extends to approximate latitude/longitude 30.413308/-88.508269 where it joins existing rail. The approximate center point of the proposed rail line is located at 30.415001 degrees latitude and -88.513679 degrees longitude.

We look forward to working cooperatively with you on this project.

Amanda Murphy, MAHP
Environmental Protection Specialist
Federal Railroad Administration
202-339-7231 (cell)
Amanda.murphy2@dot.gov

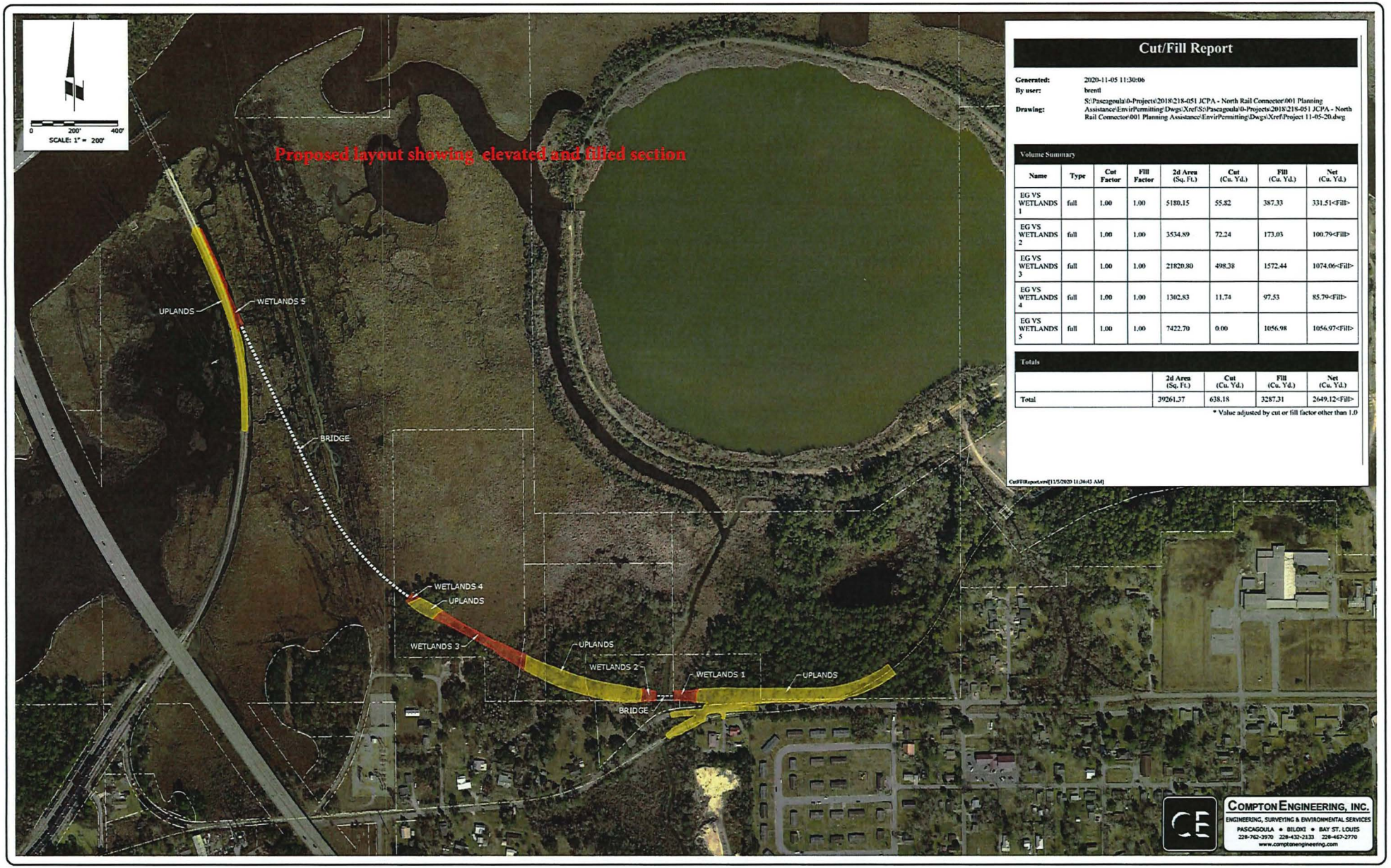


COMPTON ENGINEERING, INC.
Engineering, Surveying, and Environmental Services
156 Nixon Street
Biloxi, Mississippi 39530
Phone: (228) 432-2133 Fax: (228) 432-8149
E-mail: compton@comptonengineering.com

Site: North Rail Project Area
Moss Point, Jackson County, MS

Figure Title: **Topographic Map** (Map Source: USGS, 2012)

Appendix ID:
A



Cut/Fill Report

Generated: 2020-11-05 11:30:06

By user: brentl

Drawing: S:\Pascagoula\0-Projects\2018\218-051 JCPA - North Rail Connector\001 Planning Assistance\EnvirPermitting\Dwgs\Xref\S:\Pascagoula\0-Projects\2018\218-051 JCPA - North Rail Connector\001 Planning Assistance\EnvirPermitting\Dwgs\Xref\Project 11-05-20.dwg

Volume Summary

Name	Type	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
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EG VS WETLANDS 2	full	1.00	1.00	3534.89	72.24	173.03	100.79<Fill>
EG VS WETLANDS 3	full	1.00	1.00	21820.80	498.38	1572.44	1074.06<Fill>
EG VS WETLANDS 4	full	1.00	1.00	1302.83	11.74	97.53	85.79<Fill>
EG VS WETLANDS 5	full	1.00	1.00	7422.70	0.00	1056.98	1056.97<Fill>

Totals

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Total	39261.37	638.18	3287.31	2649.12<Fill>

* Value adjusted by cut or fill factor other than 1.0

CutFillReport.xml[11/5/2020 11:30:43 AM]

COMPTON ENGINEERING, INC.
ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES
PASCAGOULA • BILOXI • BAY ST. LOUIS
228-762-3970 228-432-2133 228-467-2970
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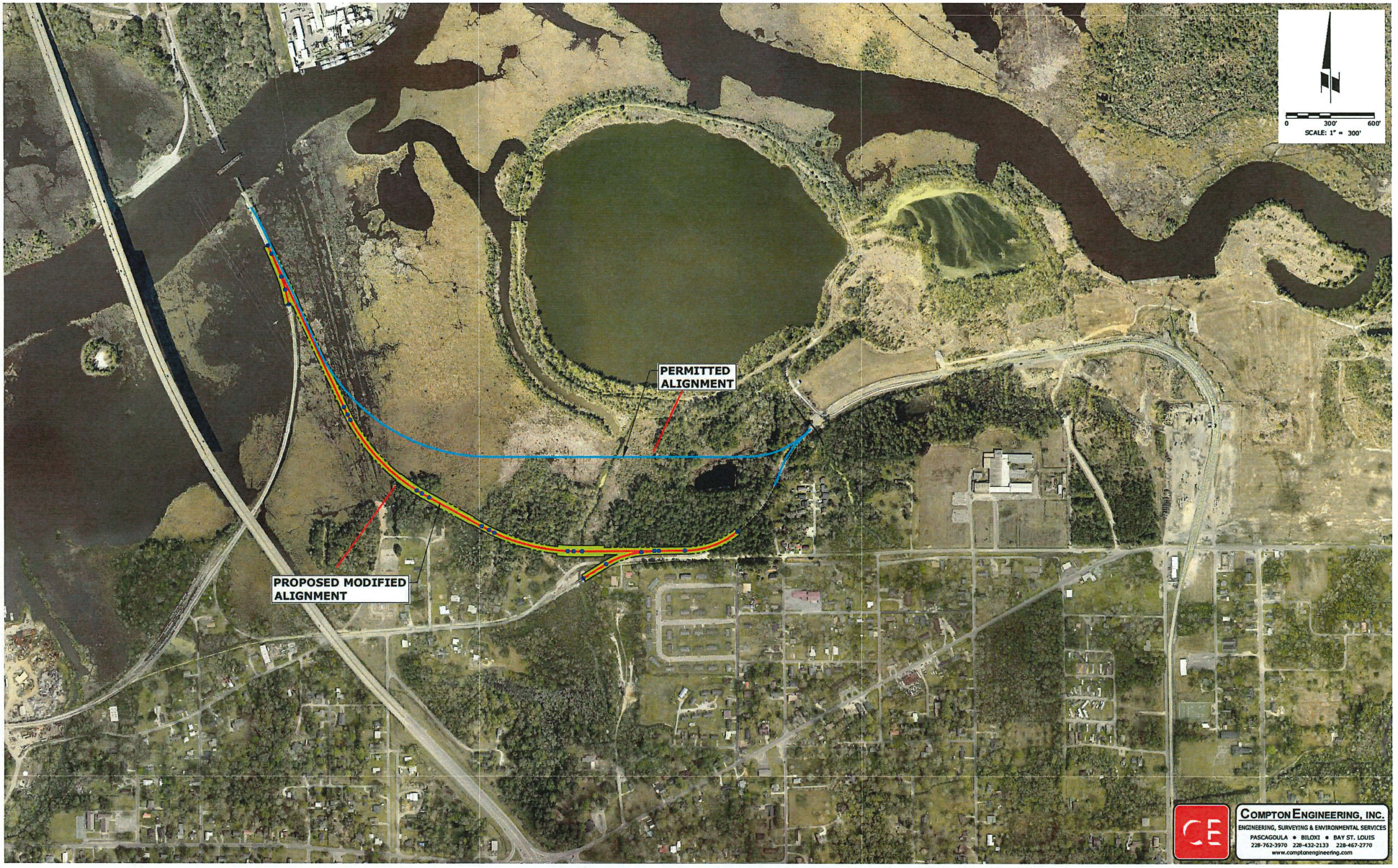


MDEQ

WATER QUALITY CERTIFICATION AND CORRESPONDENCE

National Marine Fisheries Service

EFH Assessment and Correspondence

MISSISSIPPI DEPARTMENT OF MARINE RESOURCES

COASTAL ZONE CONSISTENCY

CORRESPONDENCE

SHPO AND THPO CORRESPONDENCE

US FISH AND WILDLIFE SERVICE CORRESPONDENCE

US ARMY CORPS OF ENGINEERS CORRESPONDENCE

MDEQ

WATER QUALITY CERTIFICATION AND CORRESPONDENCE

COMPTON ENGINEERING, INC.

ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES

156 Nixon Street
Biloxi, MS 39530

Phone: 228.432.2133
Fax: 228.432.8149

comptonengineering.com

PASCAGOULA

BILOXI

BAY ST. LOUIS

February 1, 2021

Mr. Cevion Span
Mississippi Department of Environmental Quality
Storm Water Branch
P.O. Box 2261
Jackson, MS 39225-2261

Mr. Rudolph Villareal
U.S. Army Corps of Engineers
Mobile District
USACE-CESAM-RD-M
P.O. Box 2288
Mobile, AL 36628-0001

Re: Jackson County Port Authority
North Rail Connector
Moss Point, Mississippi
Section 401 Water Quality Certification Request
WQC - 2021002
(C.E. Job No. 218-051)

Dear Mr. Span and Mr. Villareal:

The purpose of this letter is to submit the Water Quality Certification Request for the above referenced project. Per the requirements of 40 CFR 121.5 the following information is provided:

1) The project proponent is the Jackson County Port Authority, P.O. Box 70, Pascagoula, MS 39568. Mr. Mark McAndrews, Port Director is the point of contact at 228-762-4041. Ms. Sandy Feathers is a secondary point of contact.
2) The proposed project is the North Rail Connector Rail Line in Moss Point, MS.
3) The proposed project has applied for a Section 404 permit from the Army Corps of Engineers and has been assigned a project number of SAM-2021-00025-RCV.
4) The project is located in Moss Point, MS south of the Escatawpa River. The project will include construction of rail line over approximately 2,852 feet of marsh wetlands and 807 feet of uplands. By using elevated construction methods, the impact to the marsh wetland is greatly reduced with fill going in only at the abutments to the elevated sections and a short section of marsh (approximately 413 linear feet). The total impact for the footprint is approximately 39,261 square feet (0.90 acres) and will require approximately 2,649 net cubic yards of fill.
5) Best Management Practices (BMPs) will be utilized to prevent discharge to receiving waters during construction. Silt fence, turbidity curtains and a construction entrance will be utilized. The project will be inspected daily during construction by a construction supervisor and weekly by a stormwater inspector. A SWPPP has been prepared and will be provided to the construction contractor and will be referenced in the project construction specifications.

6) The project is expected to receive Coastal Zone Consistency approval from the Mississippi Department of Marine Resources, concurrence from the Mississippi Department of Archives and History, and from the US Fish and Wildlife Service as well as the National Marine Fisheries Service.
7) A pre-filing meeting request was submitted to the MDEQ on November 24, 2020. A pre-filing meeting was held on December 4, 2020 and additional information about the project was submitted to MDEQ on December 14, 2020.
8) The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief.
9) The project proponent hereby requests that the certifying authority (MDEQ) review and take action on this CWA 401 certification request within the applicable reasonable period of time.

We appreciate your attention to this certification request.

Sincerely,

COMPTON ENGINEERING, INC.

Lisa D. Morrison

Lisa D. Morrison, R.P.G.

LDM/kl

From:	Cevion Span
To:	Lisa D. Morrison
Subject:	FW: North Rail Pre-File Meeting Request
Date:	Monday, February 01, 2021 10:22:34 AM
Attachments:	image001.png

Good Morning Lisa,

I have attached the emails about the pre-file meeting request. It look like it was submitted Nov 24th, 2020, and my supervisor pulled me in to set it up on the Nov 30th. If this is not what you were looking for, please let me know.

Thank you,

Cevion Span
601-961-5267

From: Florance Bass <FBass@mdeq.ms.gov>
Sent: Monday, November 30, 2020 7:33 AM
To: lmorrison@comptonengineering.com
Cc: Cevion Span <cspan@mdeq.ms.gov>
Subject: RE: North Rail modification

Lisa,

I asked Cevion Span of my staff to reach out to you set this meeting. I would suggest letting him know your availability for the next two weeks. I have copied him on this email. Please work directly with him to get this set. Thanks.

In light of current events, please note that I may not be available by phone directly in my office. I am frequently checking email and voicemail. I will be communicating by email or phone. If you call, please leave a voicemail. I will return your call as soon as possible.

Florance Bass, P.E., BCEE
Manager, 401/Stormwater Branch
Environmental Permits Division
Mississippi Department of Environmental Quality
601-961-5614 (desk)
769-233-3276 (cell)

From: Lisa D. Morrison [mailto:lmorrison@comptonengineering.com]
Sent: Tuesday, November 24, 2020 4:14 PM
To: Florance Bass <FBass@mdeq.ms.gov>
Subject: North Rail modification

Florence, we submitted a pre-filing meeting request for this permit modification - SAM-2018-01204-RCV , DMR190178. Just want to make sure you received it and find out what the next steps are.

Thank you.

Lisa D. Morrison, RPG
Senior Geologist

COMPTON ENGINEERING, INC.

156 Nixon Street, Biloxi, MS
P: 228.432-2133 F: 228.432-8149 C:760-0643

STATE OF MISSISSIPPI
TATE REEVES
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHRIS WELLS, EXECUTIVE DIRECTOR

March 12, 2021

Ms. Sandy Feathers
Jackson County Port Authority
P.O. Box 70
Pascagoula, Mississippi 39568

Dear Ms. Sandy Feathers:

Re: Jackson County Port Authority,
MPITC Rail Line
Jackson County
COE No. SAM202100025RCV
WQC No. WQC2021002

Pursuant to Section 401 of the Federal Water Pollution Control Act (33 U. S. C. 1251, 1341), the Office of Pollution Control (OPC) issues this Certification, after public notice and opportunity for public hearing, Jackson County Port Authority, an applicant for a Federal License or permit to conduct the following activity:

> Jackson County Port Authority, MPITC Rail Line: The proposed work is a new rail connection that will connect the existing rail line just south of the Escatawpa River and the rail line that is located within the MPITC. The proposed construction length of new rail is over approximately 2,852 feet of estuarine wetlands and 807 feet of uplands. By using elevated construction methods, the impact to the marsh wetland is greatly reduced with fill going in only at the abutments to the elevated sections and short section of marsh (approximately 413 linear feet). The total impact for the revised footprint is approximately 39,261 square feet (0.9 acres) and will require 2,649 net cubic yards of fill. [SAM202100025RCV, WQC2021002].

The Office of Pollution Control certifies that the above-described activity will be in compliance with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act and Section 49-17-29 of the Mississippi Code of 1972, if the applicant complies with the following conditions:

1. The development shall connect to an Office of Pollution Control approved wastewater collection and treatment system. (Statement C) (11 Miss. Admin. Code Pt. 6, R. 1.1.1.B)

2. Appropriate best management practices (BMPs) shall be properly installed and maintained to prevent the movement of sediment off-site and into adjacent drainage areas. Special care shall be taken prior to and during construction to prevent the movement of sediment into adjacent avoided wetland areas. In the event of any BMP failure, corrective actions shall be taken immediately. (Statement B) (11 Miss. Admin. Code Pt. 6, R. 1.1.1.B.)

3. All fill material and excavation areas shall have side slopes of 3:1 (horizontal:vertical) or flatter and shall be immediately seeded, stabilized and maintained. (Statement B) (11 Miss. Admin. Code Pt. 6, R. 1.1.1.B.)

4. The Post Construction Water Quality Plan submitted on December 14, 2020, shall be implemented concurrent with project construction and maintained as proposed. (Statement D) (11 Miss. Admin. Code Pt. 6, R 1.3.4 A (9))

5. Mitigation for the impacts of 0.90 acres of wetlands shall be provided by the purchase of mitigation credits from an approved mitigation bank. The number of credits must be in accordance with banking prospectus and should be based upon that required for impacting 0.90 acres of wetlands. Written verification of credit purchase must be provided to the Office of Pollution Control prior to the commencement of any work in the wetland or stream areas. (Statement D) (11 Miss. Admin. Code Pt. 6, R 1.3.4 A (2))

    a. MDEQ acknowledges that JCPA has already purchased 3.48 credits from Wetland Solutions mitigation bank for mitigation for impacts to the original footprint, which impacted 1.16 acres of wetlands. JCPA can use those purchased credits for this revised footprint.

6. The approved mitigation plan submitted by Compton Engineering, Inc. on behalf of Jackson County Port Authority for the unavoidable impacts to the waters of the State shall be implemented as proposed. The mitigation area shall be placed in a conservation easement or restrictive covenant. The ovenant shall be properly recorded in the Miscellaneous Document Book, with the Registrar of Deeds, or with another appropriate official charged with the responsibility of maintaining records of title to and interest in real property within six months of the effective date of the authorization. A certified copy of the covenants must be furnished to the Office of Pollution control within 30 days of the recording. The covenant shall contain: (Statement D) (11 Miss. Admin. Code Pt. 6, R 1.3.4 A (2))

    a. There should be no removal, destruction, cutting, mowing, application of biocides, or disturbance or other change in the vegetation in the conservation zone other than practices outlined in the management plans.

    b. There shall be no agricultural, commercial, or industrial activities allowed in the conservation zone.

    c. There shall be no construction or placement or buildings, or other structures in the mitigation area other than structures for wildlife enhancement, viewing, or scientific study.

    d. There shall be no construction of roads in the conservation zone. This does not include foot trails for educational use. No motorized vehicles (to include off-road and four-wheel drive vehicles) shall be allowed on said site.

7. Turbidity outside the limits of a 750-foot mixing zone shall not exceed the ambient turbidity by more than 50 Nephelometric Turbidity Units. (Statement A) (11 Miss. Admin. Code Pt. 6, R. 2.2.A.)

8. No sewage, oil, refuse, or other pollutants shall be discharged into the watercourse. (Statement A) (11 Miss. Admin. Code Pt. 6, R. 2.2.A.(3))

As part of the Scope of Review for Application Decisions, 11 Mississippi Administrative Code Part 6, Rule 1.3.4(B), the above conditions are necessary for the Department to ensure that appropriate measures will be taken to eliminate unreasonable degradation and irreparable harm to waters of the State, such that the activity will not meet the criteria for denial:

(A) The proposed activity permanently alters the aquatic ecosystem such that water quality criteria are violated and/or it no longer supports its existing or classified uses. An example is the channelization of streams

(B) Nonpoint source/storm water management practices necessary to protect water quality have not been proposed.

(C) Denial of wastewater permits and/or approvals by the State with regard to the proposed activities.

(D) The proposed activity in conjunction with other activities may result in adverse cumulative impacts.

The Office of Pollution Control also certifies that there are no limitations under Section 302 nor standards under Sections 306 and 307 of the Federal Water Pollution Control Act, which are applicable to the applicant's above-described activity.

This certification is valid for the project as proposed. Any deviations without proper modifications and/or approvals may result in a violation of the 401 Water Quality Certification. If you have any questions, please contact Cevion Span.

Sincerely,

Krystal Rudolph

Krystal Rudolph, P.E., BCEE
Chief, Environmental Permits Division

KR: cs

cc: Rudolph C. Villarreal, U.S. Army Corps of Engineers, Mobile District
Greg Christodoulou, Department of Marine Resources
David Felder, U.S. Fish and Wildlife Service
Molly Martin, Environmental Protection Agency
Lisa Morrison, Compton Engineering

STATE OF MISSISSIPPI
TATE REEVES
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHRIS WELLS, EXECUTIVE DIRECTOR

January 27, 2021

Sandy Feathers
Jackson County Port Authority, MPITC Rail Line
PO BOX 70
Pascagoula, MS 39568

Re: Jackson County Port Authority, MPITC Rail Line
Jackson County
COE No. SAM202100025RCV
WQC No. WQC2021002

Dear Mr. Feathers:

This letter is to acknowledge receipt of the public notice relating to your 401 Water Quality Certification Request on 01/20/2021. Within thirty days after the date of receipt of the public notice, you will be notified of the major components required to complete the processing of your certification request.

If any of these actions involve construction activities, please notify us of your projected schedule for commencement of construction and completion of construction.

If you have any questions regarding the application or the permitting process, please contact Florance Bass at (601) 961-5171.

Sincerely,

Renee Smith

Renee Smith
Environmental Permits Division

cc: Rudolph Villarreal

75594 WQC20210001

National Marine Fisheries Service

EFH Assessment and Correspondence

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
https://www.fisheries.noaa.gov/region/southeast

February 11, 2021 F/SER46/JM:rs
225-380-0089

Colonel Sebastien P. Jolly, Commander
U.S. Army Corps of Engineers, Mobile District
Post Office Box 2288
Mobile, Alabama 36628-0001

Dear Colonel Jolly:

NOAA's National Marine Fisheries Service (NMFS) has reviewed Joint Public Notice (JPN) SAM-2021-00025-RCV dated January 20, 2021. The JPN indicated the Federal Railroad Administration (FRA) is the lead federal agency for this project and responsible for ensuring compliance with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). The NMFS previously reviewed JPN SAM-2018-01204-RCV dated May 29, 2019 and provided two conservation recommendations on the project under provisions of the Magnuson-Stevens Act in a letter to the U.S. Army Corps of Engineers (USACE) dated June 25, 2019. The USACE permitted the applicant, Jackson County Port Authority (JCPA), to construct the North Rail Connector on October 14, 2020 (SAM-2018-01204-RCV). The initial cost estimated for a railroad on fill versus an elevated rail line indicated the fill construction method would be the most cost effective.

In an effort to reduce construction costs, the JCPA evaluated other construction methods and rail line footprints. Upon JPCA's review of a recent geotechnical evaluation, the cost estimated for elevated rail construction yielded rail crossings over a shorter section of marsh, crossing over longer sections of forested uplands, a connection to the existing rail at a different location, and reduced construction costs and impacts to essential fish habitat (EFH). Based on the information provided in the JPN (SAM-2021-00025-RCV), the JCPA proposes: (1) to discontinue use of a section of rail line, (2) construct a new rail connection to the existing rail line using elevated pilings, and (3) fill 0.90 acre of estuarine wetlands east of Highway 63 in Jackson County, Mississippi.

The wetlands in the vicinity of the project consist of tidally influenced brackish marsh. Water bottoms in the project area are composed of a mixture of sand and mud substrates. The proposed project is in an area potentially designated as EFH for various life stages of federally managed species, including red drum, brown shrimp, and white shrimp. The primary categories of EFH affected by project implementation, are estuarine emergent wetlands, estuarine water columns, and estuarine water bottoms. Detailed information on federally managed fisheries and their EFH is provided in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico prepared by the Gulf of Mexico Fishery Management Council. The generic amendment was prepared as required by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; P.L. 104-297).

In addition to being designated as EFH for various federally managed fishery species, wetlands, and water bottoms in the project area provide nursery and foraging habitats for a variety of economically important marine fishery species such as blue crab, gulf menhaden, spotted sea trout, sand trout, southern flounder, and striped mullet. Some of these species serve as prey for other fish species managed by the Gulf of Mexico Fishery Management Council (e.g., mackerels, snappers, and groupers) and highly migratory species managed by NMFS (e.g., billfishes and sharks). Wetlands in the project area also produce nutrients and detritus, important components of the aquatic food web, which contributes to the overall productivity of the Pascagoula Bay estuary.

Under the EFH provisions of the Magnuson-Stevens Act, federal action agencies, such as the USACE and the FRA, are required to conduct an EFH consultation with NMFS. However, the FRA has not initiated an EFH consultation or provided the required EFH assessment at this stage of the federal permitting and authorization process. A complete EFH assessment should include all activities associated with this project and a description of measures taken to avoid, minimize, mitigate, or offset the adverse impacts of the proposed activities on EFH. Avoidance and minimization of direct wetland impacts should be pursed to the greatest extent practicable. The NMFS recommends an alternatives analysis including details on the selection of the footprint alignment, evaluation of other construction methods, and details on the utilization of existing rail lines, bridges, or other alignments be provided. Additionally, unavoidable EFH impacts will require in-kind mitigation. The NMFS is not aware of existing mitigation banks servicing the area providing this credit type. Therefore, a permittee responsible mitigation plan will be required.

Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH conservation recommendations for any federal action or permit which may result in adverse impacts to EFH. Therefore, NMFS recommends the following to ensure the conservation of EFH and associated marine fishery resources:

EFH Conservation Recommendations

1. An alternatives analysis should be developed which accomplishes the project purpose and avoids or minimizes impacts to EFH.

2. A complete EFH assessment should be provided to NMFS including all activities associated with this project and a description of measures taken to avoid, minimize, mitigate, or offset the adverse impacts of the proposed activities on EFH.

3. A mitigation and monitoring plan should be developed which fully compensates for unavoidable impacts to EFH. The mitigation plan should be presented to NMFS for review. Should a permit be issued for this project, it should require the implementation of the mitigation plan concurrent with the construction of the development.

Consistent with Section 305(b)(4)(B) of the Magnuson-Stevens Act and NMFS' implementing regulation at 50 CFR 600.920(k), your office is required to provide a written response to our EFH conservation recommendations within 30 days of receipt. Your response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the proposed activity. If your response is inconsistent with our EFH conservation recommendations, you must provide a substantive discussion justifying the reasons for not implementing the recommendations. If it is not possible to provide a substantive response within 30 days, the Mobile District should provide an interim response to NMFS, to be followed by the detailed response. The detailed response should be provided in a manner to ensure that it is received by NMFS at least 10 days prior to the final approval of the action.

Thank you for your consideration of these comments. If you wish to discuss this project, further or have questions concerning our recommendations, please contact January Murray at (225) 380-0089, or by email at January.Murray@noaa.gov.

Sincerely,

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

c:
USACE, Mobile, Villarreal
FRA, Murphy
FWS, Jackson, Necaise
F/SER46, Swafford
F/SER4, Dale
Files

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
https://www.fisheries.noaa.gov/region/southeast

March 23, 2021 F/SER46/JM:rs
225-380-0089

Mr. Michael Johnsen, Supervisory Environmental Protection Specialist
U.S. Department of Transportation, Federal Railroad Administration
Environmental and Project Engineering Division
Office of Railroad Policy and Development
1200 New Jersey Avenue, Southeast
Washington, DC 20590

Dear Mr. Johnsen:

NOAA's National Marine Fisheries Service (NMFS) has received your letter dated March 10, 2021, including an essential fish habitat (EFH) assessment, an alternatives analysis, and a draft permittee responsible mitigation and monitoring plan (PRMMP) for the North Rail Connector project under the Department of the Army permit SAM-2021-00025-RCV. The Federal Railroad Administration (FRA) is the lead federal agency for this project and responsible for ensuring compliance with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; P.L. 104-297). The FRA, in cooperation with the United States Army Corps of Engineers (USACE), is preparing an Environmental Assessment for the project in accordance with the National Environmental Policy Act. The applicant, the Jackson County Port Authority (JCPA), proposes to discontinue use of a section of rail line, construct a new rail connection to the existing rail line using elevated pilings, and fill 0.90 acre of estuarine wetlands east of Highway 63 in Jackson County, Mississippi.

The wetlands in the vicinity of the project consist of tidally influenced brackish marsh. Water bottoms in the project area are composed of a mixture of sand and mud substrates. The proposed project is in an area potentially designated as EFH for various life stages of federally managed species, including red drum, brown shrimp, and white shrimp. The primary categories of EFH affected by project implementation, are estuarine emergent wetlands, estuarine water column, and estuarine water bottoms. Detailed information on federally managed fisheries and their EFH is provided in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico prepared by the Gulf of Mexico Fishery Management Council. The generic amendment was prepared as required by the Magnuson-Stevens Act.

In addition to being designated as EFH for various federally managed fishery species, wetlands, and water bottoms in the project area provide nursery and foraging habitats for a variety of economically important marine fishery species such as blue crab, gulf menhaden, spotted sea trout, sand trout, southern flounder, and striped mullet. Some of these species serve as prey for other fish species managed by the Gulf of Mexico Fishery Management Council (e.g., mackerels, snappers, and groupers) and highly migratory species managed by NMFS (e.g., billfishes and sharks). Wetlands in the project area also produce nutrients and detritus, important components

of the aquatic food web, which contributes to the overall productivity of the Pascagoula Bay estuary.

Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH conservation recommendations for any federal action or permit which may result in adverse impacts to EFH. In a letter dated February 11, 2021, to the USACE, the NMFS provided three EFH conservation recommendations on the North Rail Connector project to ensure the conservation of EFH and associated marine fishery resources. The NMFS finds the EFH assessment, alternatives analysis, and draft PRMMP dated March 2021, provided by FRA includes sufficient information to ensure adverse impacts to EFH would be adequately offset through a PRMMP to create approximately 1.0 acre of tidal marsh habitat. With implementation of the PRMMP, NMFS concurs the proposed project would not have an adverse effect on EFH in the area. At this time, the NMFS is prepared to remove our conservation recommendations for the North Rail Connector project, unless future modifications are proposed which may result in adverse impacts to EFH.

Thank you for consulting with our staff on this project. If you wish to discuss this project further or have questions concerning our recommendations, please contact January Murray at (225) 380-0089, or by email at January.Murray@noaa.gov.

Sincerely,

Virginia M. Fay

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

c:
FRA, Murphy
USACE, Mobile, Villarreal
FWS, Jackson, Necaise
F/SER46, Swafford
F/SER4, Dale
Files

U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 10, 2021

Ms. January Murray, Fishery Biologist
National Marine Fisheries Service
Habitat Conservation Division
NOAA Fisheries Service
5757 Corporate Blvd., Suite 375
Baton Rouge, LA 70808

Re: Jackson County Port Authority (JCPA) North Rail Connector Planning Project

Dear Ms. Murray:

The Federal Railroad Administration (FRA) has chosen Jackson County Port Authority (JCPA) to receive grant funding for the North Rail Connector rail line in Jackson County, Mississippi. The FRA, in cooperation with U.S. Army Corps of Engineers (USACE), is preparing an Environmental Assessment (EA) for the Project in accordance with the National Environmental Policy Act (NEPA). In support of this effort and on behalf of JCPA, we are requesting consultation on Essential Fish Habitat and Fish and Wildlife Coordination Act species under NMFS's jurisdiction and input on any construction restrictions (i.e., construction windows) for the project area with respect to these resources.

JCPA proposes to construct a rail line to connect an existing rail owned by Mississippi Export Railroad (MSE) that crosses over the Escatawpa River in Moss Point, Mississippi to an existing JCPA-owned rail line that crosses through the Moss Point Industrial and Technology Complex and provides access to the Port of Pascagoula, Bayou Casotte Harbor (the Proposed Project). The Proposed Project, referred to as the North Rail Connector, would be approximately 3,659 linear feet with 2,852 feet of elevated rail and 807 feet of rail constructed on fill or existing uplands. There would be approximately 2,649 cubic yards of fill at the pile abutments for the elevated rail and in an area of estuarine wetlands. Approximately 0.90 acres of wetlands will be filled associated with the project. An existing grade crossing on Orange Grove Road would be relocated approximately 50 feet to the west to allow for the curve needed to accommodate the train lengths and speed. The existing MSE rail at the west end would need to be adjusted to allow insertion of a turn out to join with the new elevated rail line. For construction, a laydown yard would be established within the MPITC in an area that was recently used for the same purpose. The laydown yard would be approximately 1 acre in size and not located within a wetland. A topographic map, a Habitat Map/Wetland Map and preliminary site plans are provided for your information (Figure 1, Figure 2 and Attachment 1(Figures 2.0-2.3).

The purpose of the Proposed Project is to provide additional railroad capacity and connectivity between existing infrastructure to support the growing needs of the Port of Pascagoula, Bayou Casotte Harbor. Currently, freight trains that travel from the north on the MSE line must pass through downtown Moss Point and Pascagoula to the Pascagoula Interchange to join CSX rail. This operation regularly blocks vehicular traffic and creates delays at four major roadway intersections. Also, the curve alignment from the existing MSE line entering into the Moss Point Industrial and Technology Complex (MPITC) is too tight for the expected length of train to travel through that area safely. The Proposed Project is needed to remove operational conflicts between railroads, reduce congestion, and accommodate the proposed restoration of passenger rail service.

In a phone call with NMFS, FRA and Compton Engineering on February 10, 2021, the NMFS asked for the following information:

Alternative Evaluation

Alternate Alignments and Construction Methods

1) Existing rail line - JCPA considered using the existing MSE rail line that crosses under Highway 63 and joins the main line at the MSE rail yard on the west side of Highway 63, however, this route includes a tight curve that would not be safe for unit trains (trains that are 50-60 cars long) to travel. This section of rail also is flooded on a frequent basis. Use of this section of rail has been discontinued due to safety considerations. Trains are not permitted to travel on a rail that is under water. The planned rail traffic will need to travel at approximately 20-25 miles per hour in order to make rail use economically advantageous.

2) Alternative alignments that avoided marsh - Two alternate alignments (2a and 2b) were considered that established an acceptable radius that would allow the trains to maintain the optimal speed. These alignments required the rail to be added south of the existing MSE rail line and impacted several single family residential properties. In addition, these alignments would pass under a portion of the Highway 63 bridge which would not provide enough vertical clearance for the trains to pass underneath. An acceptable vertical clearance for a main line rail is 22 feet. The two alignments considered only provided 21'7" and 20'7" of clearance.

3) Alternative alignment that crossed over marsh, freshwater forest and uplands - The previously permitted alignment includes approximately 3,576 linear feet through marsh and through 1,115 feet of forested wetlands. The rail would cross over 107 feet of uplands. This alignment was proposed to be constructed using an alternative construction method of filling the alignment from the south end working towards the north and using the previously filled area to access further along the alignment, so the areas outside of the fill area will not be impacted. Silt fence would be placed along the project footprint to prevent fill from moving outside of the project area. This alignment impacted 3.73 acres of marsh and 1.16 acres of freshwater forested wetlands for a total of approximately 4.89 acres. This alternative construction method and alignment was permitted, however, additional geotechnical work in the permitted project footprint indicated that subsurface conditions were not suitable for construction on fill. There would need to be two layers of fill on a footprint that was twice as wide as initially designed. This drove up the estimated costs to more than an alternative construction method and alignment.

4) An alternative construction method – An alternative construction method utilizing sheet pile was considered. This would involve driving sheet pile along the layout, filling in between the sheet pile and constructing the rail line on top of the fill. This allows a narrower footprint; however, it is a more expensive than filling and involves additional heavy equipment to drive the sheet piles that would damage additional wetlands outside of the rail footprint. Based on the cost and damage from heavy equipment, this option was not selected.

5) Construction of elevated rail in permitted footprint of approximately 4,800 linear feet - Construction of a combination of elevated rail and construction on fill was considered in the permitted alignment. This alternative would reduce the amount of fill discharged into the alignment but construction costs for this length of rail were estimated at approximately $33 million. In addition, the method for building an elevated railroad at this location could require construction from barges or construction of a temporary access road adjacent to the railroad alignment resulting in additional destruction of the wetland habitat. The area was previously impacted by construction of power lines that cross the area and continues to be impacted by power line maintenance activities and it does not appear that the marsh vegetation has

recovered.

6) No Action Alternative - With the No Action alternative, the main rail line would not be relocated and rail traffic would continue through downtown Pascagoula and Moss Point. Traffic congestion would increase as the expected rail traffic increases and the train length increases to as much as 60 to 70 cars for some trains. Air quality would continue to be negatively impacted by idling cars. Freight rail would continue to be congested and lines would not be available for future passenger rail traffic.

7) The Preferred Alternative - The preferred alternative moved the alignment to the west and south of the previously permitted footprint. This allowed for a shorter length over the estuary and included more upland areas. By using partial construction on pilings to elevate the portion of the rail over the marsh the impacts to the habitat were greatly reduced. The proposed alignment includes approximately 2,852 linear feet of elevated rail line over marsh (0.90 acres of impact from fill at the abutments and a small marsh area) and 807 feet of rail on uplands. The cost to construct a shorter length of elevated rail on pilings is also much less than the previously permitted construction on fill. Driving pilings to a stable depth is a more feasible option than filling and compacting on top of sediment. Construction will be from existing rail or from uplands. This combination of elevated rail line, fill, and a modified footprint resulted in an estimated cost of approximately $15.5 million.

Drawings showing these alternative alignments and construction methods are attached. (Attachment 2).

EFH Assessment - Impacts to Fisheries

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandates that federal agencies conduct an essential fish habitat (EFH) consultation with NOAA Fisheries on any actions they authorize, fund, or undertake that may adversely affect EFH. An adverse effect is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The estuarine waters near the Escatawpa Rivers and in the project area provide EFH for three species or groups of species. EFH surrounding the project area is present for coastal red drum (Sciaenops ocellatus), brown shrimp (Farfantepenaeus aztecus), and white shrimp (Litopenaeus setiferus).

Red Drum (Information from USM Gulf Coast Research Lab)

Red drum are robust, elongated fish with moderately compressed bodies. Their head is straight in profile with a somewhat conical cross section. The mouth is located beneath the head. Unlike some other drums, the red drum has no chin barbels or "whiskers". The red drum is easily distinguished from the black drum (Pogonias cromis) by its lack of chin barbels, more elongated body, and the presence of a large black spot on either side of the tail just ahead of the fin. (There may be additional spots elsewhere on the body.) The dorsal fin has two sections, with a spiny fin at front separated by deep notch from the soft dorsal fin. The scales are large and have jagged edges. The body color is typically an iridescent silvery gray, bronze or copper on the sides and whitish on the belly. There are one or more dark spots near the base of the caudal fin or tail. (The species name Oscellatus refers to these eye-like spots.) Older fish tend to lose their excess spots. The tails of young fish, less than about 18", may be bluish.

The color of red drum varies with the type of water they inhabit. Where the bottom is muddy and the water is brackish, red drum have a dark copper color. Fish living in surf areas and areas with higher-salinity water

and sandy bottoms are lighter colored and may even be silvery or silvery pink. During the spawning season, the fins take on an orange color.

Red drum may reach five feet in length and a weight of 90 pounds. They may live to an age of 40 years or more. The name "drum" comes from the ability of the male red drum, and the males of its drum family relatives such as the spotted seatrout and black drum, to produce a deep drumming sound by contracting muscles on either side of the swim bladder. The sound is used during courtship and sometimes when a fish is distressed.

Because red drum tolerate a wide range of salinity and water temperature, they are found in all types of water from freshwater to the open Gulf to the lower reaches of coastal rivers. In general, younger fish prefer the lower salinity of inshore waters and older fish prefer higher salinity found offshore. Red drum can survive water temperatures from 36 °F to nearly 100 °F, though rapid temperature changes may be fatal. Red drum can be successfully acclimated to freshwater.

Red drum live in both inshore and offshore waters, with younger fish inshore and older fish moving offshore when they mature. Younger juvenile red drum are found in bays and estuaries and seagrass beds. Juvenile red drums are particularly attracted to the edges on marshes and seagrass beds. Older juveniles and subadults move to more open water over sand, mud, and seagrasses, and move into shallower water to feed on rising tides.

White and Brown Shrimp (Information from South Carolina Department of Natural Resources)

Brown and white shrimps have similar life cycles. Spawning usually occurs in the ocean, ranging from near the beaches to several miles offshore. A single female produces between 500,000 and 1,000,000 eggs and may spawn several times. Brown shrimp spawn during October and November, and occasionally later. White shrimp typically spawn in the spring and early summer. The exact timing of the spawning period depends on water temperature.

During mating, the male transfers a packet of sperm, called a spermatophore, to the female. Brown shrimp mate when the female's exoskeleton is soft, immediately after molting. The spermatophore is covered by two "plates" that hold it in place. Females may spawn days later. White shrimp mate between molts when the exoskeleton is hard. The spermatophore is glued to the underside of the female, and spawning occurs almost immediately. Eggs of both species are fertilized as they are ejected past the spermatophore and sink to the ocean floor. After about 12 to 24 hours, they hatch into tiny larvae that rise into the water column.

The initial larval stage, during which the shrimp looks like a tiny mite, is followed by about 10 larval phases before reaching the post-larval stage after about two weeks. Post larvae look like miniature adult shrimp. Brown shrimp post larvae remain in the ocean bottom sediments during the winter. As the ocean warms in late February and March, these post larvae become active and ride tidal currents into the estuaries. White shrimp post larvae move into the estuaries about two weeks after spawning, usually in late May and June, moving further in with each high tide. Death rates are very high for larval and juvenile shrimp; less than one or two percent of the eggs spawned survive to adults.

Post larval shrimp settle out in the shallow waters in the upper ends of salt marsh tidal creeks. Shrimp stay in this "nursery habitat" for about two or three months, growing to about four inches long. During high tide, juveniles move into the marsh grass to feed and escape predators. At low tide, when the water level is below the salt marsh grass, shrimp gather in creek beds. The smallest shrimp stay close to the creek bank while larger juveniles prefer deeper water. In unusually clear water, shrimp seek the deepest areas available to avoid predatory birds, fish, and crabs. Both brown and white shrimp prefer muddy bottom.

Young shrimp grow quickly, up to 2.5 inches per month, molting their exoskeleton as they grow. Small shrimp molt several times per week, but molting slows as they become larger. Shrimp can tolerate a wide range of salinities. The ideal nursery habitat has salinity about 25 to 40 percent seawater for white shrimp and 35 to 65 percent seawater for brown shrimp. Shrimp can do well, however, in salinities near 100 percent seawater (such as in Murrell's Inlet) or in 10 percent seawater (such as the Cooper River near Charleston).

Shrimp move three different ways, using either their walking legs, swimming legs, or with a sudden tail snap. While shrimp can walk short distances, when migrating long distances, they swim as much as two to five miles a day. To escape predators, a shrimp contracts its abdominal muscles, which causes the tail to snap, and propels the shrimp backwards. White shrimp commonly use this method to jump from the water.

As shrimp become larger, they leave the nursery area and move toward the ocean on the outgoing tide, particularly at night. Shrimp move from the shallow estuary creeks into coastal rivers when they are about four inches long. They continue to grow as they move into the lower reaches of sounds, bays and river mouths where they gather just before moving into the ocean.

When white shrimp are in the staging areas, they feed in nearby shallow areas at night. Brown shrimp, on the other hand, prefer to stay in deeper waters at night. In years when shrimp are abundant, they migrate into the ocean when they are between four and five inches long. When the population is smaller, however, shrimp may be six inches or more before they leave the estuaries. When shrimp are more concentrated in the tidal creeks, growth rates slow due to competition for limited food, or each shrimp spending more time protecting its space instead of feeding. Low salinities due to heavy rainfall cause juvenile shrimp to leave nursery areas early, reducing growth and survival.

Shrimp seldom live more than eight or nine months. The record white shrimp (just over ten inches) was caught by a commercial shrimper off Seabrook Island in July 1979. That shrimp was probably about 14 months old.

Shrimp are bottom-feeding omnivores, eating most organic materials – animal or plant – they encounter at the bottom. Smaller shrimp pick food off the sediment while larger shrimp become predators, feeding on polychaete worms, amphipods, nematodes, crustacean larvae, isopods, copepods, small fishes, grass shrimp, fiddler crabs, and squareback crabs. Shrimp also eat other shrimp.

Impacts

The evaluation of impacts on biological resources considers whether the action would result in a direct injury or mortality of an individual, particularly a protected or sensitive species. Each species has unique, fundamental needs for food, shelter, water, and space and can be sustained only where their specific combination of habitat requirements is available. Removal of sustaining elements of a species' habitat affects its ability to exist. Therefore, the evaluation of impacts on biological resources also is based on whether the action would cause habitat displacement resulting in reduced feeding or reproduction, removal of critical habitat for sensitive species, and/or behavioral avoidance of available habitat because of noise or human disturbance.

EFH in the project area would be permanently impacted by filling (0.90 acres) adjacent to the abutments associated with the elevated rail section. This fill would cause the loss of estuarine marsh vegetation, estuarine water column and estuarine water bottoms. The marsh vegetation provides forage and cover for juvenile fish, shrimp and crabs as well as offering shelter and nesting sites for several species of migratory waterfowl. The water column provides for circulation in estuaries that promotes the transport of organisms, nutrients, oxygen and sediments. Simultaneously, the mixture of fresh and salt water leads to variations of the physicochemical and biological components of the region. The water bottoms provide substrate for

burrowing organisms that is in turn food for foraging species.

Impacts from above alternatives 1 and 2a and 2b do not impact new habitat, however, they are technically unfeasible. Alternative 3 uses fill and would require a wider footprint than fill between sheet pile. This alternative would permanently impact approximately 3.73 acres of water bottoms, the water column and estuarine vegetation. Alternative 4 uses fill between sheet pile. This alternative would permanently impact approximately 3 acres of water bottoms, the water column and estuarine vegetation and reduce habitat for fisheries. These permanent impacts would have to be mitigated for with permittee responsible mitigation. The no action alternative (Alternative 6) would not impact any EFH but the purpose of the proposed project would not be accomplished.

The preferred alternative (Alternative 7) permanently impacts approximately 0.90 acres of wetland habitat. This will be mitigated for by creation of emergent wetland with tidal flow and will be planted with species similar to that being impacted.

Permittee Responsible Mitigation

A copy of the Draft Permittee Responsible Mitigation Plan is attached (Attachment 3). The plan proposes to create tidal wetland by grading an upland area to an appropriate elevation and planting with the appropriate species to create a tidal marsh habitat similar to that impacted by filling associated with the proposed project. The proposed mitigation area is located within the MPITC property and is owned by Jackson County. Based on HGM evaluation, a mitigation ratio of 1:1 is appropriate for this project. Approximately 1.0 acres of tidal wetland will be created. JCPA proposes to forestry mulch the entire upland area that is going to be converted. The vegetation will be cut all the way down to existing grade. Beginning at the wetland upland interface the upland will be graded using an excavator to remove approximately +/- 3ft of material. The vegetation and soil will be removed from the project area. The final elevation will be graded to match that of the existing tidal marsh and its tributaries. Slight variations will be maintained to accommodate different plant species. BMPs to protect water quality will be installed and maintained for the project's duration. Plants that will be installed after grading will be the same as those that already exist such as Smooth Cord Grass, Saw Grass, Black Needle Rush, Salt Grass, Marsh Hay, Cattails and a few Bald Cypress along the shore.

Based on the information available for EFH in the project area presented above, FRA concludes that the proposed project would not have an adverse effect on EFH or the Federally managed species (red drum, brown shrimp and white shrimp) in the area. Impacts to the habitat in the area would be offset by Permittee Responsible Mitigation which includes creation of an appropriate acreage of marsh habitat. Please advise if you concur with this determination or provide a written request for additional information within 30 days from the date on this letter. If you have questions or wish to discuss this project, please contact Amanda Murphy, FRA Environmental Protection Specialist at 202-339-7231 or Amanda.murphy2@dot.gov.

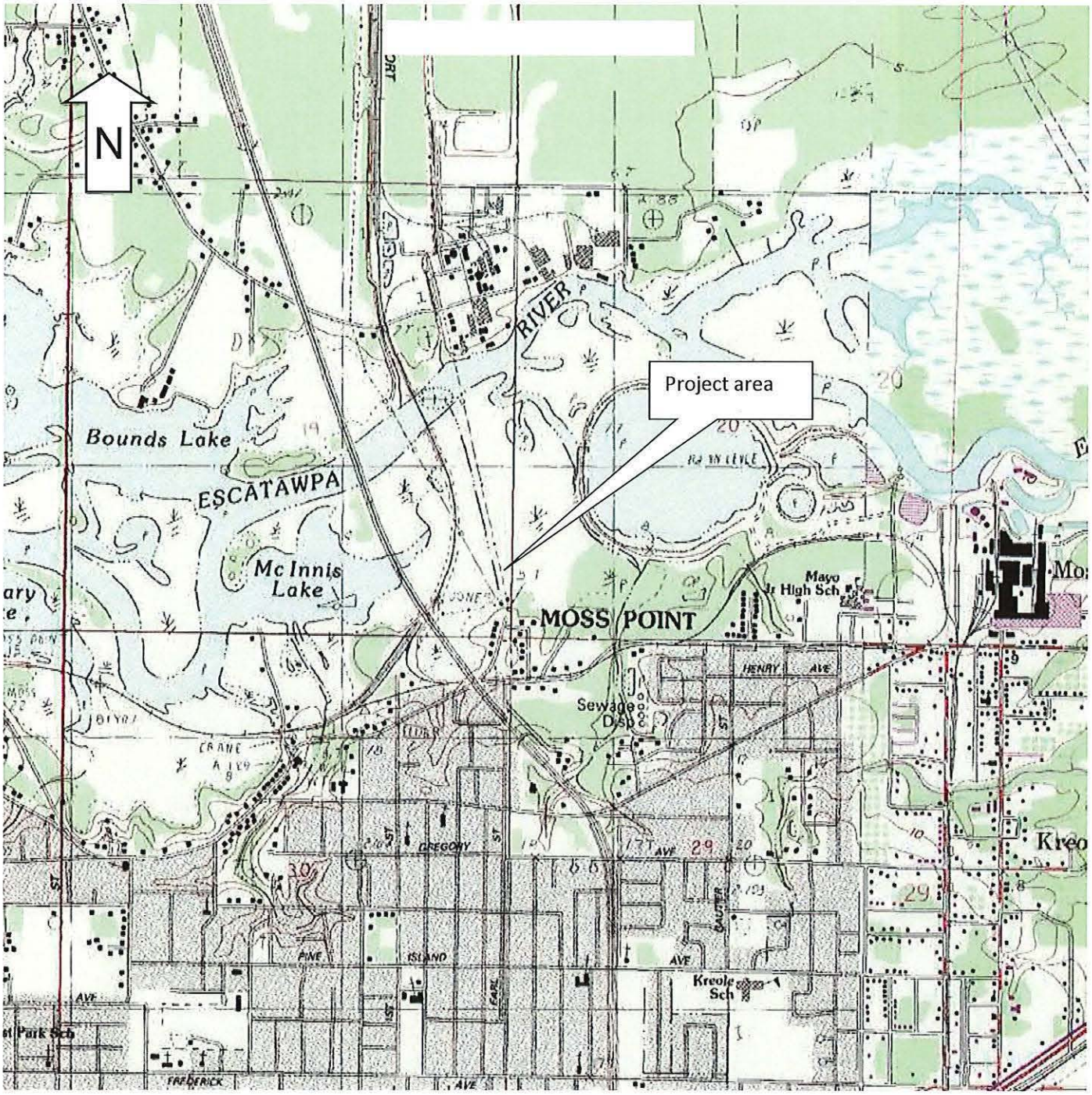
Sincerely,

MICHAEL M JOHNSEN
Digitally signed by MICHAEL M JOHNSEN
Date: 2021.03.10 12:08:16 -05'00'

Michael Johnsen
Supervisory Environmental Protection Specialist
Environmental and Project Engineering Division
Office of Railroad Policy and Development

Cc: Amanda Murphy, FRA
Rudolph C. Villarreal, USACE
Sandy Feathers, JCPA

Attachments: Figure 1 – Topographic Map
Figure 2 – Habitat/Wetland Map
Attachment 1 – Preliminary Site Plans (Drawings 2.0-2.3)
Attachment 2 - Drawings Showing alternative alignments and construction methods
Attachment 3 – Draft Permittee Responsible Mitigation Plan



COMPTON ENGINEERING, INC.
Engineering, Surveying, and Environmental Services
156 Nixon Street
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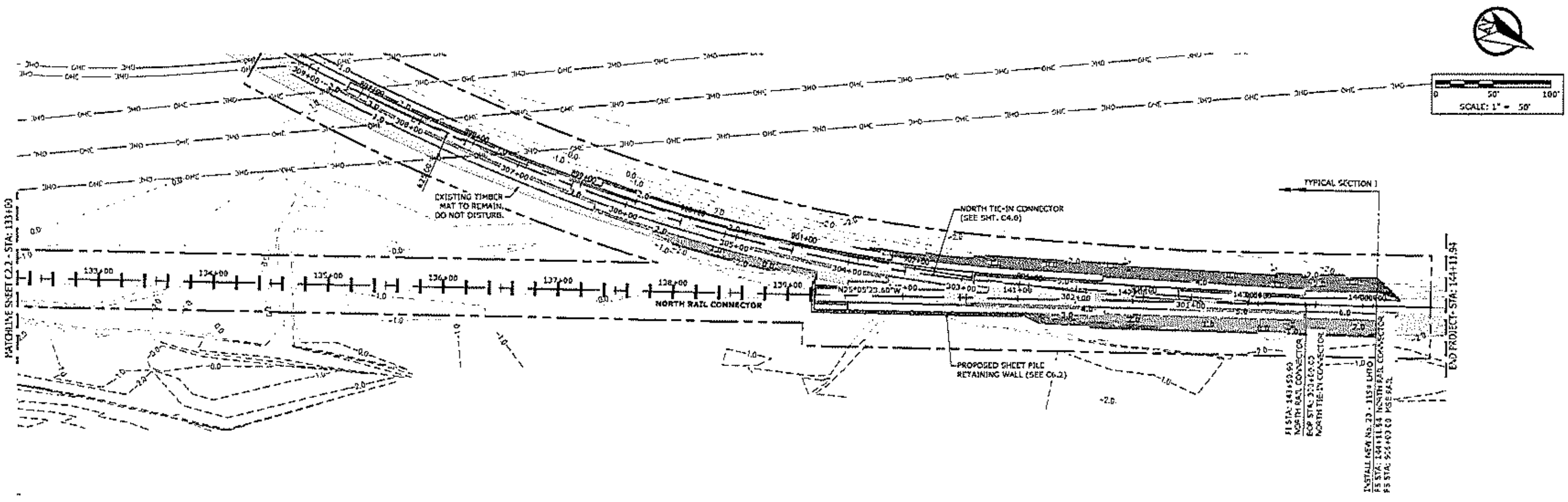
E-mail: compton@comptonengineering.com

Site: Proposed North Rail Connector Project
Moss Point, Jackson County, MS

Figure 1 - Topographic Map (Map Source: USGS, 2012)

Appendix ID:
A

FIGURE 2 - NORTH RAIL CONNECTOR HABITAT/ WETLANDS MAP



1 PROPOSED PLAN
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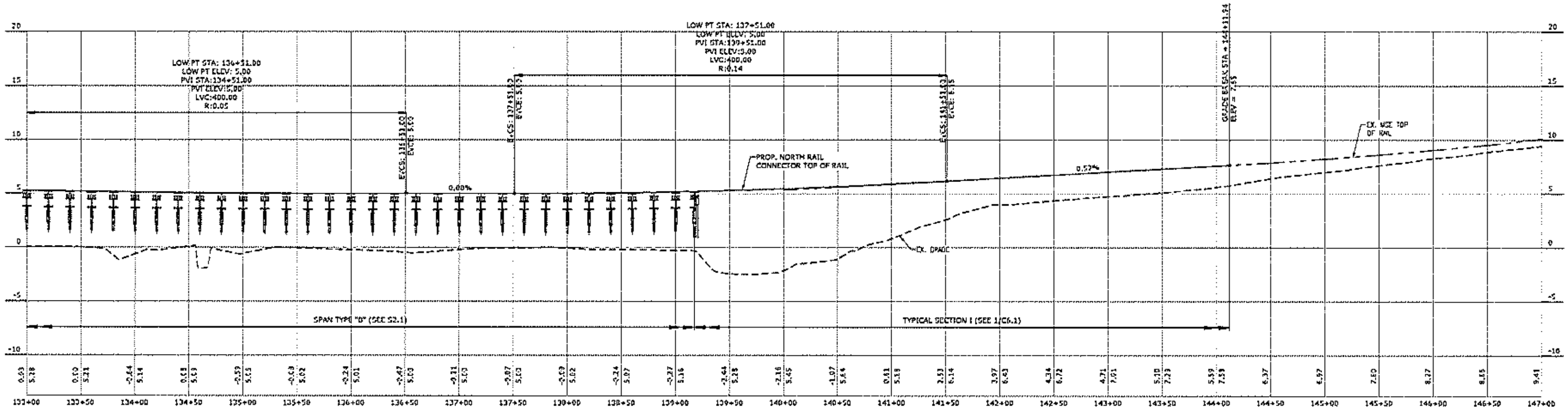

2 PROFILE
C2.3 SCALE: H: 1" = 50' V: 1" = 5'

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PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

NORTH RAIL CONNECTOR - PLAN & PROFILE
STA: 133+00 - STA: 144+11.94

SCALE: AS NOTED
JOB NO.: 218-051
DATE:
DSGN.: J. STUDSTILL
DWG. BY: B. LADNER
CHK.:
APVD.:

C2.3

DATE	DESCRIPTION	BY	APVD
05-09-19	ISSUED FOR JCPA REVIEW	TP	GC
05-16-19	ISSUED FOR JCPA REVIEW	BL	JU
06-30-20	PRELIM. ENG. DWGS - NOT FOR CONSTRUCTION	BL	JS

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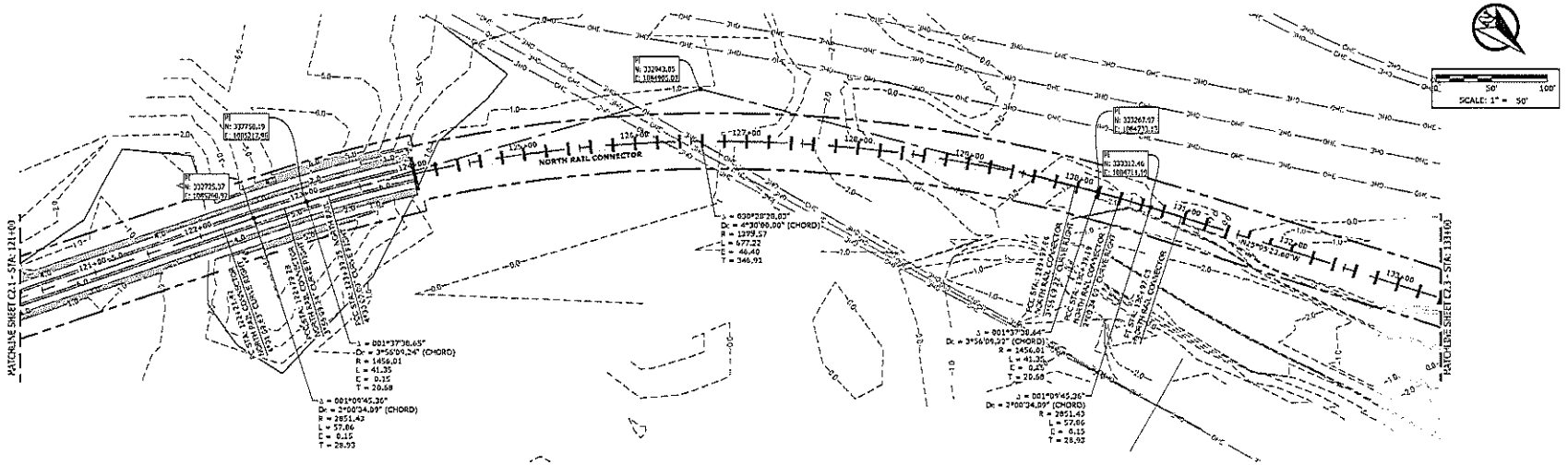

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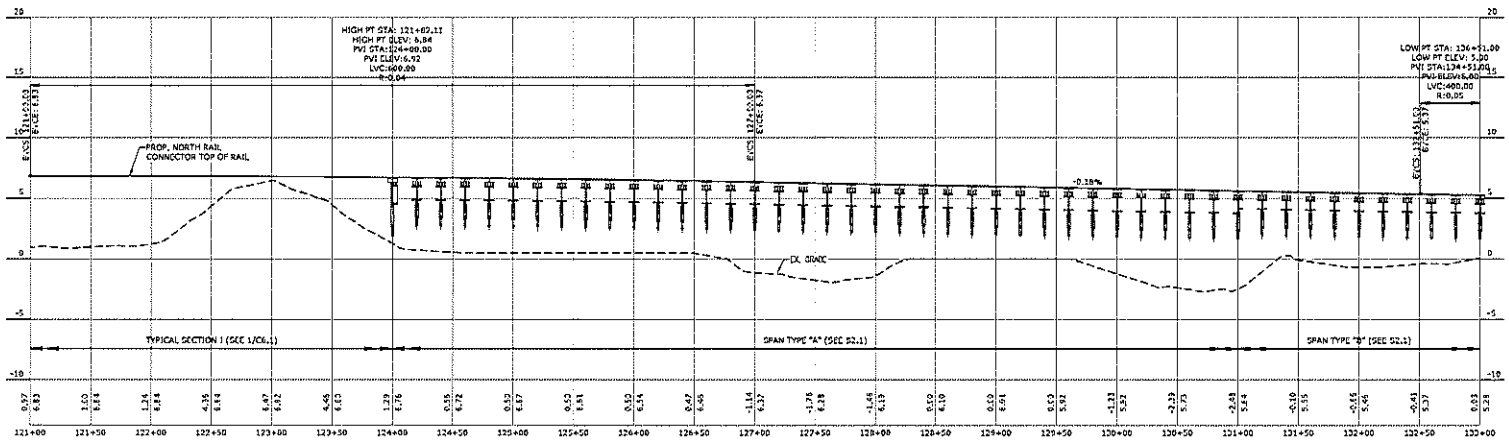

2 C2.2 PROFILE
SCALE: H: 1" = 50' V: 1" = 5'

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05-16-19	ISSUED FOR JCPA REVIEW	BL	JS
06-20-20	PRELIM. ENG. DWGS - NOT FOR CONSTRUCTION	BL	JS

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PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

NORTH RAIL CONNECTOR - PLAN & PROFILE
STA: 121+00 - STA: 133+00

SCALE: AS NOTED
JOB NO.: 218-051
DATE:
DESIGN: J. STUDSTILL
DRAWN BY: B. LADNER
CHK.:
APVD.:

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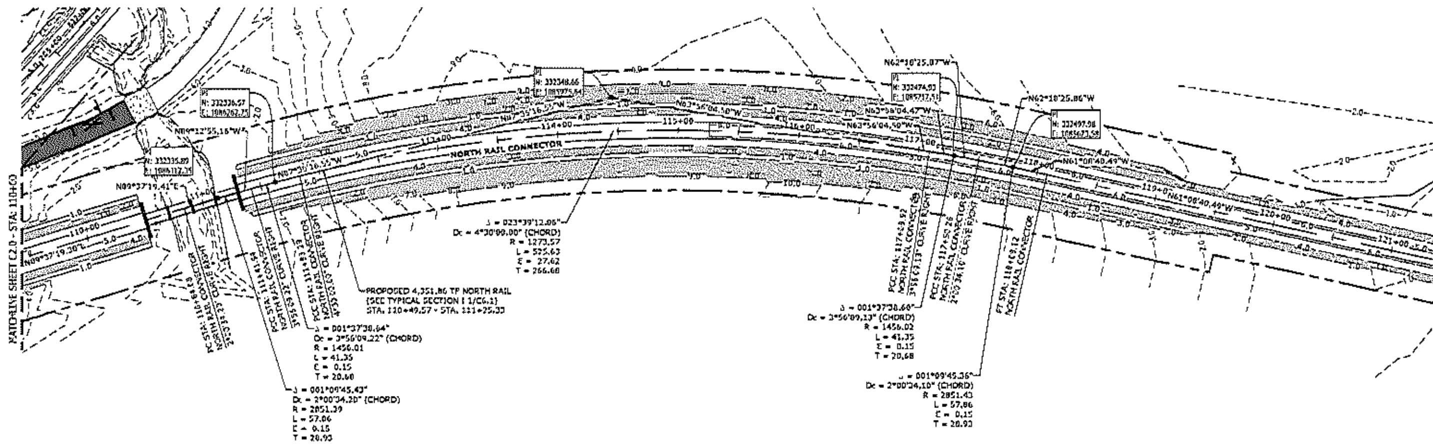

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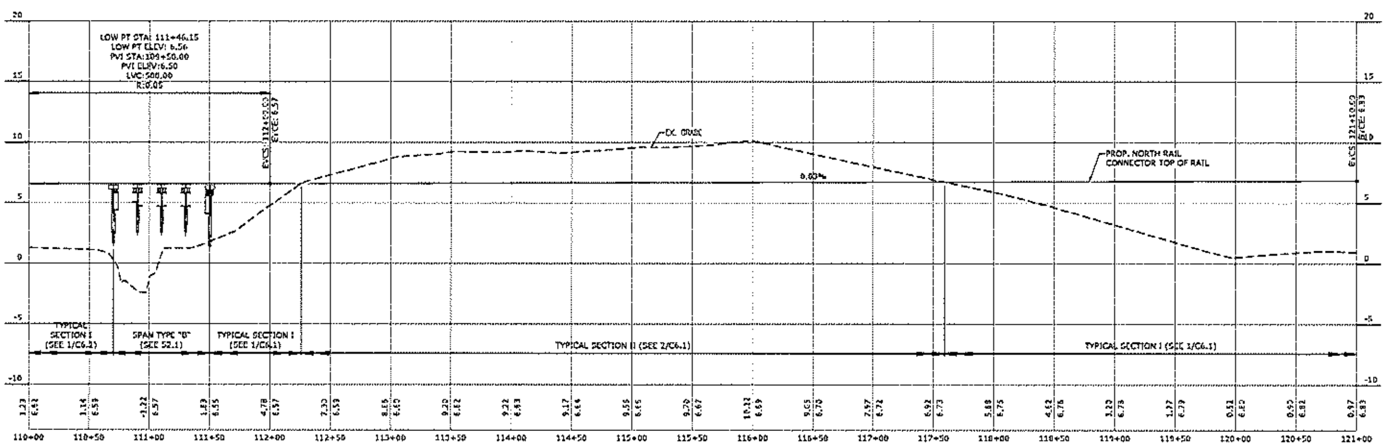

2 PROFILE
C2.1 SCALE: H: 1" = 50' V: 1" = 5'

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PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE
NORTH RAIL CONNECTOR - PLAN & PROFILE
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JOB NO.:	218-051
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DSGN.:	J. STUDSTILL
DWG. BY:	B. LADNER
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APVD.:	

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Rev.	Date	Description	By	App.
A	05-09-19	ISSUED FOR JCPA REVIEW	TP	GC
A	05-16-19	ISSUED FOR JCPA REVIEW	BL	JB
A	06-30-20	PRELIM. ENG. DWGS - NOT FOR CONSTRUCTION	BL	JS

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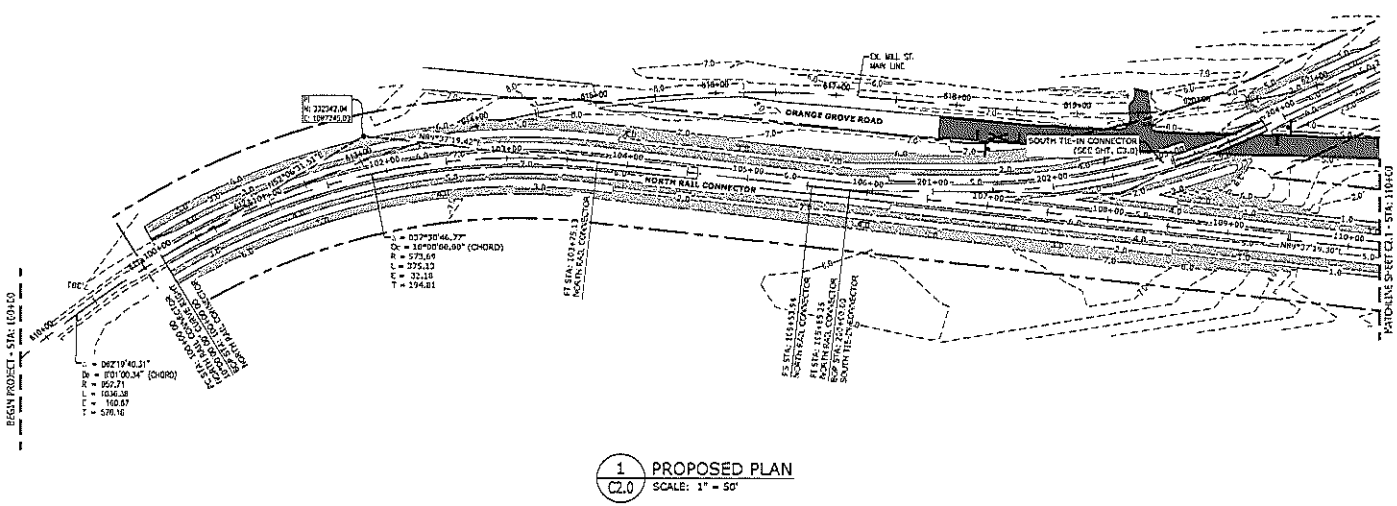

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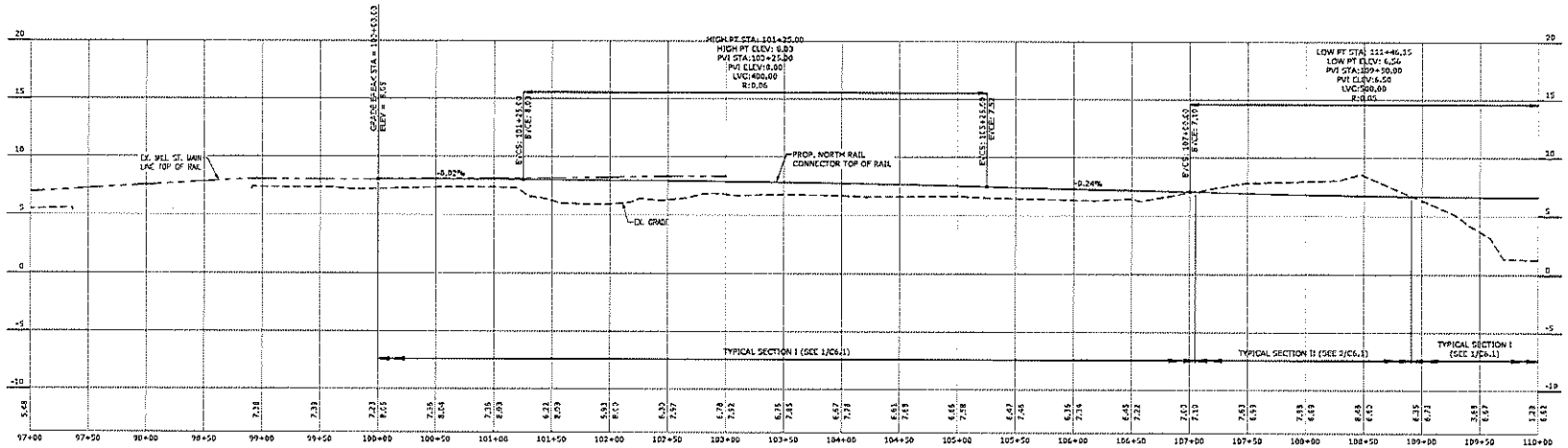

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05-04-19	ISSUED FOR JOPA REVIEW	TP	DC
05-16-19	ISSUED FOR JOPA REVIEW	BL	JD
06-30-20	PRELIM. ENG. DWGS - NOT FOR CONSTRUCTION	BL	JD

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PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

NORTH RAIL CONNECTOR - PLAN & PROFILE
STA: 100+00 - STA: 110+00

SCALE:	AS NOTED
JOB NO.:	218-051
DATE:	
DWG. NO.:	1.5 STUDY FILL
DRWN. BY:	B. LADNIER
CHK.:	
APVD.:	

C2.0

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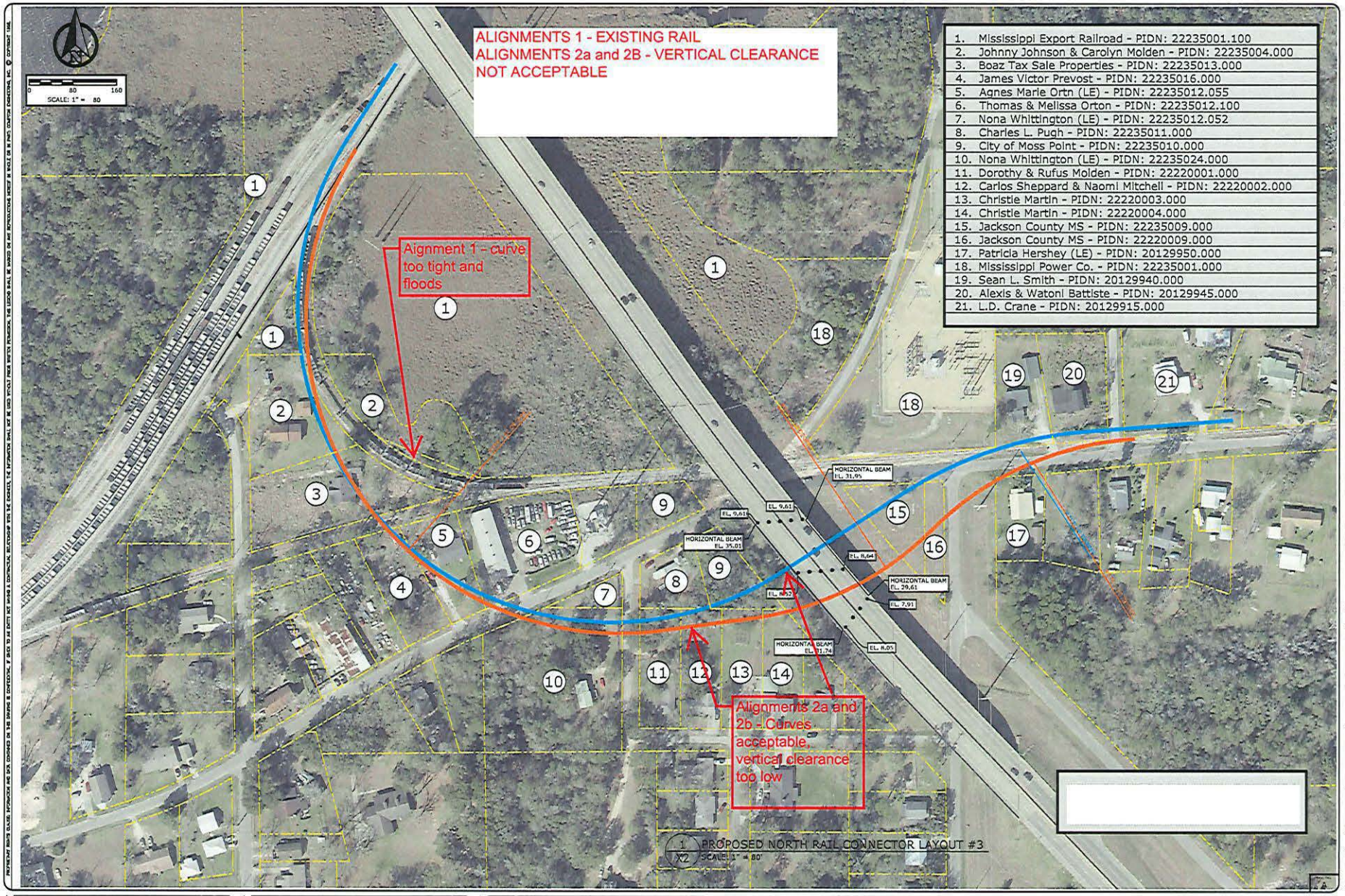

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2.	Johnny Johnson & Carolyn Molden - PIDN: 22235004.000
3.	Boaz Tax Sale Properties - PIDN: 22235013.000
4.	James Victor Prevost - PIDN: 22235016.000
5.	Agnes Marie Ortn (LE) - PIDN: 22235012.055
6.	Thomas & Melissa Orton - PIDN: 22235012.100
7.	Nona Whittington (LE) - PIDN: 22235012.052
8.	Charles L. Pugh - PIDN: 22235011.000
9.	City of Moss Point - PIDN: 22235010.000
10.	Nona Whittington (LE) - PIDN: 22235024.000
11.	Dorothy & Rufus Molden - PIDN: 22220001.000
12.	Carlos Sheppard & Naomi Mitchell - PIDN: 22220002.000
13.	Christie Martin - PIDN: 22220003.000
14.	Christie Martin - PIDN: 22220004.000
15.	Jackson County MS - PIDN: 22235009.000
16.	Jackson County MS - PIDN: 22220009.000
17.	Patricia Hershey (LE) - PIDN: 20129950.000
18.	Mississippi Power Co. - PIDN: 22235001.000
19.	Sean L. Smith - PIDN: 20129940.000
20.	Alexis & Watoni Battiste - PIDN: 20129945.000
21.	L.D. Crane - PIDN: 20129915.000

1 X2 PROPOSED NORTH RAIL CONNECTOR LAYOUT #3
SCALE: 1" = 80'

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E-mail: bsl@comptonengineering.com

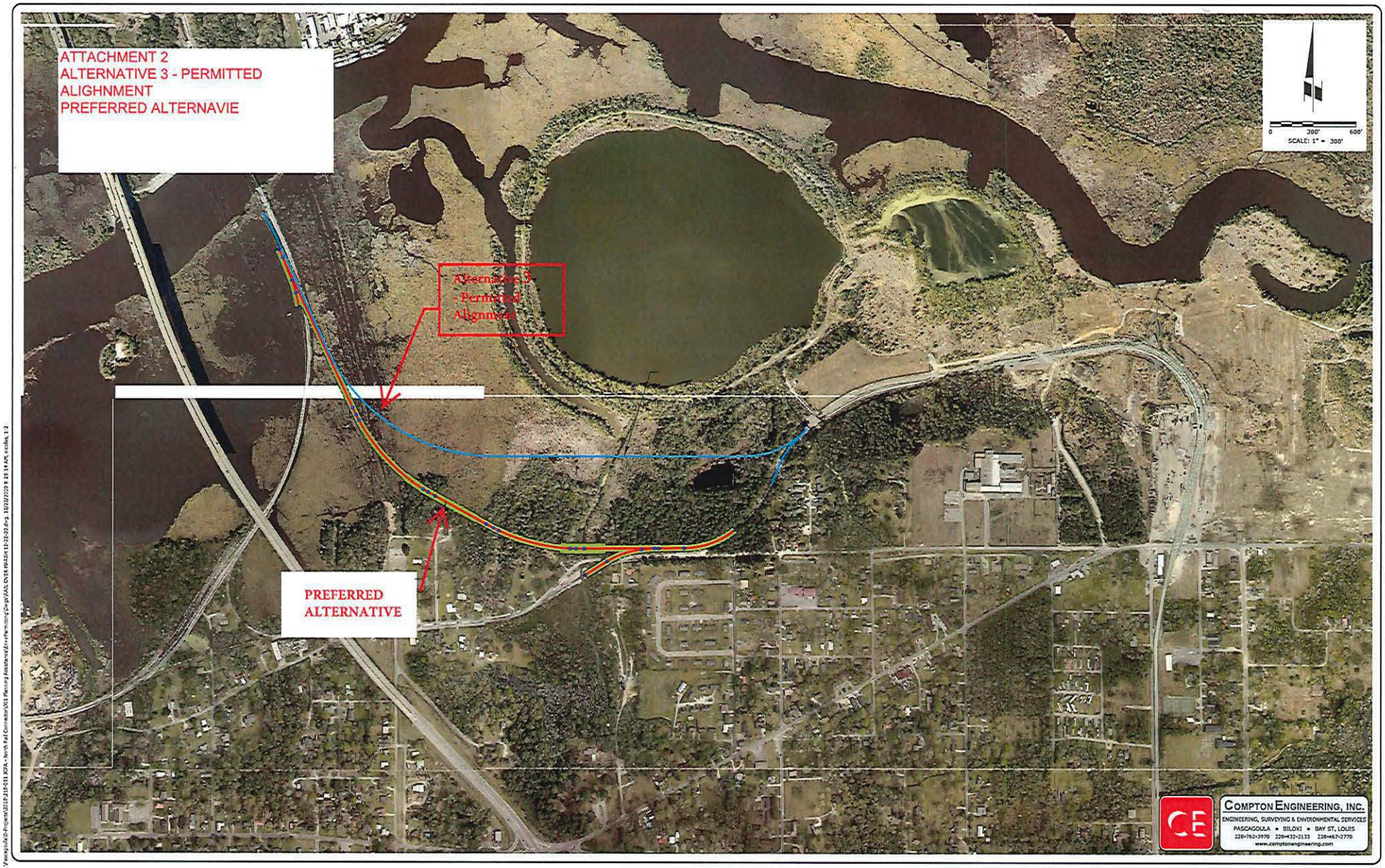
JCPA TIGER GRANT IMPLEMENTATION
JACKSON COUNTY PORT AUTHORITY

MILL STREET TRACK
PROPOSED NORTH RAIL CONNECTOR

SCALE:	AS NOTED
JOB NO.:	213-113
DATE:	JANUARY 2015
DSGN.:	JAB
DWG. BY:	JAB
APVD.:	

X1-X4

DATE DESCRIPTION BY APVD


ATTACHMENT 2
ALTERNATIVE 3 - PERMITTED
ALIGHNMENT
PREFERRED ALTERNAVIE
Alternative 3
- Permitted
Alignment
PREFERRED
ALTERNATIVE
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300'
600'
SCALE: 1" = 300'
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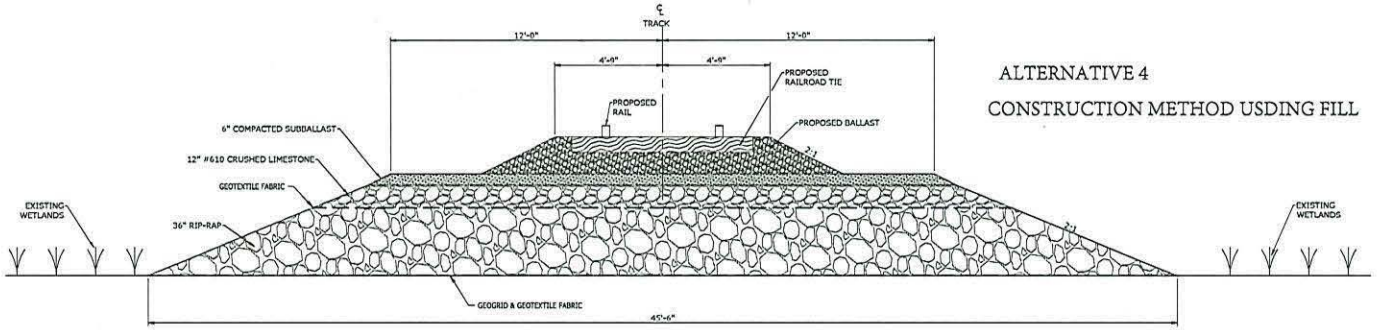

ALTERNATIVE 4

CONSTRUCTION METHOD USDING FILL

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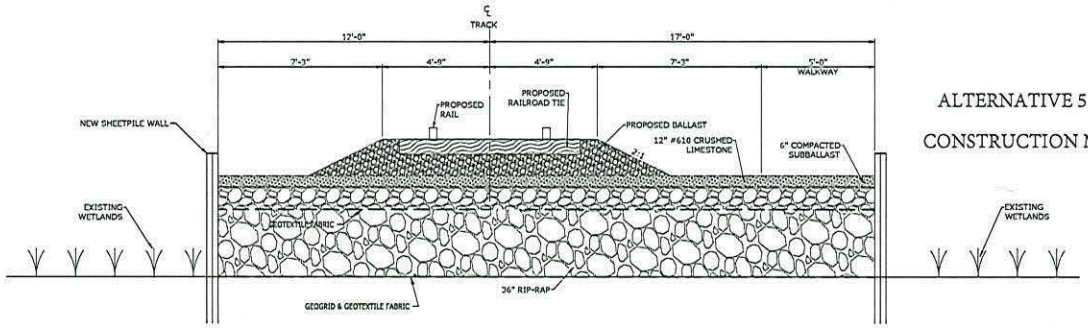

ALTERNATIVE 5

CONSTRUCTION METHOD - FILL BETWEEN SHEET PILE

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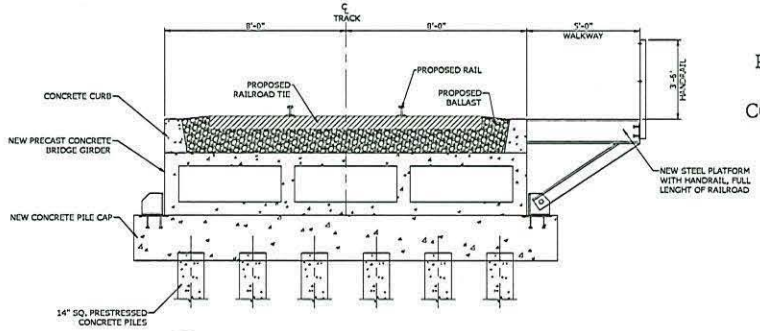

PREFERRED ALTERNATIVE

CONSTRUCTION METHOD - ELEVATED

3 / C5.0 TYPE II TYPICAL SECTION - BRIDGE OPTION
SCALE: 3/8" = 1'-0"

DATE	DESCRIPTION	BY	APVD
05-09-19	ISSUED FOR JCPA REVIEW	TP	GC

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JACKSON COUNTY PORT AUTHORITY
PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE
TYPICAL SECTIONS

SCALE: AS SHOWN
JOB NO.: 218-051
DATE:
DESIGN: JB
DRAWN BY: TP
CHK.:
APVD.:

C5.0
SHEET OF

DRAFT
PERMITTEE-RESPONSIBLE MITIGATION (PRM) MITIGATION PLAN

Jackson County Port Authority
North Rail Connector
Moss Point, Mississippi

Prepared For

Jackson County Port Authority
PO Box 70
Pascagoula, MS 39568

Prepared By

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MARCH 2021

CE Project No. 218-051

TABLE OF CONTENTS

FIGURES

Appendices

INTRODUCTION

This Draft Permittee Responsible Mitigation Plan is for the modified layout area for the North Rail Connector in Jackson County, Mississippi. The rail layout is in the same general location as the permitted rail (SAM-2018-00124-RCV) but has been modified to impact less square footage of marsh wetlands and the construction method has been modified from mostly fill (4.79 acres of impact) to mostly elevated rail on pilings (0.90 acres of impact).

JCPA proposes to construct a rail line to connect an existing rail owned by Mississippi Export Railroad (MSE) that crosses over the Escatawpa River in Moss Point, Mississippi to an existing JCPA-owned rail line that crosses through the Moss Point Industrial and Technology Complex and provides access to the Port of Pascagoula, Bayou Casotte Harbor (the Proposed Project). The Proposed Project, referred to as the North Rail Connector, would be approximately 3,659 linear feet with 2,852 feet of elevated rail and 807 feet of rail constructed on fill or existing uplands. There would be approximately 2,649 cubic yards of fill at the pile abutments for the elevated rail and in an area of estuarine wetlands. Approximately 0.90 acres of wetlands will be filled associated with the project. An existing grade crossing on Orange Grove Road would be relocated approximately 50 feet to the west to allow for the curve needed to accommodate the train lengths and speed. The existing MSE rail at the west end would need to be adjusted to allow insertion of a turn out to join with the new elevated rail line. For construction, a laydown yard would be established within the MPITC in an area that was recently used for the same purpose. The laydown yard would be approximately 1 acre in size and not located within a wetland.

The purpose of the Proposed Project is to provide additional railroad capacity and connectivity between existing infrastructure to support the growing needs of the Port of Pascagoula, Bayou Casotte Harbor. Currently, freight trains that travel from the north on the MSE line must pass through downtown Moss Point and Pascagoula to the Pascagoula Interchange to join CSX rail. This operation regularly blocks vehicular traffic and creates delays at four major roadway intersections. Also, the curve alignment from the existing MSE line entering into the Moss Point Industrial and Technology Complex (MPITC) is too tight for the expected length of train to travel through that area safely. The Proposed Project is needed to remove operational conflicts between railroads, reduce congestion, and accommodate the proposed restoration of passenger rail service. The proposed layout of the new rail was determined by the requirements for clearance, maintaining speed of the trains, reducing impact to privately owned residential properties, and reducing the length of rail through wetlands.

The proposed project will fill approximately 39,261 square feet (0.9 acres) of jurisdictional wetlands. This mitigation plan is for creation of wetlands on parcels owned by Jackson County Port Authority that are adjacent or near to the proposed new rail line

impacts. This draft mitigation plan includes the twelve components outlined in 33 CFR 332.4(c)/40 CFR 230.92.4(c).

1.0 PROJECT DESCRIPTION/ OBJECTIVES

The proposed rail line is located in Jackson County on parcels 754.20-003.0004.00, 754.20-003.0008.00, 754.20-003.0010.00, 754.20-003.0011 and 754.20-03.0012.00. The approximate center point of the proposed new rail line is located at 30.415546 degrees latitude and -88.514452 degrees longitude. The proposed new rail line is bordered on the north and east by Secretary of State owned property and crosses privately owned property that Mississippi Export Railroad is currently in negotiations with to obtain right of way easements.

The subject property is located in Section 19, Township 7 South, and Range 5 West of Jackson County, MS. A Site Location Map is shown on **Figure 1**.

JCPA proposes to construct a total of approximately 3,659 linear feet of rail line combined in an elevated rail and rail constructed on fill. There will be approximately 2,852 linear feet of rail over marsh and 807 feet constructed on uplands. Impacts to marsh will be limited to fill at the abutments to the elevated sections. One section of wetland approximately 413 feet long by 15 feet wide will be filled for continuity of construction methods between sections built on uplands. This will total approximately 39,261 square feet (0.90 acres) of fill in wetlands. A wetland delineation was conducted along the proposed rail line layout to determine the location of marsh and forested wetlands or uplands. A copy of the Wetland Delineation Report is included in **Appendix A**. A drawing showing the proposed rail layout and the areas of impact is shown on **Figure 2.**

2.0 PROPOSED MITIGATION SITE/SITE SELECTION

The JCPA has already purchased mitigation credits for the proposed impacts to the forested wetlands associated with the permitted layout. There will be no forested wetland impacts and these credits cannot be used. The impacts to the marsh wetlands will be mitigated for by creation of marsh wetlands nearby. This creation proposal was chosen based on the location of the proposed mitigation area adjacent to the proposed rail line, the likelihood of success and ability to maintain the improvements over time. The adjacent and nearby marsh vegetation has already been impacted by industrial activity (the marsh is crossed by power lines and several power line towers are located within the marsh. These structures have to be maintained on a regular basis and the marsh has been damaged by marsh buggies, boats, or other equipment to provide access to the power line). It appears that any restoration or enhancement of the marsh

vegetation would be subject to future damage. Therefore, enhancement/restoration of the existing damaged marsh wetland was not chosen during site selection. The proposed mitigation area was evaluated to ensure that there was enough upland acreage that could be graded to the appropriate elevation that would allow marsh vegetation to grow. Based on field surveys of the area, approximately four acres were identified as available for mitigation activities.

The proposed mitigation area is located on the same parcels of land that the rail line will be located. The proposed mitigation area is optimal based on the following factors:

1. The existing marsh interfaces well defined uplands that belong to the project's owner.
2. The upland is easily accessible from a lightly traveled paved road allowing for easy ingress of trucks and machinery.
3. The upland is somewhat degraded due to the presence of invasive exotic plants such as Tallow, Privet, and Camphor.
4. The site can be worked completely from the upland side eliminating disturbance to existing wetlands.
5. Plenty of nearby commercial dirt pits to handle the fill once removed.

JCPA proposes to forestry mulch the entire upland area that is going to be converted. The vegetation will be cut all the way down to existing grade. Beginning at the wetland upland interface the upland will be graded using an excavator to remove approximately +/- 3ft of material. The vegetation and soil will be removed from the project area. The final elevation will be graded to match that of the existing tidal marsh and its tributaries. Slight variations will be maintained to accommodate different plant species. BMPs to protect water quality will be installed and maintained for the project's duration. Plants that will be installed after grading will be the same as those that already exist such as Smooth Cord Grass, Saw Grass, Black Needle Rush, Salt Grass, Marsh Hay, Cattails, and a few Bald Cypress along the shore. A detailed work plan for marsh creation is attached in **Appendix B** of this plan.

A map showing the proposed acres to be converted from uplands to marsh is shown on **Figure 3.**

3.0 SITE PROTECTION INSTRUMENT

The mitigation area will be legally described and recorded as a conservation easement to remain as a natural area and prevent clearing or industrial development.

4.0 BASELINE INFORMATION

The objective of the permittee responsible mitigation is to provide compensation for impacts to 39,261 square feet (0.90 acres) of fresh water emergent wetlands. The impact site and mitigation site are both located in the Gulf Coast Flatwoods region of the Southern Coastal Plain. The Southern Coastal Plain extends from South Carolina and Georgia through much of central Florida, and along the Gulf Coast lowlands of the Florida Panhandle, Alabama, and Mississippi. From a national perspective, it appears to be mostly flat plains, but it is a heterogeneous region containing barrier islands, coastal lagoons, tidal marsh, and swampy lowlands along the Gulf and Atlantic coasts. The Coastal plain was once covered by a variety of forest communities that included trees of longleaf pine (Pinus palustris), slash pine (P. elliottii), pond pine (P. serotina), beech (Fagus grandifolia), sweetgum (Liquidamber styraciflua), southern magnolia (Magnolia grandiflora), white oak (Quercus alba), and laurel oak (Q. laurifolia). Land cover in the region is now mostly slash and loblolly pine with oak-gum-cypress forest in some low-lying areas, citrus groves in Florida, pasture for beef cattle, and urban.

In Mississippi, the Gulf Coast Flatwoods is a narrow region of nearly level terraces and delta deposits composed of Quaternary-age sands and clays. Wet, sandy flats and broad depressions that are locally swampy are now usually forested or in pine plantations, while some of the better-drained land has been cleared for pasture or crops. Dominant land uses include woodland, wildlife habitat, and urban. Historically, pine savannas with slash and longleaf pine (Pinus elliottii, P. palustris) and a variety of grasses, sedges, rushes, pitcher plants and orchids were common. A high natural fire frequency was typical, often sparked by lightning and fueled by wiregrass (Aristida spp.) that maintained the more open savannas.

Ecoregions of the southeast also share other features, including: a high percentage of land area in wetlands, a dominant role of frequent fire over the majority of the landscape, a diversity of river and stream systems, limited but important karst areas, diverse estuarine and tidal systems, and significant large scale disturbance events, such as hurricanes. The area is characterized by a warm to hot, humid, maritime climate.

In North America, the Gulf Coastal Plain ecoregion is one of the true hotspots of biodiversity and endemism. Part of the reason for this is that the ecoregion has never been glaciated and has been continuously occupied by plants and animals since the Cretaceous, giving ample time for the evolution of narrow endemic species. Many species, particularly vascular plants, reptiles, amphibians, and fishes occur only in this ecoregion, and many of those are even more narrowly limited within the ecoregion.

The dominant ecological drivers of the terrestrial systems are soils (texture and chemistry), fire frequency, and hydrology. Habitats in the Gulf Coastal Plain include barrier island systems with annual-dominated beaches, maritime grasslands and scrub, maritime shrub hammocks, and evergreen forests (both broadleaf and needleleaf). These grade through salt marshes to productive estuaries. Inland, longleaf pine woodlands are dominant over most of the landscape, on upland and wetland sites and a wide variety of soils.

4.1 Baseline – Impact Site

Approximately 0.90 acres of wetlands will be permanently filled for the rail line. The wetlands are mapped on the National Wetlands Inventory Map for the Pascagoula North quadrangle as E2EM1Pd, which is described as estuarine, intertidal, emergent, persistent, irregularly flooded, partially drained (modified by ditches). This type of wetland comprises approximately 76 percent of the project area. Other types of wetlands near the project area include PFo4B (palustrine, forested, needle leaved evergreen, seasonally saturated), PSS3/1Rd (Palustrine, scrub-shrub, broad leaved evergreen, broad leaved deciduous, seasonally flooded, partially drained/ditched) which make up the nearby forested wetlands.

According to the FEMA flood map the property is in zone AE with base flood elevation of 10-11 feet which is within the 100 year flood plain (subject to inundation by the 1% annual chance flood). Hydric soil determination was based on confirmation of field indicators of hydric soils, as defined in *Field Indicators of Hydric Soils in the United States, Version 5.0* (NRCS 2002).

4.2 Baseline Proposed Mitigation Site

The proposed mitigation area includes forested uplands that are adjacent to the project area. The mitigation site provides habitat for small and medium sized mammals (raccoon, opossum, armadillo), reptiles, amphibians, and aquatic species (crayfish). The understory is densely overgrown with Chinese privet (Triadica ligustrum).

The proposed mitigation site is owned by Jackson County. The soils in the mitigation area are mapped as the Daleville silt loam, 0-1 percent slopes. The Daleville series consists of poorly drained soils that formed in loamy marine or fluvial sediment. Permeability is slow. These nearly level soils are on uplands and terraces of the Southern Coastal Plain. They are saturated late in winter and early in spring. Water runs off the surface very slowly. Slopes range from 0 to 1 percent. The proposed mitigation

area has been modified in elevation by placement of spoil material from excavation of the nearby drainage ditches. This has modified the hydrology and soil characteristics.

The proposed mitigation site has not been previously developed and is not currently occupied. If the property is not placed in a conservation easement, the potential exists for it to eventually be developed as part of the Moss Point Industrial Technology Center. The mitigation area exists near the railroad line. Given the proximity of multiple modes of transportation surrounding the mitigation site, it would be a prime area for development.

Although the proposed mitigation site is near the rail line, it is important to wildlife in the area as it provides a safe corridor for travel between other forested and wetland habitats within the MPITC. Converting the mitigation site into marsh wetland will replace habitat that is lost to filling for the rail line. The marsh will perform the functions of nursery for fish and crustaceans, shelter for birds and aquatic organisms and food for birds, mammals, reptiles, amphibians, and fish. Wildlife in the area will continue to nest, roost and breed in the area.

The impact area for the permitted rail line and the proposed marsh creation area were evaluated using the Hydrogeomorphic method to determine if the proposed marsh creation would sufficiently account for the impacts to the marsh by the proposed rail line. Results of the HGM evaluation indicate that the filling of wetlands in the impact area would result in a loss of 0.32 Functional Capacity Units (FCU) and the marsh creation area will result in a lift of 0.32 FCUs. This indicates that a ratio of 1:1 would be sufficient to mitigate for the loss as a result of the proposed project. A copy of the HGM worksheets is attached in **Appendix C.**

5.0 DETERMINATION OF CREDITS

The JCPA previously purchased mitigation credits for the impacts to the forested wetlands associated with the permitted layout and to create wetlands in the surrounding area as mitigation for impacts to the marsh wetlands (since no credits are available for marsh mitigation). Since the impacts to the forested wetlands have been eliminated, the credit purchase is no longer needed. (JCPA will be working with the Corps and Wetland Solutions for a credit or refund for this prior purchase.) Since there are no credits available for purchase for marsh vegetation impacts, JCPA will conduct permittee responsible mitigation by creating marsh wetland from forested uplands at a ratio of 1:1 resulting in no net loss of wetlands as a result of the project.

6.0 MITIGATION WORK PLAN

Improvement and management activities will be conducted by the Jackson County Port Authority. The mitigation area is located on the same parcels of land that the rail line will be located. JCPA proposes to forestry mulch the entire upland area that is going to be converted. The vegetation will be cut all the way down to existing grade. Beginning at the wetland upland interface the upland will be graded using an excavator to remove approximately =/- 3ft of material. The vegetation and soil will be removed from the project area. The final elevation will be graded to match that of the existing tidal marsh and its tributaries. Slight variations will be maintained to accommodate different plant species. BMPs to protect water quality will be installed and maintained for the project's duration. Plants that will be installed after grading will be the same as those that already exist such as Smooth Cord Grass, Saw Grass, Black Needle Rush, Salt Grass, Marsh Hay, Cattails and a few Bald Cypress along the shore. The detailed work plan is attached in Appendix A.

7.0 MAINTENANCE PLAN

It will be the responsibility of the JCPA to conduct any required maintenance of the mitigation site. JCPA will contract with a qualified contractor to conduct annual maintenance activities for a period of five years. Invasive species will be removed during the annual maintenance activities.

8.0 PERFORMANCE STANDARDS

Performance standards are observable or measurable attributes that can be used to determine if a compensatory mitigation project meets its objectives. Success of the management activities will be evaluated through the first five years with respect to hydrology and percent cover. Hydrology must meet the wetland definition of 1987 Corps of Engineers Wetland Manual, with saturation to the surface of the soil for 12.5% (31 days) of the growing season; and with aerial cover of at least 50% consisting of the planted species in emergent wetland areas.

9.0 MONITORING REQUIREMENTS

It is anticipated that the JCPA will conduct annual monitoring of the mitigation area for five years. The first year will include two inspections and two reports. The goal of the annual monitoring will be to assess continued survival of the planted species and to remove any invasive species. Any regrowth of popcorn trees, Chinese privet or other invasive or noxious species will be removed. In addition to evaluation of the entire 0.9 acres for plant survival, monitoring plots will be established. These monitoring plots will be approximately 0.010 acres randomized circular plots and cover a total of

approximately 3,900 square feet (10% of the mitigation area). Annual monitoring reports will be submitted to the Corps of Engineers, Mobile District.

The annual report shall include, at a minimum, the following:

A. A US Geological Survey topographic map with the track indicated.
B. A detailed narrative that summarized the condition of the tract and all regular maintenance activities.
C. Appropriate site maps that show the locations of sampling plots, permanent photographic stations, sampling transects, etc.
D. Results of vegetation surveys.
E. Monitoring Reports to be disseminated to:
   US Army Corps of Engineers
   Mobile District
   Regulatory Branch
   P.O. Box 2288
   Mobile, Alabama 36628

10.0 LONG TERM MANAGEMENT PLAN

Long term management of the property will be the responsibility of the JCPA. JCPA will continue to monitor the mitigation area after the performance standards have been achieved. Any growth of the invasive species will be managed as needed; however, reports will not be submitted.

11.0 ADAPTIVE MANAGEMENT PLAN

The JCPA will use adaptive management strategies to maintain the quality of wetlands at the mitigation site. Monitoring in an adaptive management context focuses on early identification of undesirable trends and provides the guidance, through an experimental construct, necessary to determine the appropriate remedial action to reverse an undesirable situation or trend. After the second annual monitoring report, the planted species survival should be 50%. If planted species have not reached the two year survival rate the need for additional plants will be evaluated. By year three the area should match the percent cover that exists in the reference site (adjacent brackish estuarine marsh). If by year three the planted species do not match the reference site cover, JCPA will evaluate the need for additional planting. The need for adaptive management will be evaluated in conjunction with input from the Corps of Engineers.

12.0 FINANCIAL ASSURANCES

JCPA has purchased a $50,000 Performance Bond for the project to provide funds for remediation of the mitigation area if the success criteria are not met. JCPA has long been a good environmental steward of the properties that it owns and is responsible for and has conducted long term management of several properties with conservation easements, deed restrictions, memorandum of agreement or other protective documents.

References

Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (**https://wetland_plants.usace.army.mil**). U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BONAP, Chapel Hill, NC. accessed [1/15/2019].

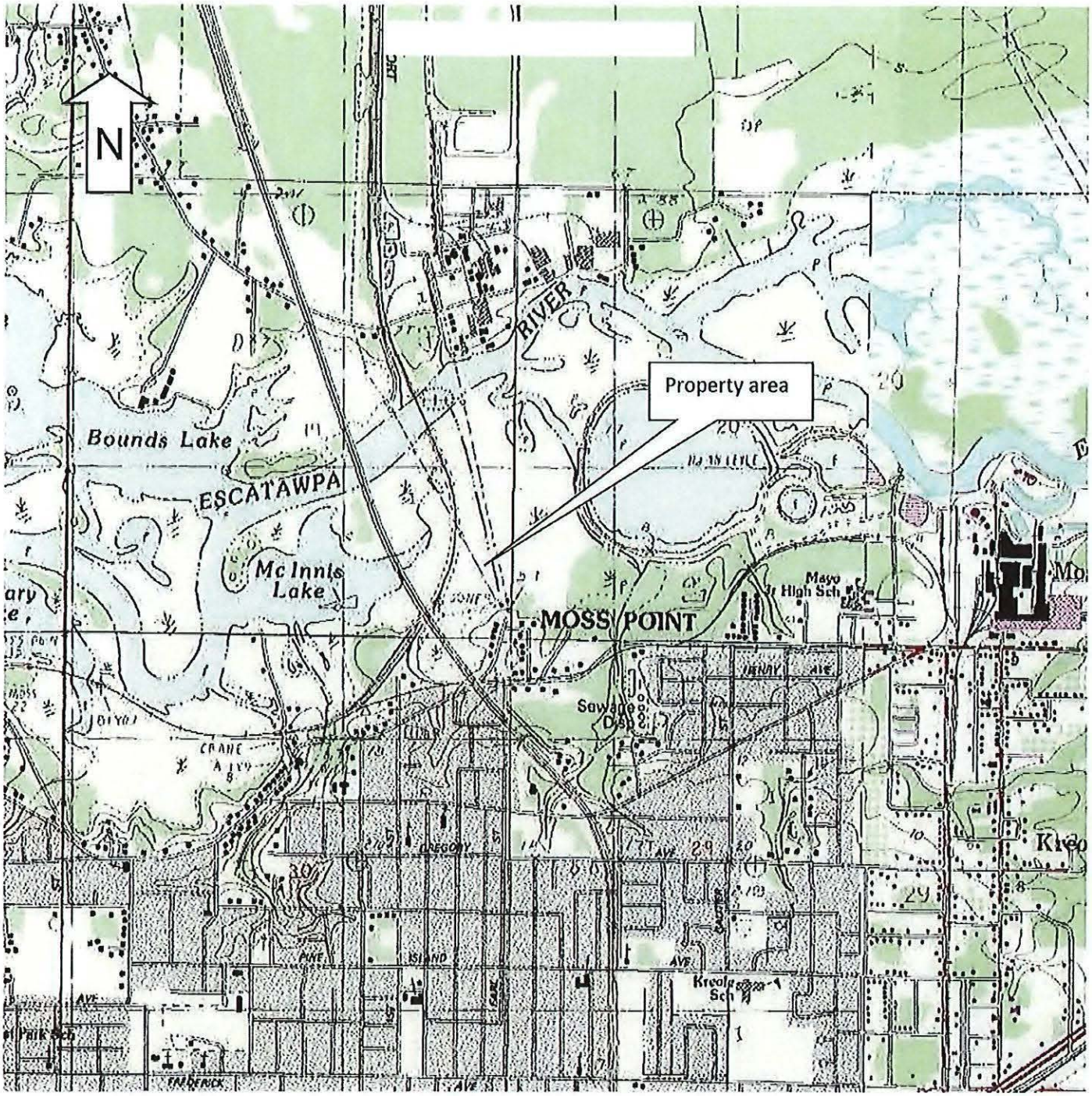
U. S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0),* ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

USDA, Natural Resources Conservation Service. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

Wunderlin, R. P., and B. F. Hansen. 2008. *Atlas of Florida Vascular Plants* (**http://www.plantatlas.usf.edu/**). [S. M. Landry and K. N. Campbell (application development), Florida Center for Community Design and Research.] Institute for Systematic Botany, University of South Florida, Tampa.

FIGURES

Figure 1 Site Location Map



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E-mail: compton@comptonengineering.com

Site: North Rail Project Area
Moss Point, Jackson County, MS

Figure Title: **Topographic Map** (Map Source: USGS, 2012)

Appendix ID:
A

Figure 2 Rail Layout and Wetland Impacts at Project Site

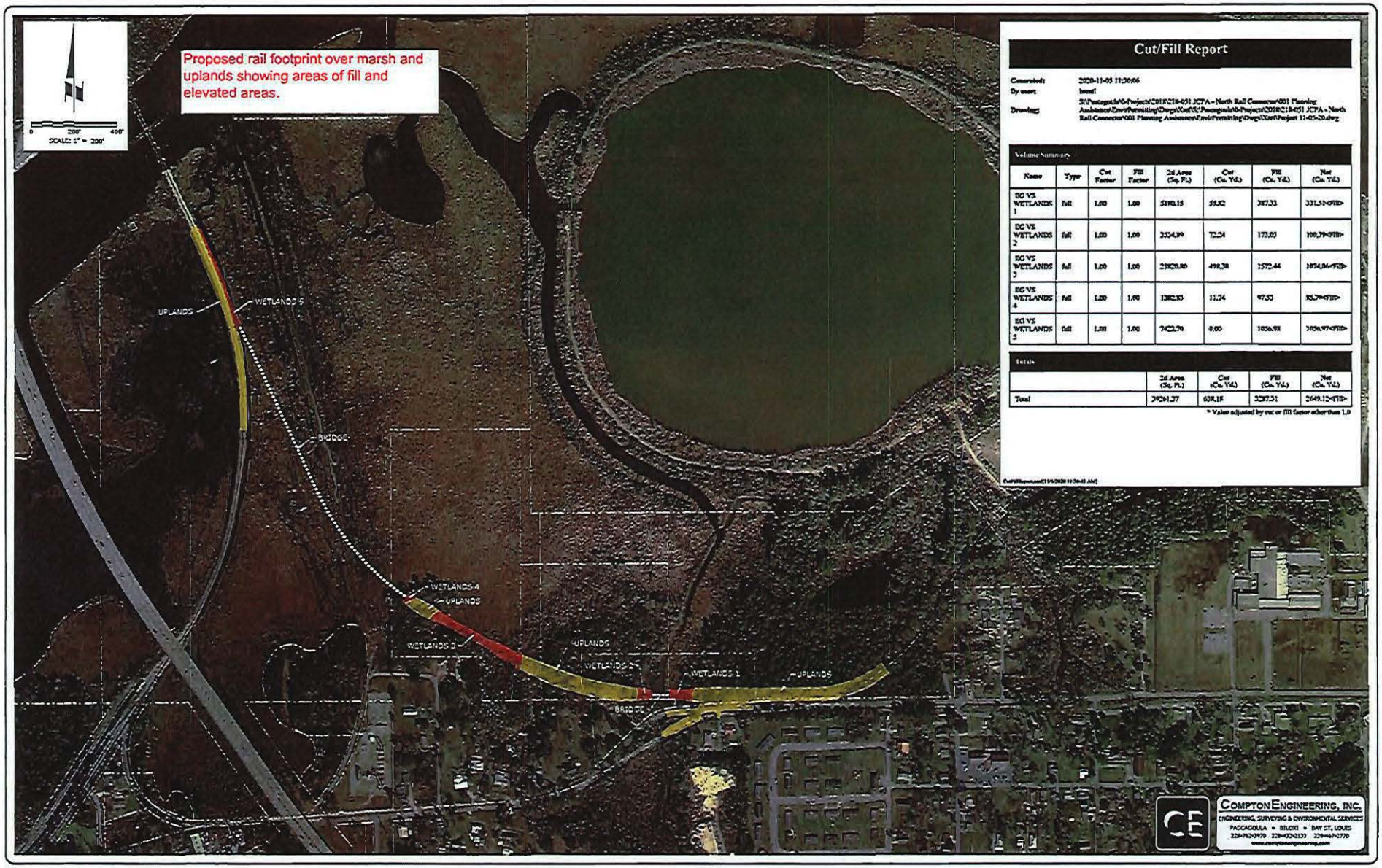

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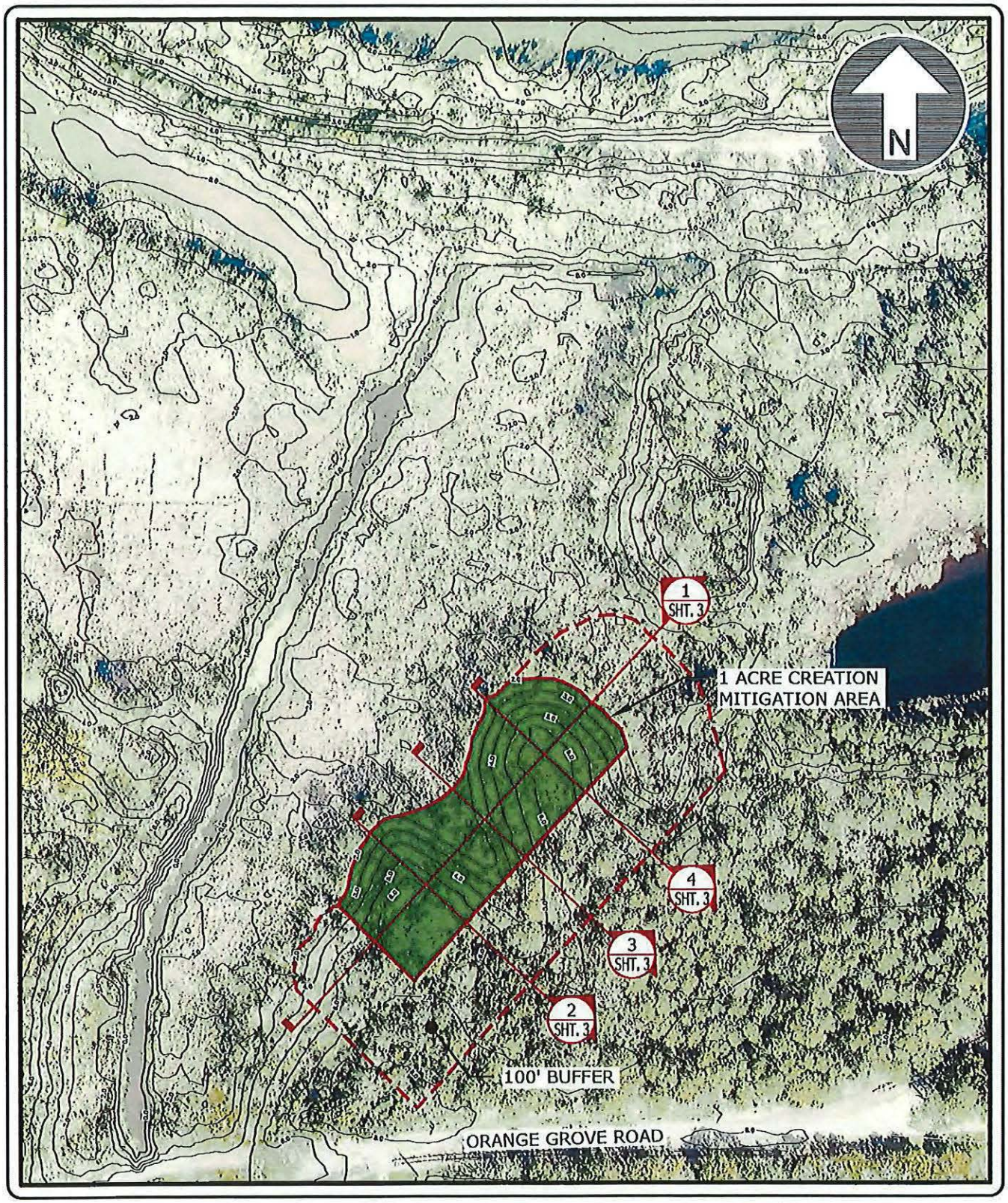
Figure 3 Proposed Mitigation Area



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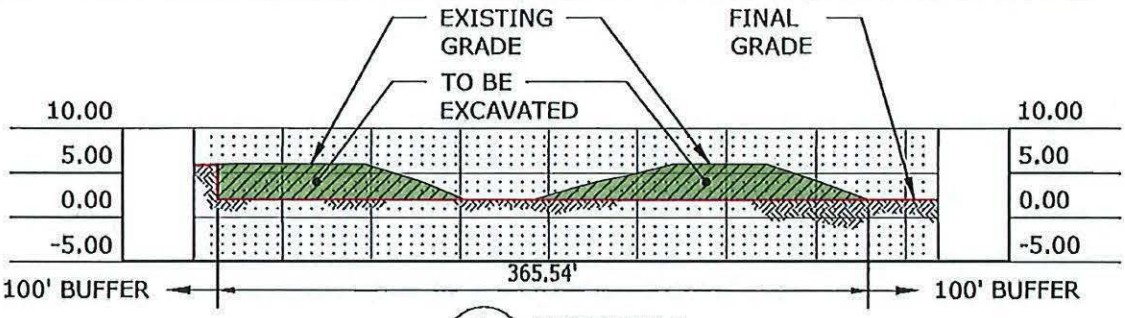
218-051
JACKSON COUNTY PORT AUTHORITY (JCPA),
NORTH RAIL CONNECTOR,
PROPOSED PERMITTED RESPONSIBLE,
MITIGATION AREA,
SHEET 2
SCALE: NTS
DRN. BY: JDL



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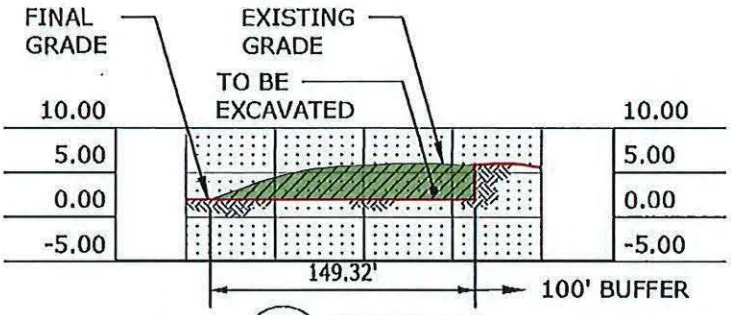

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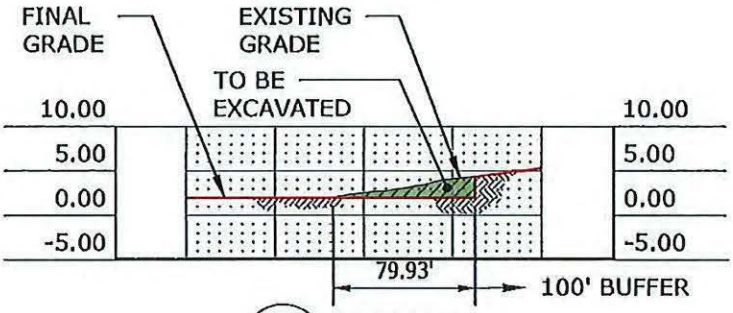

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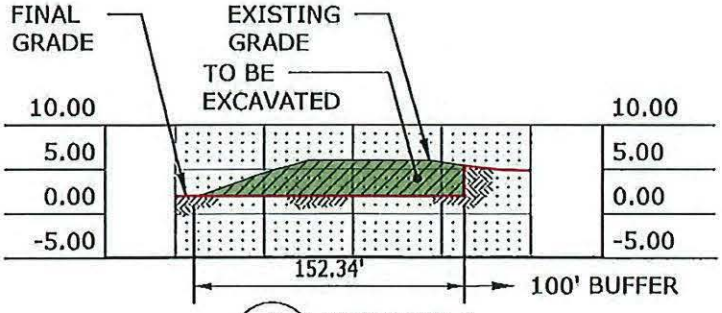

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SCALE: NTS

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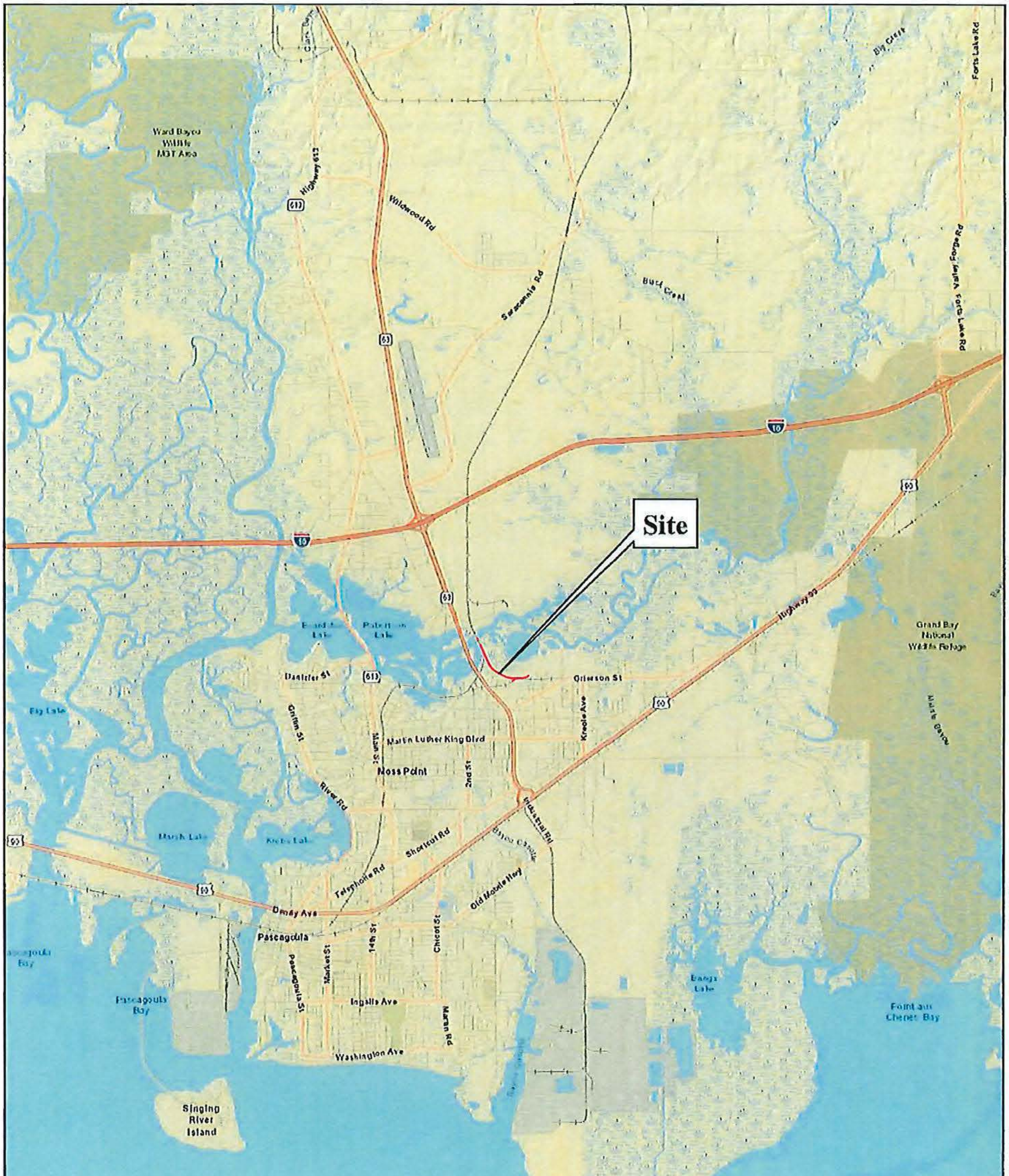
MITIGATION AREA,
SHEET 3
SCALE: NTS
DRN. BY: JDL

Appendices

Appendix A – Wetland Delineation Report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Wildwood Rd
Saracennia Rd
Big Creek
Bluff Creek
Forts Lake Rd
Valley Forge Rd
Highway 90
Grand Bay National Wildlife Refuge
Danzler St
Grierson St
Griffin St
Main St
Martin Luther King Blvd
Kreole Ave
Moss Point
2nd St
River Rd
Big Lake
Marsh Lake
Krebs Lake
Shortcut Rd
Telephone Rd
Old Mobile Hwy
Industrial Rd
Denny Ave
Pascagoula
Pascagoula Bay
Pascagoula St
Market St
14th St
Chicot St
Ingalls Ave
Washington Ave
Singing River Island
Point aux Chenes Bay
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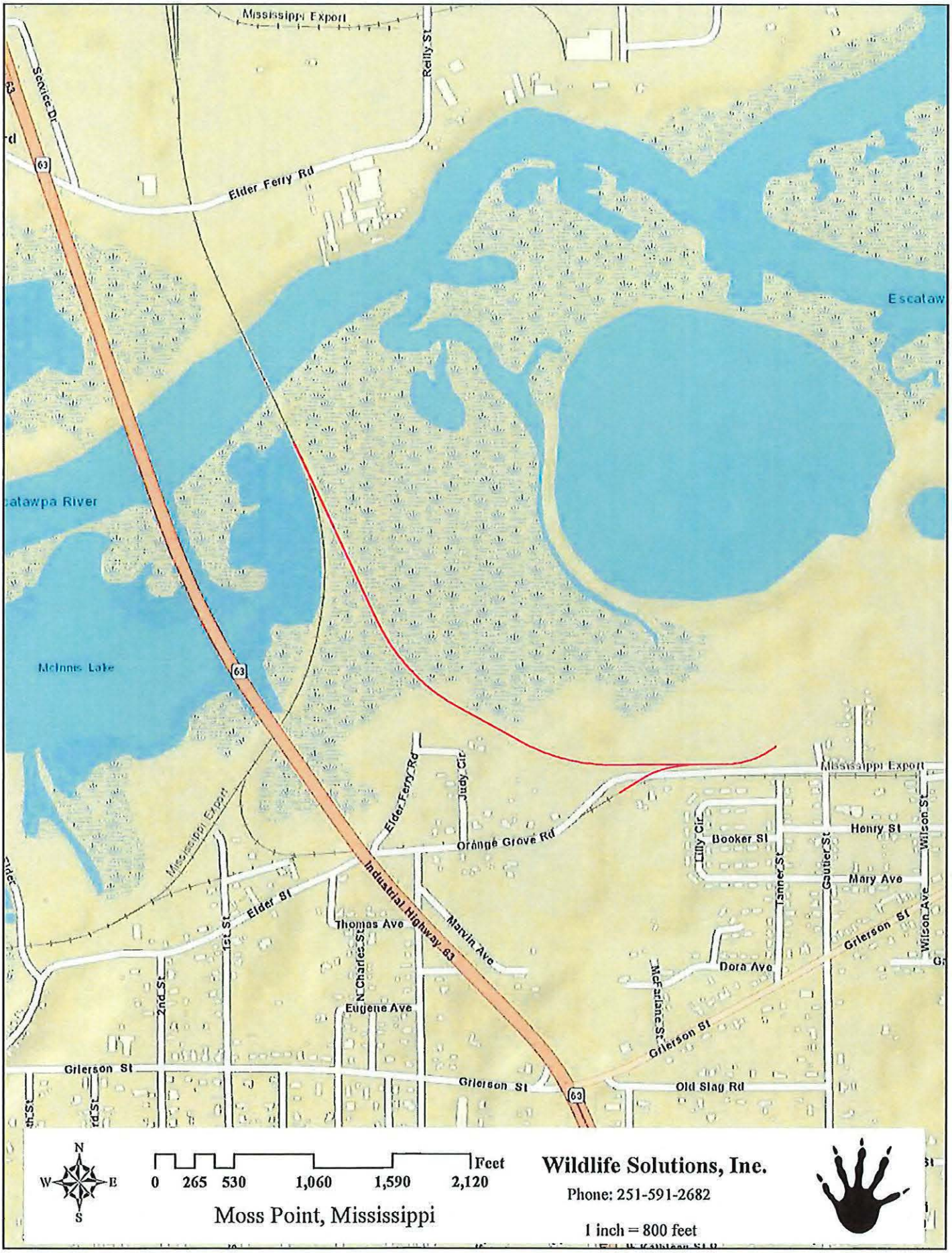
0 0.5 1 2 3 4 Miles
Moss Point, Mississippi
Wildlife Solutions, Inc.
Phone: 251-591-2682
1 inch = 2 miles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Elder Ferry Rd
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Escatawpa River
McInnis Lake
Mississippi Export
Elder Ferry Rd
Judy Cir
Orange Grove Rd
Industrial Highway 63
Elder St
1st St
2nd St
Thomas Ave
Marvin Ave
N Charles St
Eugene Ave
Grierson St
Grierson St
Grierson St
Old Slag Rd
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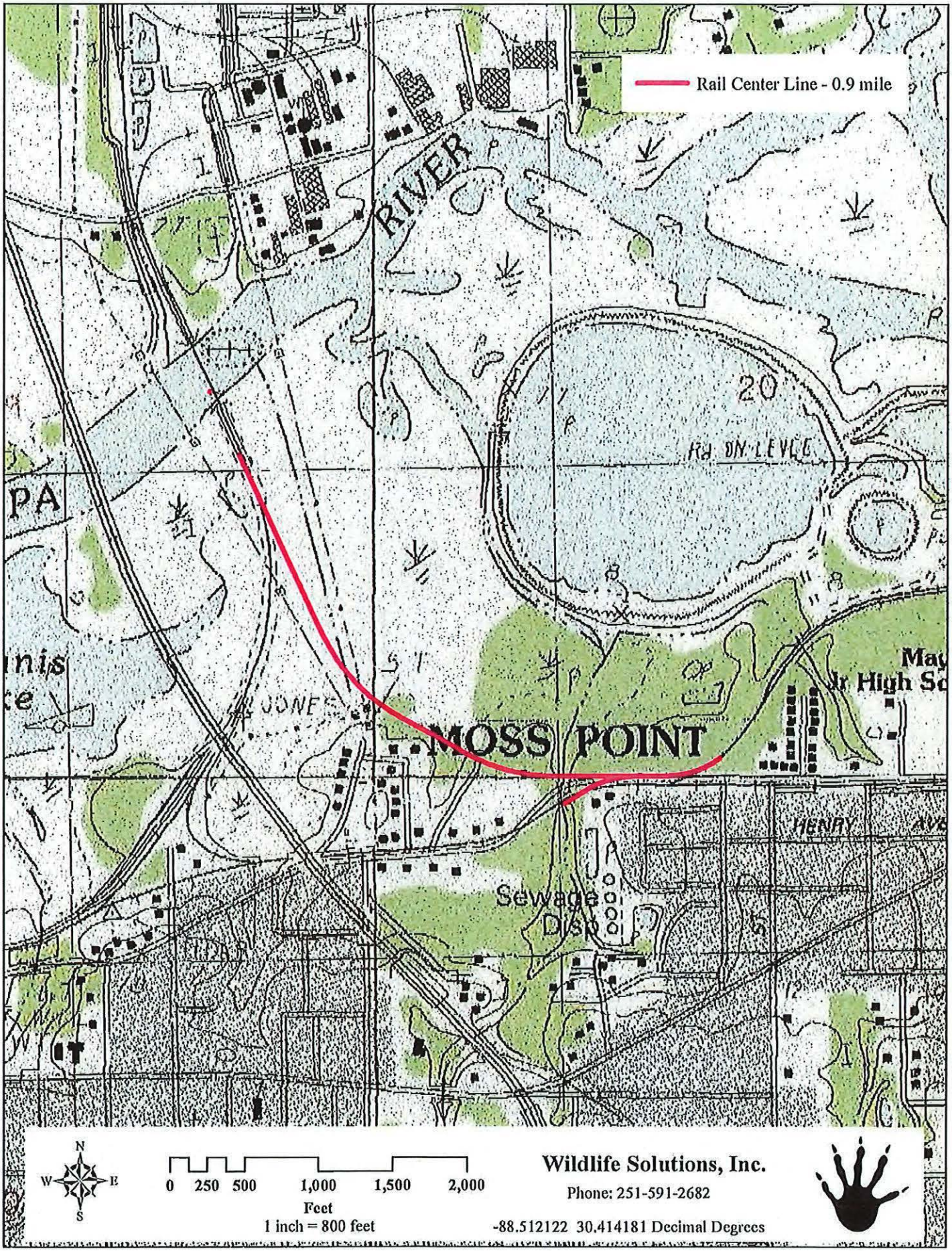
Moss Point, Mississippi
Wildlife Solutions, Inc.
Phone: 251-591-2682
1 inch = 800 feet


Rail Center Line - 0.9 mile
RIVER
MOSS POINT
Sewage Disp
HENRY
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W
E
S
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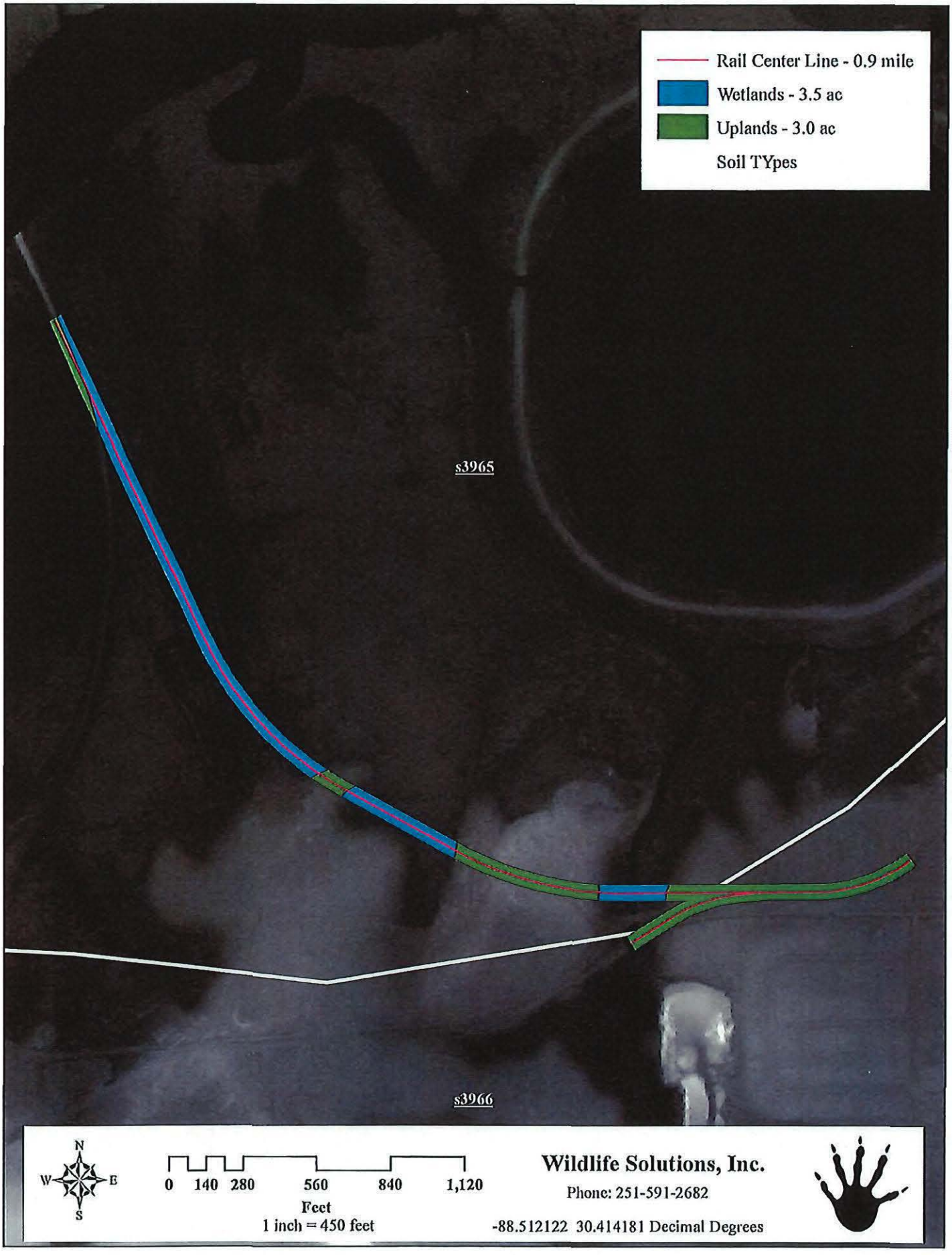
Feet
1 inch = 800 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees


Rail Center Line - 0.9 mile
Wetlands - 3.5 ac
Uplands - 3.0 ac
Soil TYpes
s3965
s3966
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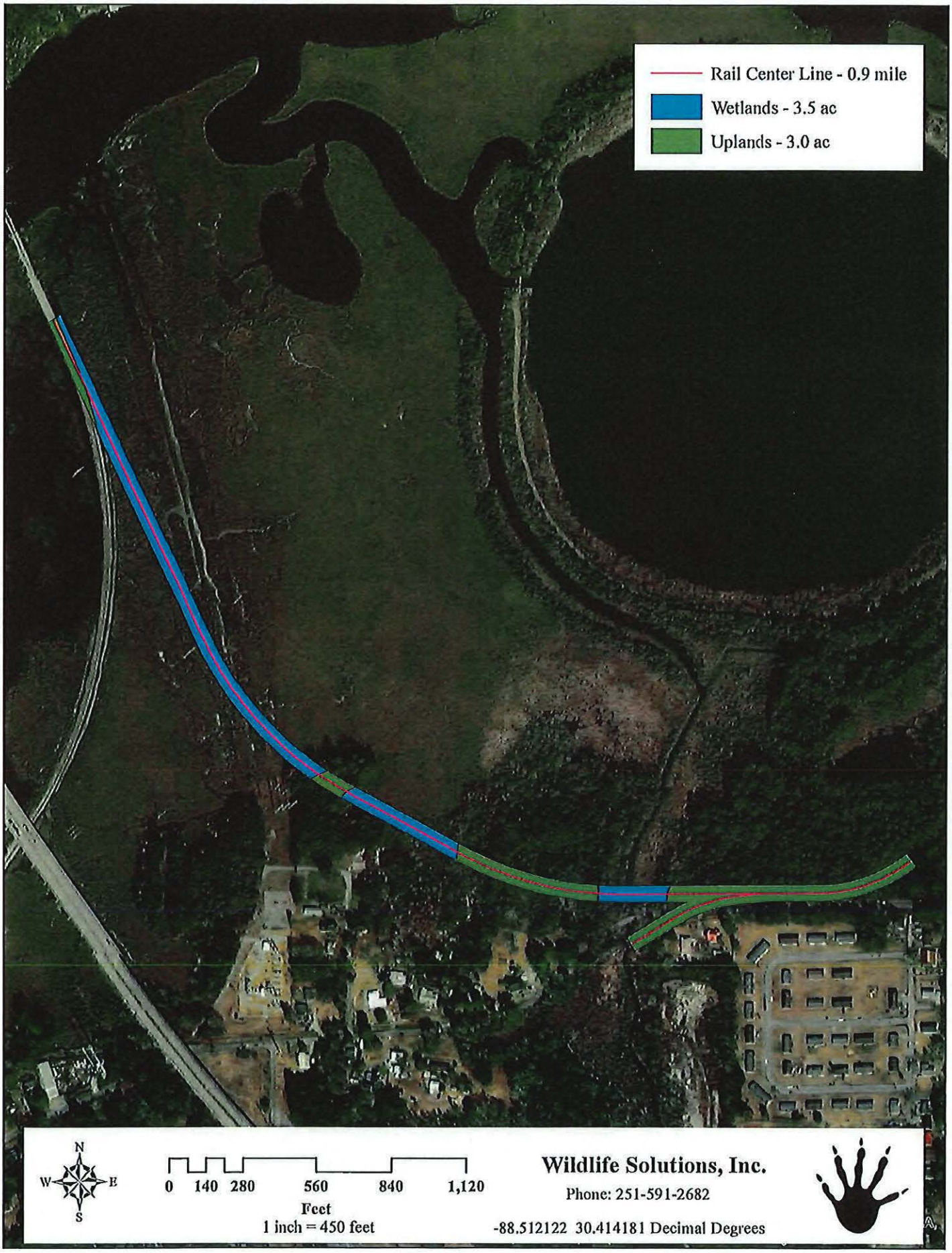
0 140 280 560 840 1,120
Feet
1 inch = 450 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees


Rail Center Line - 0.9 mile
Wetlands - 3.5 ac
Uplands - 3.0 ac
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Feet
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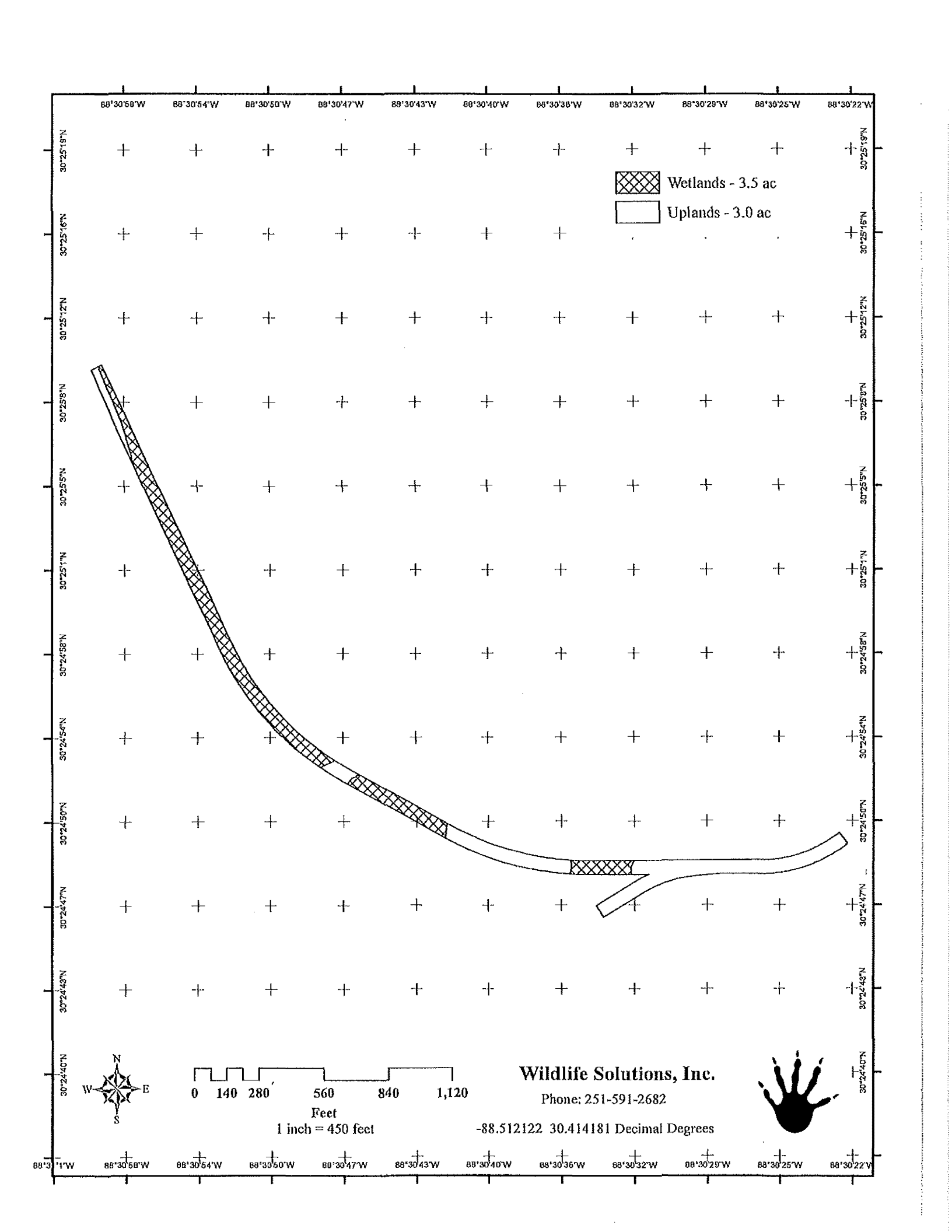
88°30'58"W
88°30'54"W
88°30'50"W
88°30'47"W
88°30'43"W
88°30'40"W
88°30'36"W
88°30'32"W
88°30'29"W
88°30'25"W
88°30'22"W
30°25'19"N
30°25'16"N
30°25'12"N
30°25'8"N
30°25'5"N
30°25'1"N
30°24'58"N
30°24'54"N
30°24'50"N
30°24'47"N
30°24'43"N
30°24'40"N
Wetlands - 3.5 ac
Uplands - 3.0 ac
N
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0 140 280 560 840 1,120
Feet
1 inch = 450 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees

Appendix B - Detailed Work Plan

Wetland Mitigation Work Plan

Jackson County Port Authority

North Rail Connector

Moss Point, Mississippi

Prepared For

Jackson County Port Authority

PO Box 70

Pascagoula, MS 39568

October, 2019

Revised March 2021

Prepared By

Wildlife Solutions, Inc.

250 S. School Street,
OFFICE: 251-591-2682, FAX: 251-990-9830
Fairhope, ALA. 36532

Introduction

This Work Plan was prepared to support the Permittee Responsible Mitigation Plan prepared by Compton Engineering for the North Rail Connector project proposed by the Jackson County Port Authority. This plan includes the steps needed to convert an upland forested area into a tidal marsh.

Site

JCPA has identified an area of uplands with sufficient acreage to mitigate for tidal marsh impacts at a ratio of approximately 1:1 (0.90 acres impacted:1.0 acres created). The upland site that is to be converted into a tidal marsh interfaces with an existing tidal marsh. Its plant community is typical of that found in the surrounding Coastal Flat Woods. The canopy is dominated by Slash Pine *pinus elliottii* and scattered Water Oaks *quercus nigra* with a mid story of smaller oaks along with Southern Magnolia *magnolia grandiflora*, Red Maple *Acer rubrum*, Sweet Gum *Liquidambar styraciflua*, Gallberry *ilex glabra*, Yaupon *ilex vomitoria*, and a heavy component of invasive species such as Camphor *cinnamomum camphora*, Tallow Tree *Triadica sebifera* and Chinese Privet *Ligustrum sinense*. Site access is optimal as it is bordered by a low traffic paved road along the southern border allowing easy ingress and egress for construction and monitoring. The hydrology of this system is groundwater driven and the water table fluctuates in elevation throughout the year depending on rainfall and tidal fluctuations.

Construction

Site Survey

Prior to the commencement of construction the entire site will be surveyed and staked delineating the limits of construction, zones of activity and establish bench marks for elevation.

Clearing and Erosion control

The entire site will be cleared to existing grade by mechanical mulching followed by grubbing to remove any large stumps or debris. Any woody vegetation that is not mulched will be burned on site or hauled from the site to a proper disposal facility. Prior to the start of any trucking from the site a rock mud mat will be constructed at the road entrance to the site to decrease the tracking of soil onto the paved road. Prior to beginning excavation Class A silt fence will be installed along the construction limits of the project in areas at risk of sedimentation from storm water runoff. The silt fence along with any other storm water BMP's put in place will be maintained throughout the construction process until a time in which the site is stabilized by vegetation. A

Stormwater Pollution Prevention Plan and Small Construction Notice of Intent will be prepared and submitted to MDEQ if required.

Grading

Excavation will commence at the northwest side of the project at the upland marsh interface using an excavator. The soil substrate will be removed to a level approximately the same grade as the existing marsh. Frequent checks will be made using an automatic level to ensure elevation is correct prior to the excavator moving to a point it cannot reach in order to minimize disturbance in the newly exposed tidal soil. Minor undulations in elevation within the excavated tidal zone are desired in order to facilitate a mosaic of various plant species as found in a natural system. Preliminary soil sampling does not indicate the presence of high chroma or pure clay soils at the desired final grade. However if encountered these areas will be cut down to approximately 6" below desired grade then back filled with newly excavated clean top soil from the site containing the highest levels of organic matter. As a proactive measure in case this type of material is required a stockpile of top soil will be kept on site and readily available until all grading is complete. It is estimated that approximately 13,000 cubic yards of material will be excavated in order to reach the desired grade within the limits of the marsh creation zone. All excavated materials not used as back fill will be hauled from the site and taken to a local commercial dirt pit. Once the excavation reaches the interface of the upland buffer a gradually slopping bank with variations will be created with a minimum slope ratio of 1:4. This bank will be stabilized using a combination of temporary and permanent seed then covered with clean wheat straw mulch to retain moisture and prevent erosion.

Planting and Seeding

Once the dirt work is completed, all disturbed areas outside the tidal zone will be seeded with a temporary and permanent seed mix followed by an application of fertilizer in sequence as follows. The temporary seed mix will be done using a cool or warm season seed depending on time of application.

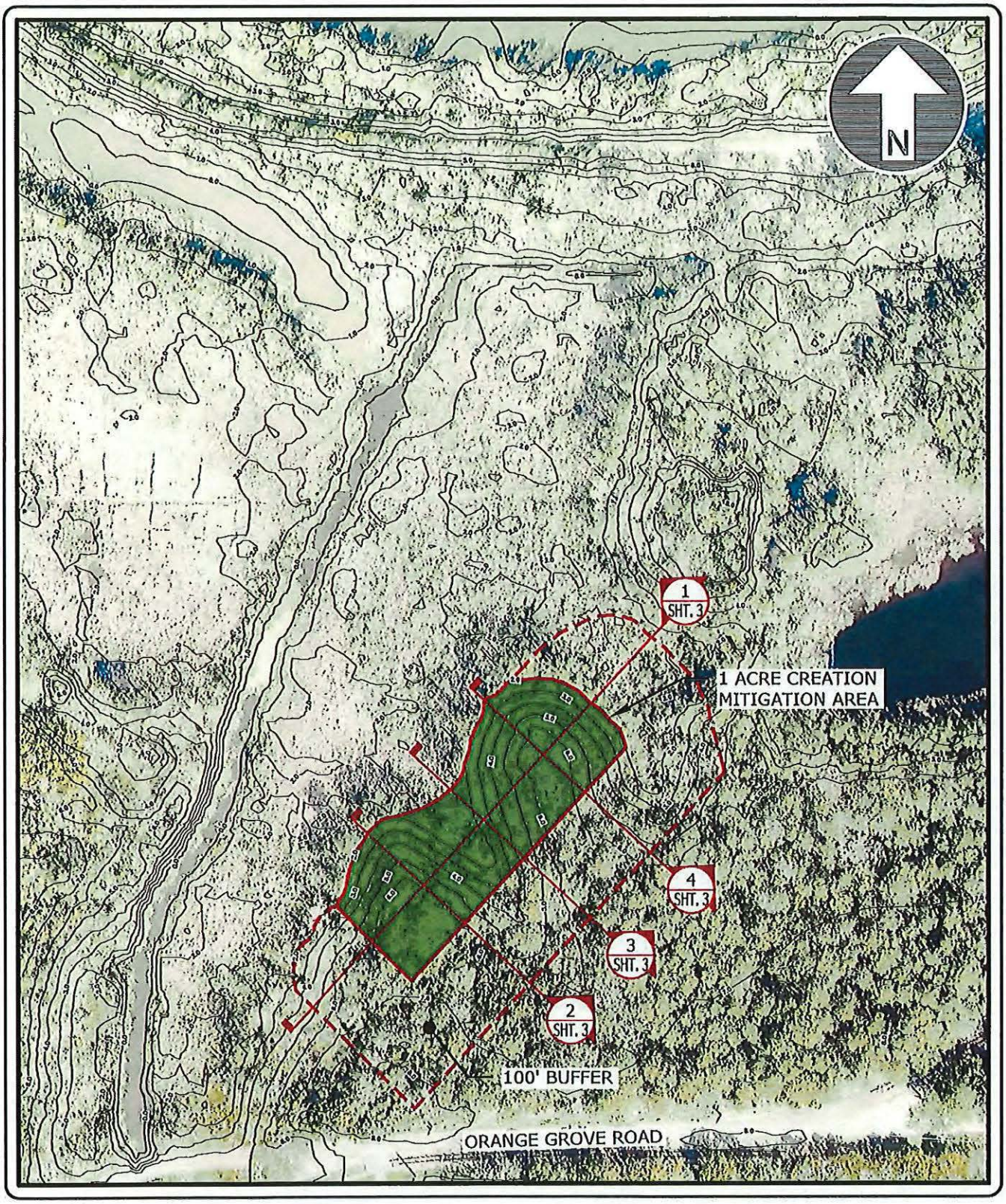
1. Permanent seed will consist of Ernst FACW Wetland Meadow Mix applied at a rate of 25 lbs per acre.
2. Cool season temporary seed will consist of Rye Grass applied at a rate of 50 lbs per acre.
3. Warm season temporary seed will consist of Brown Top Millet applied at a rate of 50 lbs per acre.
4. Seeding will be followed by an application of 10-10-10 fertilizer at a rate of 100 lbs per acre.

5. Immediately after seeding, the entire area will be covered with clean wheat straw mulch at a rate of 40 bales per acre.
6. Bald Cypress *Taxodium distichum* in one gallon containers will be planted along the newly created shoreline at random spacing and elevation to mimic adjacent existing shoreline conditions.

Herbaceous plants for the tidal marsh zone - planting density will be approximately 10,000 plugs per acre / 2' X 2' spacing, approximately 10,000 plugs will be required. The following plants listed are those currently found in tidal marsh in which the newly created marsh will interface. During planting, care will be taken to insure species composition and densities mimic as closely as possible the existing marsh. Actual plant quantities may vary among species as adjustments are made during planting to accommodate for micro site changes in elevation.

- *20-40% Juncus roemerianus* (Black Needle Rush)
- *20-40% Spartina alterniflora* (Smooth Cordgrass)
- *5-10% Spartina patens* (Marsh Hay Cordgrass)
- *5-10% Typha angustifolia* (Narrowleaf Cattail)
- *20-40 % Cladium jamaicense* (Sawgrass)

Note: All seed source material for this project have been procured from authorized collection sites along the Mississippi and Alabama Gulf Coast. These sites are all located within 50 miles of the project site. All plants for this project will be procured from Tidelands Wetland Nursery, located in Loxley, Alabama.



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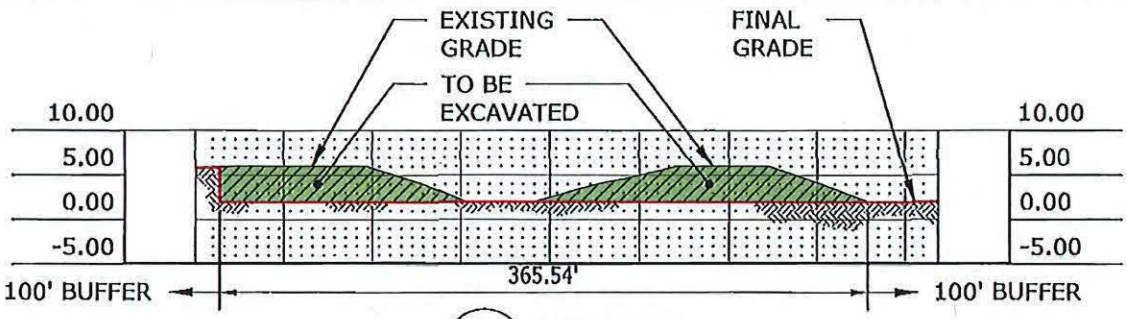
SHEET 2
SCALE: NTS
DRN. BY: JDL



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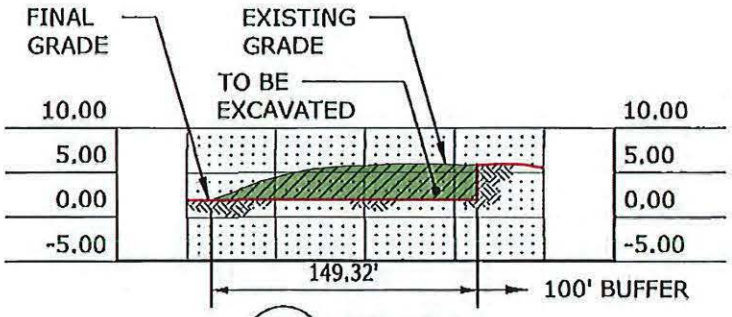

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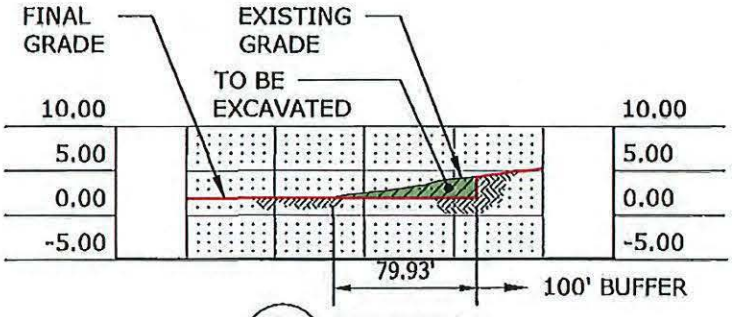

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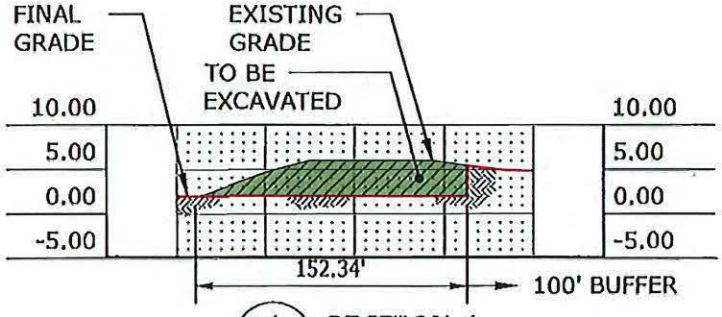

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SCALE: NTS

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MITIGATION AREA,
SHEET 3
SCALE: NTS
DRN. BY: JDL


Site
Highway 613
Wildwood Rd
Saracennia Rd
Buck Creek
Big Creek
Forts Lake Rd
Valley Forge Rd
Highway 90
Grand Bay National Wildlife Refuge
Danforth St
Gilerson St
Kreole Ave
Martin Luther King Blvd
Moss Point
Main St
2nd St
Griffin St
River Rd
Marsh Lake
Krebs Lake
Shortcut Rd
Telephone Rd
Industrial Rd
Old Mobile Hwy
Denny Ave
Pascagoula
Pascagoula St
Market St
14th St
Chicot St
Ingalls Ave
Mahon Rd
Washington Ave
Pascagoula Bay
Singing River Island
Point aux Chenes Bay
Big Lake
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1
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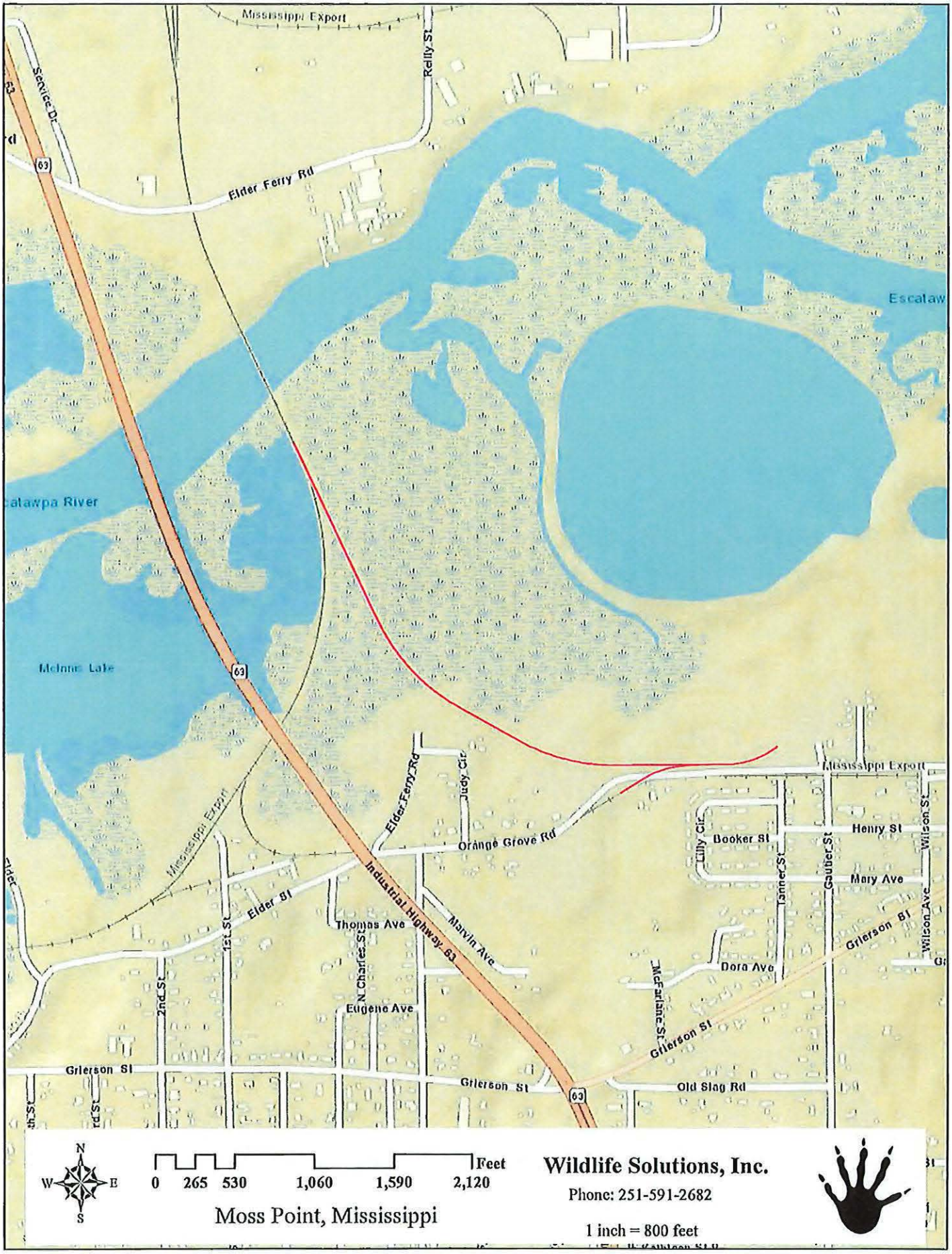
Miles
Moss Point, Mississippi
Wildlife Solutions, Inc.
Phone: 251-591-2682
1 inch = 2 miles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Escalaw
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Melnnis Lake
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Judy Cir
Orange Grove Rd
Lilly Cir
Booker St
Henry St
Wilson St
Tanner St
Gautier St
Mary Ave
Industrial Highway 63
Elder St
1st St
Thomas Ave
Marvin Ave
Wilson Ave
Grierson St
Dora Ave
McFarlane St
2nd St
N Charles St
Eugene Ave
Grierson St
Grierson St
Old Slag Rd
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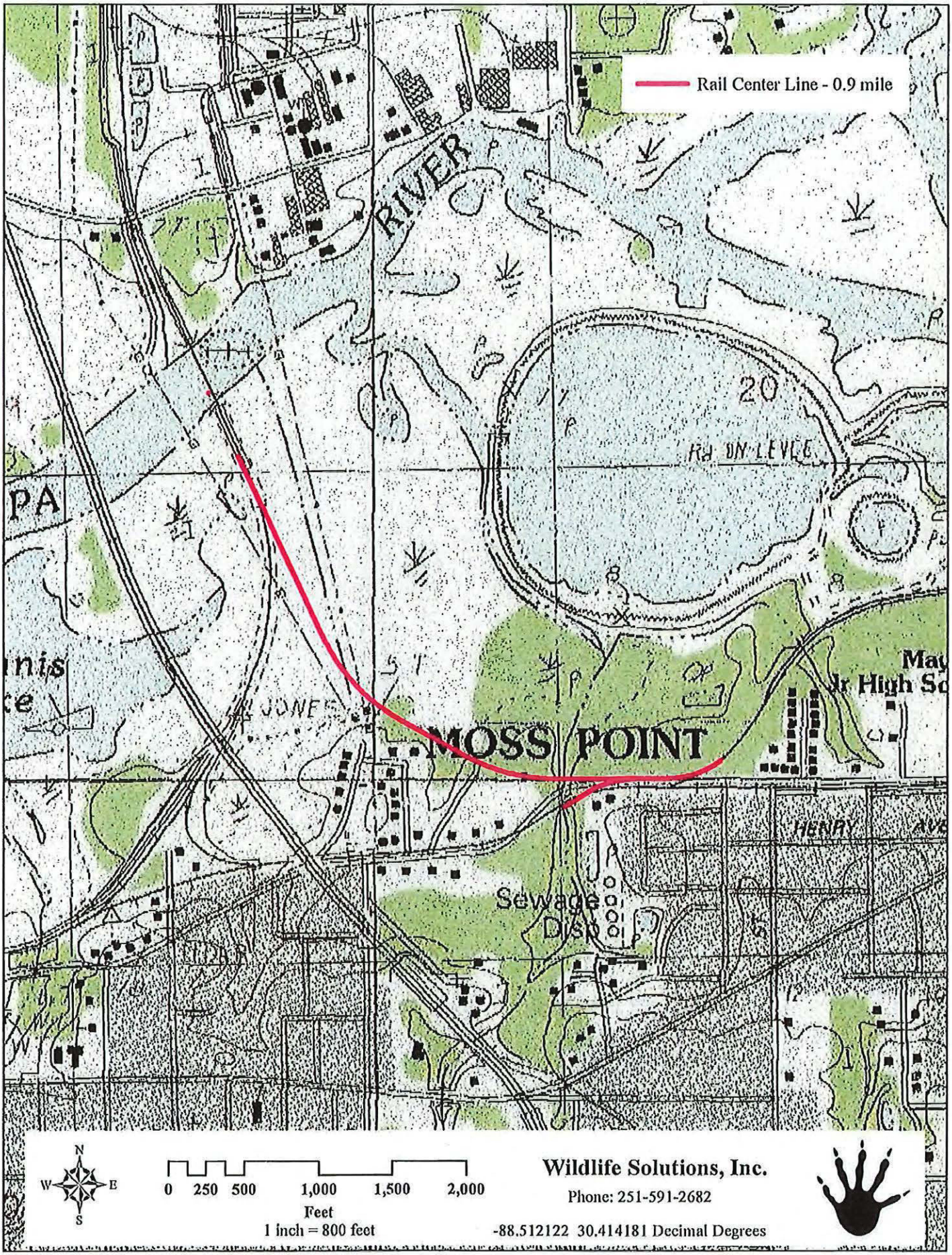
0 265 530 1,060 1,590 2,120 Feet
Moss Point, Mississippi
Wildlife Solutions, Inc.
Phone: 251-591-2682
1 inch = 800 feet


Rail Center Line - 0.9 mile
RIVER
20
MOSS POINT
HENRY
Sewage Disp
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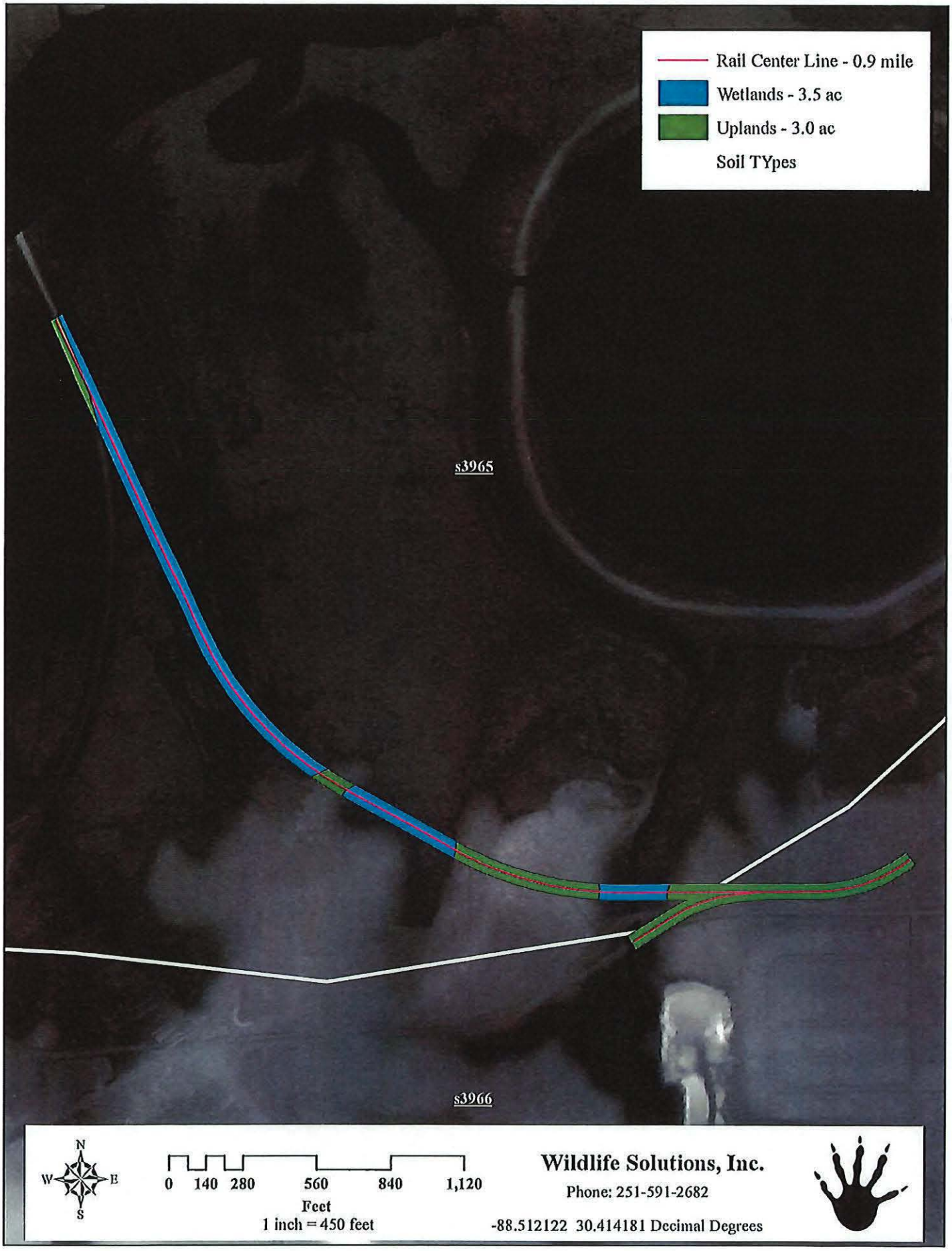
0 250 500 1,000 1,500 2,000
Feet
1 inch = 800 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees


Rail Center Line - 0.9 mile
Wetlands - 3.5 ac
Uplands - 3.0 ac
Soil TYpes
s3965
s3966
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Feet
1 inch = 450 feet
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Phone: 251-591-2682
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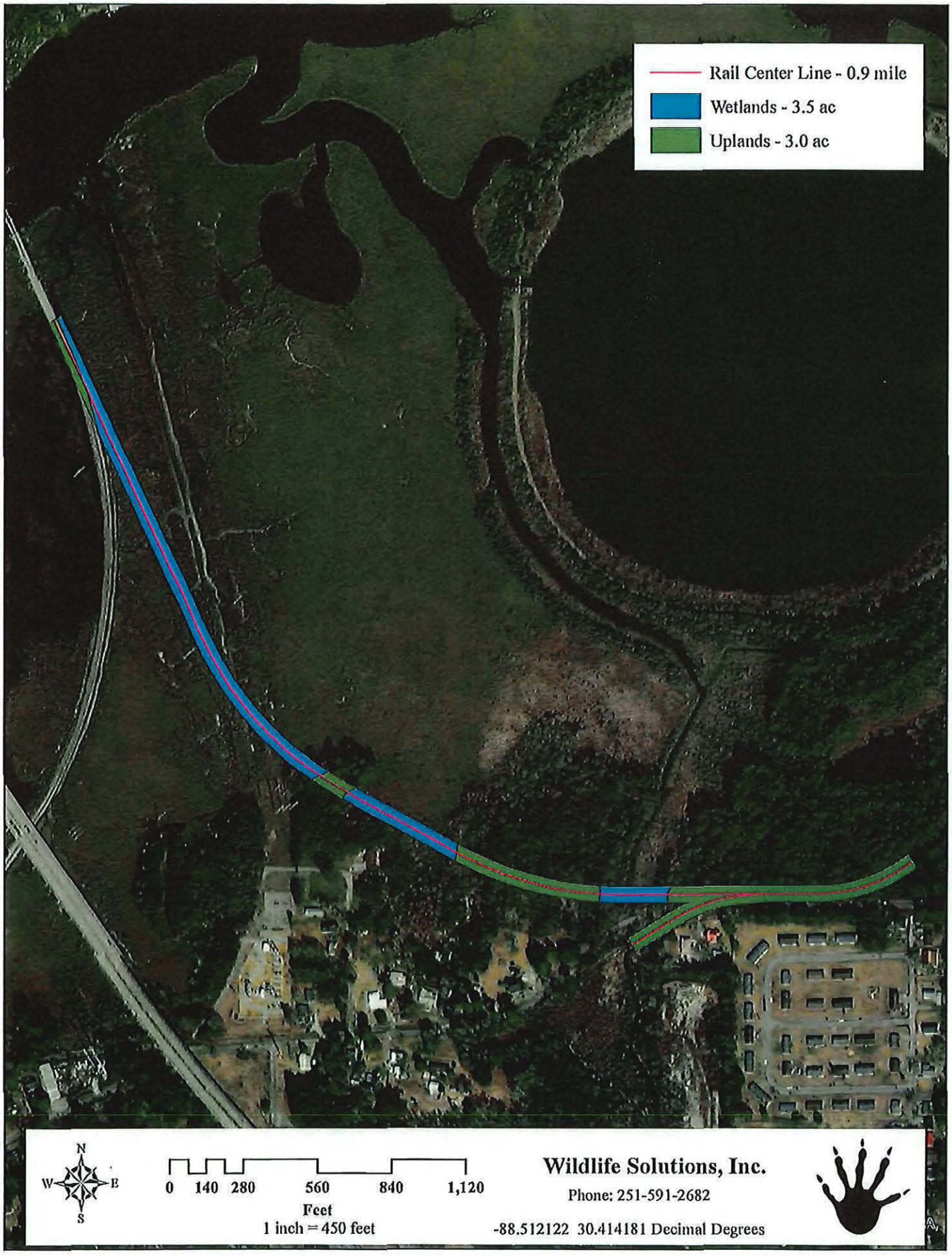
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Uplands - 3.0 ac
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Feet
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Wildlife Solutions, Inc.
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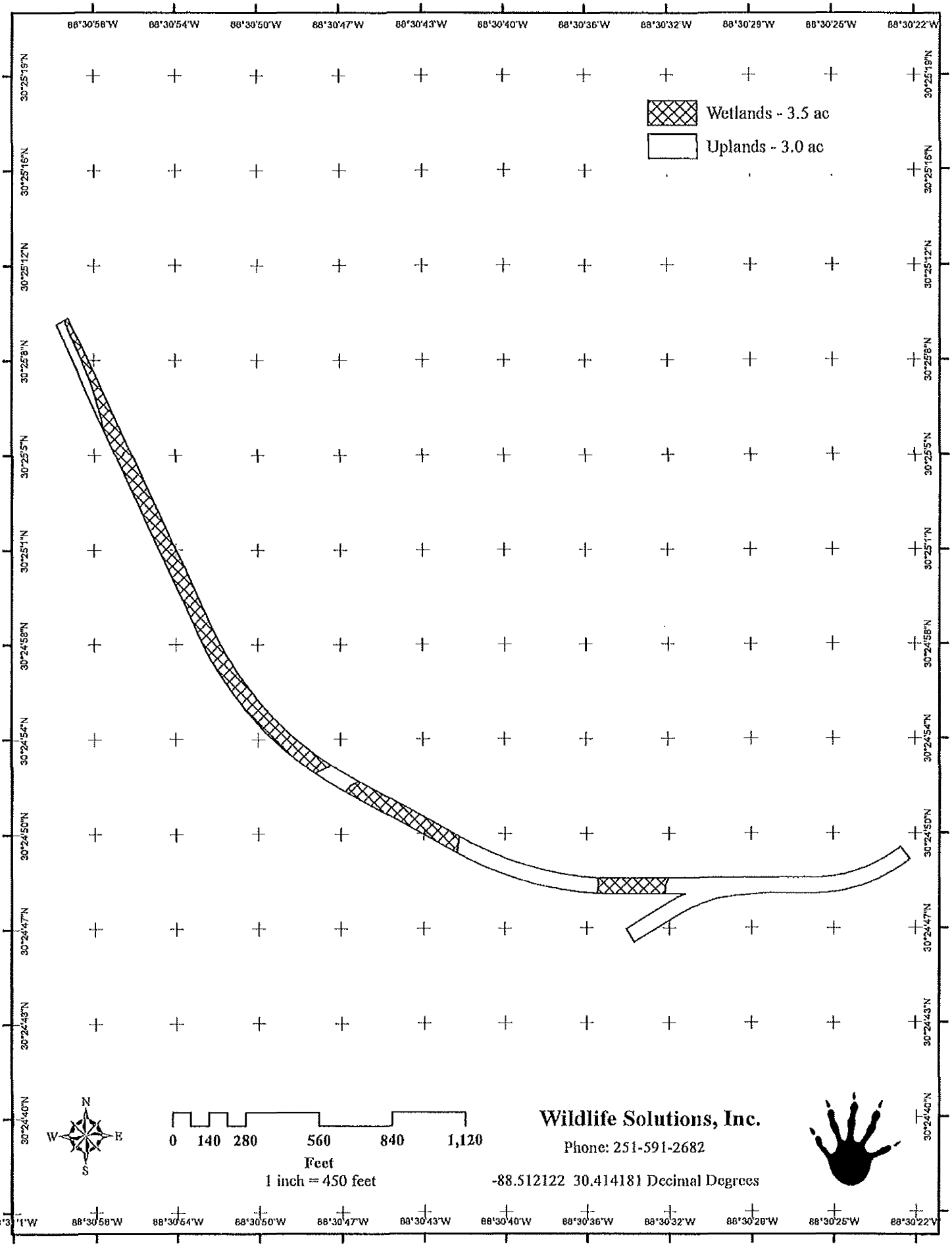
Wetlands - 3.5 ac
Uplands - 3.0 ac
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88°30'40"W
88°30'36"W
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88°30'29"W
88°30'25"W
88°30'22"W
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30°24'58"N
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Feet
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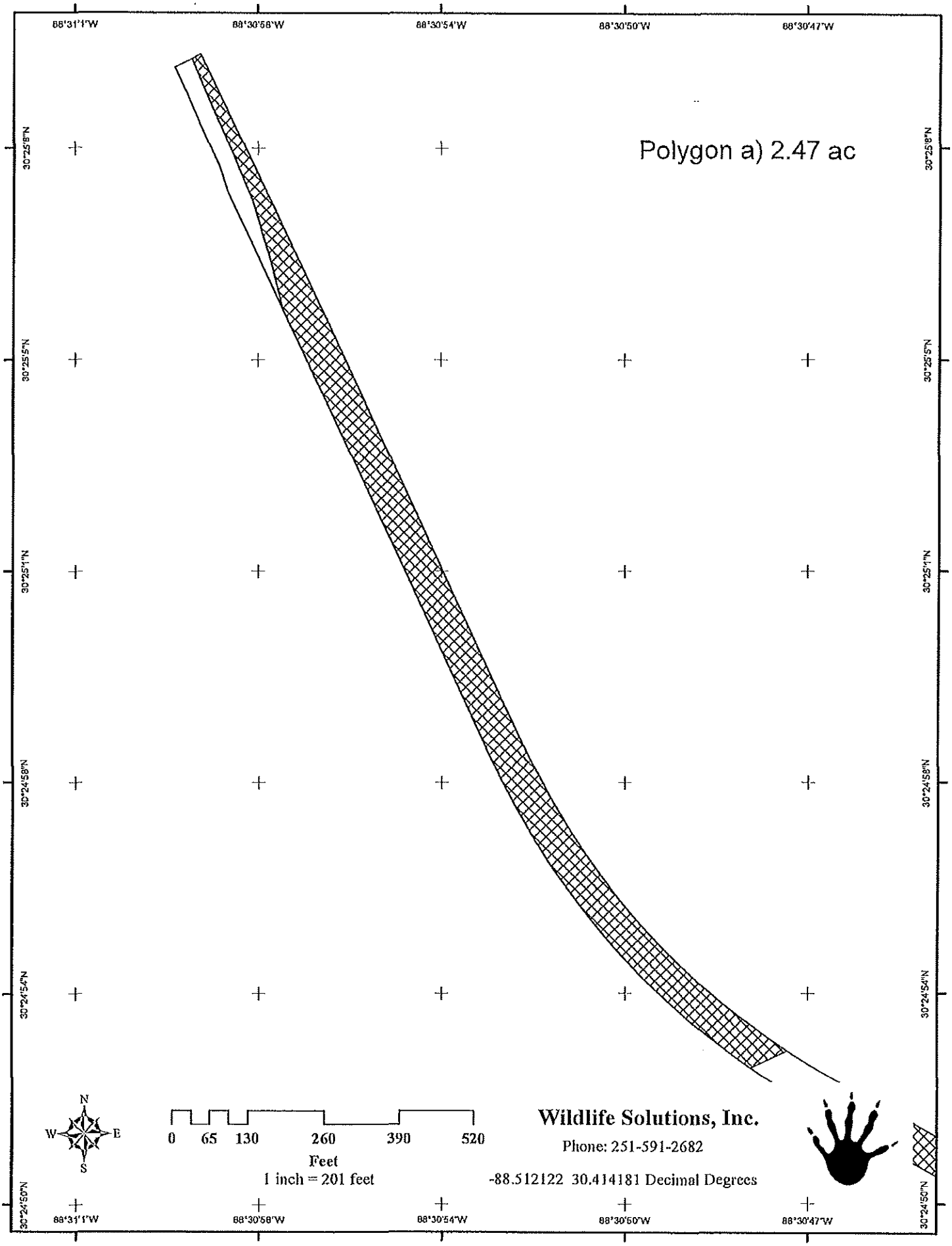
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30°24'50"N
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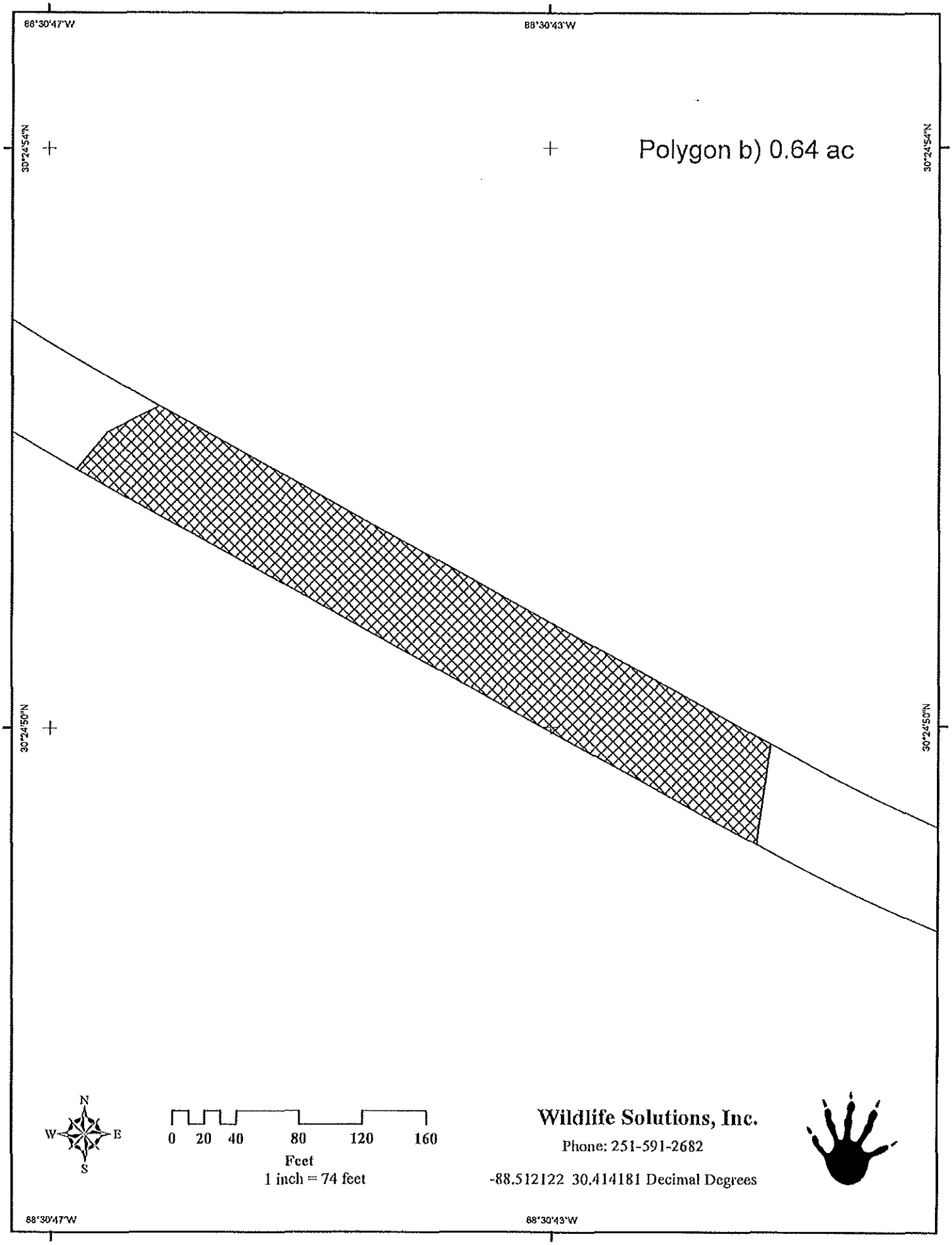
Feet
1 inch = 201 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees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30°24'54"N
30°24'50"N
Polygon b) 0.64 ac
N
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E
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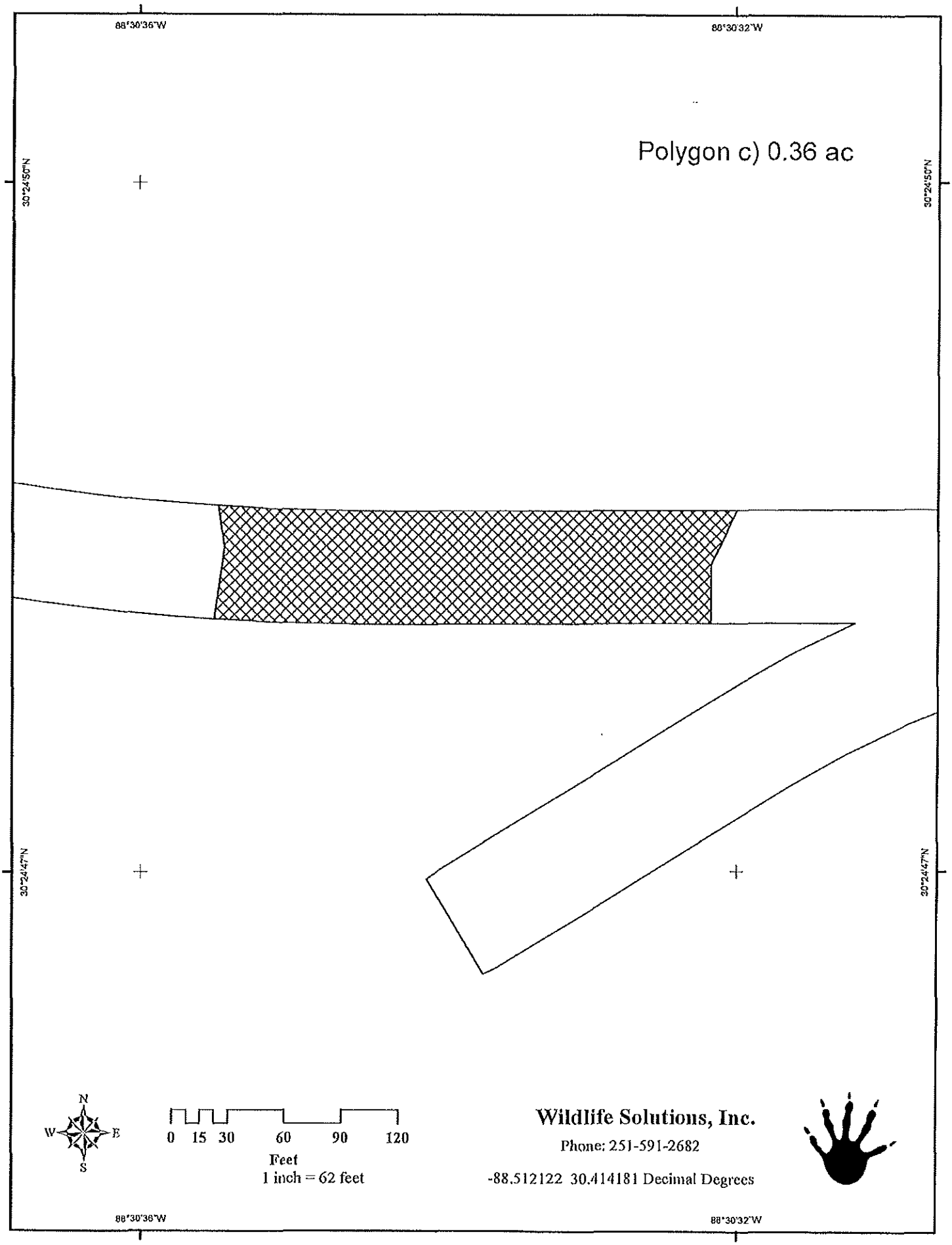
Feet
1 inch = 74 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees


88°30'36"W
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30°24'50"N
30°24'47"N
Polygon c) 0.36 ac
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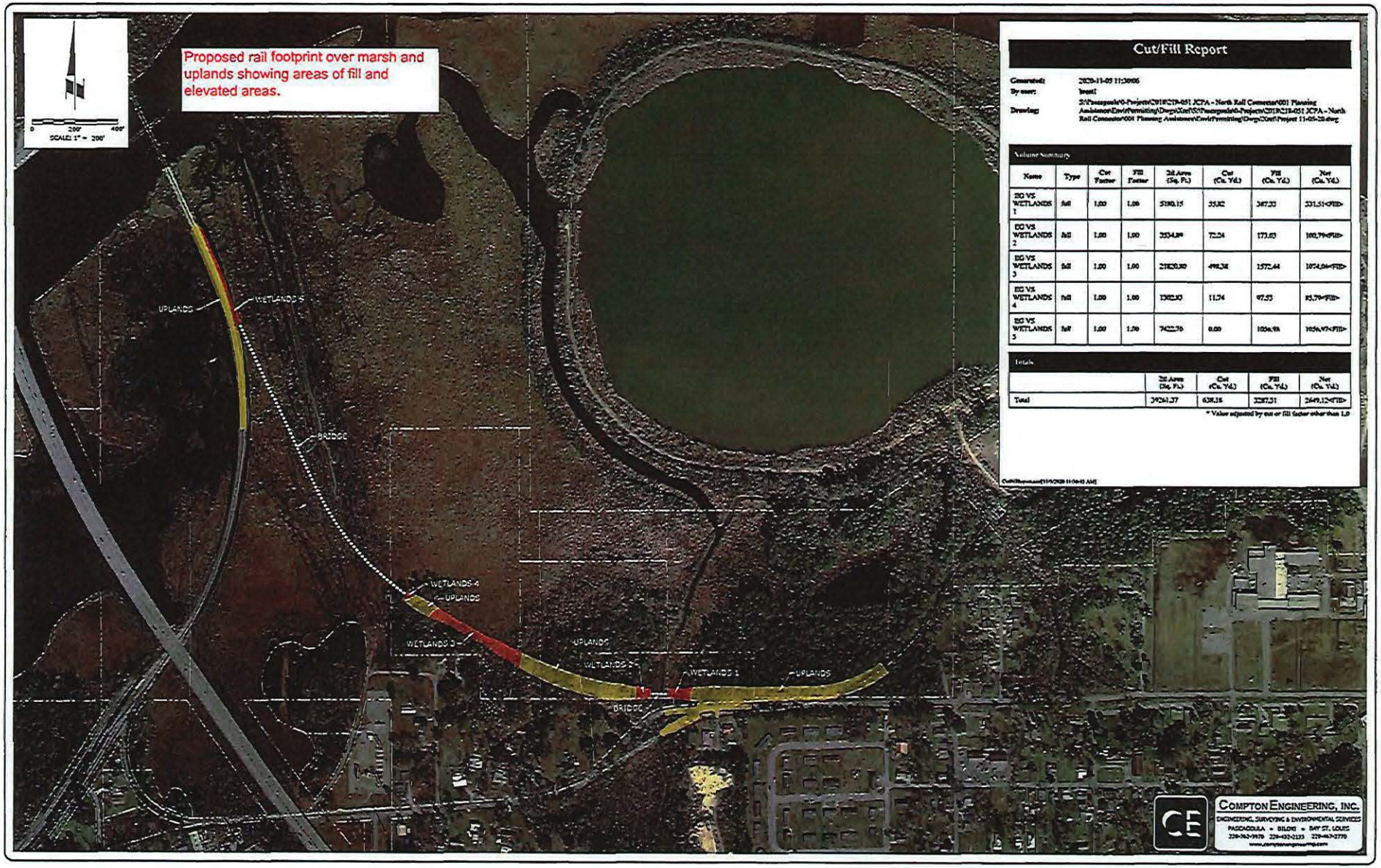
Feet
1 inch = 62 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees



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Appendix C – HGM Worksheets

Impacted Tidal Marsh a) 0.081 ha, b) 0.203 ha, c) 0.081 ha

Mean FCI: a) 0.90 b) 0.84 c) 0.88 - Total FCU's: 0.32

Where:

Function 1: Wave Attenuation Energy

$$FCI = \left[\left(\frac{3 \times V_{HEIGHT} + V_{COVER}}{4}\right) \times V_{EXPOSE}\right]^{1/2}$$

FCI's = a) 0.77 b) 0.54 c) 0.46

Function 2: Biochemical Cycling

$$FCI = (V_{HYDRO} \times V_{COVER} \times V_{LANDUSE})^{1/3}$$

FCI's = a) 0.93 b) 0.93 c) 0.93

Function 3: Nekton Utilization

$$FCI = \left(\frac{V_{EDGE} + V_{HYDRO} + V_{SHD}}{3}\right)$$

FCI's = a) 0.90 b) 0.83 c) 1.0

Function 4: Wildlife Habitat

$$FCI = \left\{V_{SIZE} \times \left[\frac{(V_{HEIGHT} + V_{COVER})}{2}\right] \times \left[\frac{(V_{EDGE} + V_{WILD})}{2}\right]\right\}^{1/3}$$

FCI's = a) 0.89 b) 0.91 c) 1.0

Function 5: Plant Structure & Composition

$$FCI = [\text{Minimum}\,(V_{COVER} \text{ or } V_{EMERG} \text{ or } V_{SAV} \text{ or } V_{WOODY})]$$

FCI's = a) 1.0 b) 1.0 c) 1.0

Created Tidal Marsh 0.38 Ha – Lift equals 0.32 FCUs

Mean FCI: 0.85

Where:

Function 1: Wave Attenuation Energy

$$FCI = \left[\left(\frac{3 \times V_{HIGH} + V_{COVER}}{4}\right) \times V_{EXPOSE}\right]^{1/2}$$

FCI = 0.77

Function 2: Biochemical Cycling

$$FCI = (V_{HYDRO} \times V_{COVER} \times V_{LANDUSE})^{1/3}$$

FCI = 0.93

Function 3: Nekton Utilization

$$FCI = \left(\frac{V_{EDGE} + V_{HYDRO} + V_{SAV}}{3}\right)$$

FCI = 0.82

Function 4: Wildlife Habitat

$$FCI = \left\{V_{SIZE} \times \left[\frac{(V_{HEIGHT} + V_{COVER})}{2}\right] \times \left[\frac{(V_{EDGE} + V_{WIND})}{2}\right]\right\}^{1/3}$$

FCI = 0.75

Function 5: Plant Structure & Composition

$$FCI = [\text{Minimum}\,(V_{COVER} \text{ or } V_{EXOTIC} \text{ or } V_{MS} \text{ or } V_{HARV})]$$

FCI = 1.0

Assessment Team: WS
Project: North Rim
Date: 2/25/21
Size of the Wetland Assessment Area (WAA): 1.0 (ha)

Sample variables 1-5 using aerial photos, digital ortho-photo quadrangle imagery, etc., at a scale of (1:4800) (1 inch = 400 feet) (color infrared or true color preferred), using GIS or other means.

1. V_{SIZE} Wetland Patch Size (ha) 11.5
Calculate the area (in hectares) of the contiguous tidal fringe wetland within which the WAA is located. In some situations, the WAA may encompass the entire wetland patch and the WAA size and wetland patch size will be equal.

2. $V_{LANDUSE}$ Adjacent land use
Determine the proportion of the WAA perimeter (expressed as a percentage, rounded to the nearest 5 percent) that is bounded by each of the following land use types.

Land Use Category	Description	Proportion of WAA Perimeter
Undeveloped naturally vegetated areas or open water	a) Open water: Shoreline is at least 100 m from navigation channel, if present. b) Terrestrial: > 75% of total area is naturally vegetated forested or grassy uplands or wetlands.	✓
Mostly agricultural	More than 50% of the total area is occupied by cropland.	
Mostly developed	a) Open water: Harbors, ports, and marinas b) Terrestrial: More than 40% of the total area is developed (i.e., residential, commercial, or industrial areas; also includes point sources such as golf courses, wastewater treatment plant outfalls, feedlots, etc.)	
Mixed	a) Open water: areas where the shoreline is within 100 m of a navigation channel. b) Terrestrial: Does not fit any of the above categories, may include low-density rural residential, unpaved roads, etc.	

3. V_{WIDTH} Mean Marsh Width 392 (m)
Establish the appropriate number of transects according to the baseline length and record the length of each transect (in meters) in the boxes below, then calculate the average.

T1 136	T2 490	T3 658	T4	T5
T6	T7	T8	T9	T10

Assessment Team: WS
Project: Nat Rail
Date: 9/25/21

4. V_{EXPOSE} Wave Energy Exposure

Circle the exposure condition that most closely corresponds to the site condition described in the table below.

Note: Sites with no exposed shorelines are not assessed for this function.

Site Description	Exposure
Geomorphic Setting: Low-Energy Interior Marsh These sites have one or more shorelines located along the edges of protected coves or embayments (concave shoreline) OR along the edge of a small tidal creek not used by commercial boat traffic.	Low
Geomorphic Setting: Moderate-Energy Interior Marsh These sites have one or more shorelines located along the edges of large tidal creeks or rivers that are used by recreational and/or commercial boat traffic.	Moderate
Geomorphic Setting: Open Bay or Estuary These sites have one or more shorelines located directly along the edges of an estuary or bay (e.g., Mississippi Sound, Mobile Bay). Shoreline is generally linear, exposed to relatively high wind and wave energy, with long fetch distances, or adjacent to navigation channel that is frequently used by recreational or commercial boat traffic.	High
Geomorphic Setting: Zero-Energy Interior Marsh These sites have no shorelines exposed to wind or wave energy present.	None

5. V_{EDGE} Aquatic Edge

Circle the qualitative or quantitative measure that most closely corresponds to the site condition described in the table below. See pictorial key in Appendix E (Figures E1-E11) for specific examples. *Note: Unvegetated shorelines (i.e. sandy beaches) are not included as edge.*

Site Description	Qualitative Measure	Quantitative Measure
1) Well-developed tidal drainage network present (Figures E-1 and E-2). OR 2) Very narrow fringe marsh that lacks tidal creeks. One lengthwise shoreline that represents at least 40% of the total perimeter is exposed to tidal waters (e.g., Daphne Bayfront Park). 3) Other geomorphic configuration with a large amount of shoreline relative to total area (i.e., small island or narrow peninsula) (Figures E-3 and E-4).	High	≥ 225 m/ha
Simple tidal drainage network (may consist of one or more small channels) that are well-distributed across the total WAA area (Figures E-5 and E-6).	Moderate-High	175-224 m/ha
Tidal creeks may be lacking, or if present, drain only a small proportion of the total WAA area (Figures E-7, E-8, and E-9).	Moderate-Low	100-175 m/ha
Shoreline is generally linear or smooth curvilinear without embayments or convolutions. Tidal creeks typically absent. The area of marsh is large relative to shoreline length (Figure E-10).	Low	1-100 m/ha
No vegetated marsh-water interface present in WAA (Figure E-11).	Absent	0 m/ha

Assessment Team: WS
Project: North Rail
Date: 8/25/21

Sample variables 6-8 based on a walking reconnaissance of the WAA.

6. V_{HYDRO} **Hydrologic regime**

Place a check in the box that most closely fits site conditions.

Site Description	V_{HYDRO}
Site is open to free exchange of tidal waters. Lower edges of vegetated marsh surface are flooded on a regular basis as evidenced by wrack lines, watermarks, etc. No obvious hydrologic alteration, fill, or restrictions present.	✓
Minor hydrologic alteration or restriction present (i.e., presence of low-elevation berm, which is frequently overtopped by high-tide events or has multiple breaches or large culverts; presence of some fill that raises a small portion (<20 percent of marsh area) of marsh surface above normal tidal flooding zone).	
Moderate hydrologic alteration present (i.e., presence of high-elevation berm, which is infrequently overtopped by high-tide events or has a single opening, breach, or small culvert; greater extent of fill (>20 percent) that raises portions of marsh surface elevation above normal tidal flooding zone).	
Severe hydrologic alteration; site receives tidal floodwaters only during extreme tide events (i.e., surface elevation of marsh is above normal tidal flooding zone; blocked culvert, etc.).	
Site is isolated from tidal exchange. The principal source of flooding is water sources other than tidal action (i.e., precipitation or groundwater). *Note: If this condition exists, use of another wetland assessment model should be strongly considered unless the site was a tidal wetland prior to hydrologic modification.*	

7. V_{NIID} **Nekton Habitat Diversity**

Check the habitats present within the WAA	
Low marsh (daily tidal flooding)	✓
High marsh (irregular tidal flooding)	✓
Subtidal channels	✓
Intertidal channels (exposed at low tide)	✓
Shallow (< 1 m) sand or mud flats	✓
Ponds or depressions (temporary or permanent)	✓
Check the habitats present within 30 m of WAA perimeter	
Submerged aquatic vegetation	
Oyster reef	
Total number of nekton habitat types present	6

Assessment Team: WS
Project: North Rail
Date: 2/25/21

8. V_{WHD} **Wildlife Habitat Diversity**
Check the habitats present within the WAA or adjacent to the WAA perimeter.

Wildlife Habitat Type	Check if present
Large patches of tall, robust herbaceous vegetation within the WAA that is at least irregularly flooded (*S. alterniflore, J. roemerianus, Typha spp., Schoenoplactus spp.*) Does tall robust herbaceous vegetation occupy at least 50 percent of the total WAA area? ✓ YES ____ NO If tall robust herbaceous vegetation occurs in a narrow fringe, is this fringe greater than 10 m wide? ✓ YES ____ NO	✓
Short herbaceous vegetation within the WAA that is infrequently flooded (*S. patens, Distichlis spicata, Borrichia frutescens, Batis maritima*)	
Intertidal creeks and mudflats within the WAA that are exposed at low tide	✓
Naturally vegetated upland buffer adjacent to WAA with a minimum width of 30 m (forested, shrub-scrub, or dense herbaceous)	

Assessment Team: WS
Project: North Reach
Date: 9/26/21

Plant Community Field Data Sheet Page 1 Record the BB cover class midpoint () for each species. Braun-Blanquel Cover Indices: 1 = 1-5% (2.5%); 2 = 6-25% (15.5%); 3 = 26-50% (37.5); 4 = 51-75% (67.5%); 5 = >75% (87.5%)										
Herbaceous Wetland Species	**Plot 1**	**Plot 2**	**Plot 3**	**Plot 4**	**Plot 5**	**Plot 6**	**Plot 7**	**Plot 8**	**Plot 9**	**Plot 10**
I. Tall, Robust Species[1]										
Spartina alterniflora										
Spartina cynosuroides										
Juncus roemerianus										
Schoenoplectus americanus										
Schoenoplectus robustus										
Cladium jamaicense	2									
Typha angustifolia	3	5								
Zizaniopsis miliacea										
Phragmites australis										
[1]Height (cm) for each plot										
II. Low-Growing Species										
Batis maritima										
Crinum americanum										
Distichlis spicata										
Eleocharis spp										
Ipomoea sagittata										
Pontederia cordata										
Sagittaria spp.										
Spartina patens										
Salicornia spp.										
Symphyotrichum tenuifolium										
Total Cover by Plot	95	95								
[2]Height (cm) for each plot	180	60.								
[1]Height is only measured for Group I species, if present. [2]Height is measured for species in Group II only if none of the species in Group I is present onsite.										

Assessment Team: WS
Project: North Mall
Date: 9/25/21

Plant Community Field Data Sheet Page 2 Record the BB cover class midpoint () for each species. Braun-Blanquet Cover Indices: 1 = 1-5% (2.5%); 2 = 6-25% (15.5%); 3 = 26-50% (37.5); 4 = 51-75% (67.5%); 5 = >75% (87.5%)										
Woody Species	**Plot 1**	**Plot 2**	**Plot 3**	**Plot 4**	**Plot 5**	**Plot 6**	**Plot 7**	**Plot 8**	**Plot 9**	**Plot 10**
Acer rubrum										
Baccharis halimifolia										
Ilex vomitoria										
Ilex decidua										
Morella cerifera										
Iva frutescens										
Nyssa spp.										
Taxodium distichum										
Estimate Proportion of Entire Site Occupied by Woody Vegetation										
FAC/FACU Species										
Baccharis halimifolia										
Ilex vomitoria										
Morella cerifera										
Panicum virgatum										
Total FAC Cover by Plot OR										
Estimate Proportion of Entire Site Occupied by FAC/FACU Species (Use whichever method results in the highest value for percent cover)										
Exotic or Invasive Species										
Alternanthera philoxeroides										
Phragmites australis										
Cuscuta spp.										
Imperata cylindrica										
Panicum repens										
Triadica sebifera										
Typha latifolia										
Total Exotic Cover by Plot OR										
Estimate Proportion of Entire Site Occupied by Exotics (Use whichever method results in the highest value for percent cover)										

Assessment Team: WS
Project: North Rail
Date: 9/25/01
Size of the Wetland Assessment Area (WAA): 0.26 (ha)

Sample variables 1-5 using aerial photos, digital ortho-photo quadrangle imagery, etc., at a scale of (1:4800) (1 inch = 400 feet) (color infrared or true color preferred), using GIS or other means.

1. V_{SIZE} **Wetland Patch Size (ha)** 16
Calculate the area (in hectares) of the contiguous tidal fringe wetland within which the WAA is located. In some situations, the WAA may encompass the entire wetland patch and the WAA size and wetland patch size will be equal.

2. $V_{LANDUSE}$ **Adjacent land use**
Determine the proportion of the WAA perimeter (expressed as a percentage, rounded to the nearest 5 percent) that is bounded by each of the following land use types.

Land Use Category	Description	Proportion of WAA Perimeter
Undeveloped naturally vegetated areas or open water	a) Open water: Shoreline is at least 100 m from navigation channel, if present. b) Terrestrial: > 75% of total area is naturally vegetated forested or grassy uplands or wetlands.	1
Mostly agricultural	More than 50% of the total area is occupied by cropland.	
Mostly developed	a) Open water: Harbors, ports, and marinas b) Terrestrial: More than 40% of the total area is developed (i.e., residential, commercial, or industrial areas; also includes point sources such as golf courses, wastewater treatment plant outfalls, feedlots, etc.)	
Mixed	a) Open water: areas where the shoreline is within 100 m of a navigation channel. b) Terrestrial: Does not fit any of the above categories, may include low-density rural residential, unpaved roads, etc.	

3. V_{WIDTH} **Mean Marsh Width** 406 (m)
Establish the appropriate number of transects according to the baseline length and record the length of each transect (in meters) in the boxes below, then calculate the average.

T1 386	T2 424	T3 550	T4	T5
T6	T7	T8	T9	T10

Assessment Team: WJS
Project: Work Rail
Date: 2/25/21

4. V_{EXPOSE} **Wave Energy Exposure**

Circle the exposure condition that most closely corresponds to the site condition described in the table below.

Note: Sites with no exposed shorelines are not assessed for this function.

Site Description	Exposure
Geomorphic Setting: Low-Energy Interior Marsh These sites have one or more shorelines located along the edges of protected coves or embayments (concave shoreline) OR along the edge of a small tidal creek not used by commercial boat traffic.	(Low)
Geomorphic Setting: Moderate-Energy Interior Marsh These sites have one or more shorelines located along the edges of large tidal creeks or rivers that are used by recreational and/or commercial boat traffic.	Moderate
Geomorphic Setting: Open Bay or Estuary These sites have one or more shorelines located directly along the edges of an estuary or bay (e.g., Mississippi Sound, Mobile Bay). Shoreline is generally linear, exposed to relatively high wind and wave energy, with long fetch distances, or adjacent to navigation channel that is frequently used by recreational or commercial boat traffic.	High
Geomorphic Setting: Zero-Energy Interior Marsh These sites have no shorelines exposed to wind or wave energy present .	None

5. V_{EDGE} **Aquatic Edge**

Circle the qualitative or quantitative measure that most closely corresponds to the site condition described in the table below. See pictorial key in Appendix E (Figures E1-E11) for specific examples. *Note: Unvegetated shorelines (i.e. sandy beaches) are not included as edge.*

Site Description	Qualitative Measure	Quantitative Measure
1) Well-developed tidal drainage network present (Figures E-1 and E-2). OR 2) Very narrow fringe marsh that lacks tidal creeks. One lengthwise shoreline that represents at least 40% of the total perimeter is exposed to tidal waters (e.g., Daphne Bayfront Park). 3) Other geomorphic configuration with a large amount of shoreline relative to total area (i.e., small island or narrow peninsula) (Figures E-3 and E-4).	High	≥ 225 m/ha
Simple tidal drainage network (may consist of one or more small channels) that are well-distributed across the total WAA area (Figures E-5 and E-6).	Moderate-High	175-224 m/ha
Tidal creeks may be lacking, or if present, drain only a small proportion of the total WAA area (Figures E-7, E-8, and E-9).	(Moderate-Low)	100-175 m/ha
Shoreline is generally linear or smooth curvilinear without embayments or convolutions. Tidal creeks typically absent. The area of marsh is large relative to shoreline length (Figure E-10).	Low	1-100 m/ha
No vegetated marsh-water interface present in WAA (Figure E-11).	Absent	0 m/ha

Assessment Team: WS
Project: North Rail
Date: 8/25/21

Sample variables 6-8 based on a walking reconnaissance of the WAA.

6. V_{HYDRO} **Hydrologic regime**

Place a check in the box that most closely fits site conditions.

Site Description	V_{HYDRO}
Site is open to free exchange of tidal waters. Lower edges of vegetated marsh surface are flooded on a regular basis as evidenced by wrack lines, watermarks, etc. No obvious hydrologic alteration, fill, or restrictions present.	✓
Minor hydrologic alteration or restriction present (i.e., presence of low-elevation berm, which is frequently overtopped by high-tide events or has multiple breaches or large culverts; presence of some fill that raises a small portion (<20 percent of marsh area) of marsh surface above normal tidal flooding zone).	
Moderate hydrologic alteration present (i.e., presence of high-elevation berm, which is infrequently overtopped by high-tide events or has a single opening, breach, or small culvert; greater extent of fill (>20 percent) that raises portions of marsh surface elevation above normal tidal flooding zone).	
Severe hydrologic alteration; site receives tidal floodwaters only during extreme tide events (i.e., surface elevation of marsh is above normal tidal flooding zone; blocked culvert, etc.).	
Site is isolated from tidal exchange. The principal source of flooding is water sources other than tidal action (i.e., precipitation or groundwater). *Note: If this condition exists, use of another wetland assessment model should be strongly considered unless the site was a tidal wetland prior to hydrologic modification.*	

7. V_{NHD} **Nekton Habitat Diversity**

Check the habitats present within the WAA	
Low marsh (daily tidal flooding)	✓
High marsh (irregular tidal flooding)	✓
Subtidal channels	
Intertidal channels (exposed at low tide)	✓
Shallow (< 1 m) sand or mud flats	✓
Ponds or depressions (temporary or permanent)	✓
Check the habitats present within 30 m of WAA perimeter	
Submerged aquatic vegetation	
Oyster reef	
Total number of nekton habitat types present	5

Assessment Team: WS
Project: North Rail
Date: 8/25/21

8. V_{WHD} **Wildlife Habitat Diversity**

Check the habitats present within the WAA or adjacent to the WAA perimeter.

Wildlife Habitat Type	Check if present
Large patches of tall, robust herbaceous vegetation within the WAA that is at least irregularly flooded (*S. alterniflora, J. roemerianus, Typha* spp., *Schoenoplectus* spp.) Does tall robust herbaceous vegetation occupy at least 50 percent of the total WAA area? ✓ YES ____ NO If tall robust herbaceous vegetation occurs in a narrow fringe, is this fringe greater than 10 m wide? ____ YES ____ NO	✓
Short herbaceous vegetation within the WAA that is infrequently flooded (*S. patens, Distichlis spicata, Borrichia frutescens, Batis maritima*)	✓
Intertidal creeks and mudflats within the WAA that are exposed at low tide	
Naturally vegetated upland buffer adjacent to WAA with a minimum width of 30 m (forested, shrub-scrub, or dense herbaceous)	✓

Assessment Team: WS
Project: North Rail
Date: 9/25/21

Plant Community Field Data Sheet Page 1 Record the BB cover class midpoint () for each species. Braun-Blanquet Cover Indices: 1 = 1-5% (2.5%); 2 = 6-25% (15.5%); 3 = 26-50% (37.5); 4 = 51-75% (67.5%); 5 = >75% (87.5%)										
Herbaceous Wetland Species	**Plot 1**	**Plot 2**	**Plot 3**	**Plot 4**	**Plot 5**	**Plot 6**	**Plot 7**	**Plot 8**	**Plot 9**	**Plot 10**
I. Tall, Robust Species[1]										
Spartina alterniflora										
Spartina cynosuroides										
Juncus roemerianus										
Schoenoplectus americanus										
Schoenoplectus robustus										
Cladium jamaicense	5									
Typha angustifolia	1									
Zizaniopsis miliacea										
Phragmites australis										
[1]Height (cm) for each plot										
II. Low-Growing Species										
Batis maritima										
Crinum americanum										
Distichlis spicata										
Eleocharis spp										
Ipomoea sagittata										
Pontederia cordata										
Sagittaria spp.										
Spartina patens										
Salicornia spp.										
Symphyotrichum tenuifolium										
Total Cover by Plot	95									
[2]Height (cm) for each plot	10									
[1]Height is only measured for Group I species, if present. [2]Height is measured for species in Group II only if none of the species in Group I is present onsite.										

Assessment Team: WS
Project: North Rail
Date: 2/25/21

Plant Community Field Data Sheet Page 2 Record the BB cover class midpoint () for each species. Braun-Blanquet Cover Indices: 1 = 1-5% (2.5%); 2 = 6-25% (15.5%); 3 = 26-50% (37.5); 4 = 51-75% (67.5%); 5 = >75% (87.5%)										
Woody Species	**Plot 1**	**Plot 2**	**Plot 3**	**Plot 4**	**Plot 5**	**Plot 6**	**Plot 7**	**Plot 8**	**Plot 9**	**Plot 10**
Acer rubrum										
Baccharis halimifolia										
Ilex vomitoria										
Ilex decidua										
Morella cerifera										
Iva frutescens										
Nyssa spp.										
Taxodium distichum										
Estimate Proportion of Entire Site Occupied by Woody Vegetation						0				
FAC/FACU Species										
Baccharis halimifolia										
Ilex vomitoria										
Morella cerifera										
Panicum virgatum										
Total FAC Cover by Plot OR										
Estimate Proportion of Entire Site Occupied by FAC/FACU Species (Use whichever method results in the highest value for percent cover)						0				
Exotic or Invasive Species										
Alternanthera philoxeroides										
Phragmites australis										
Cuscuta spp.										
Imperata cylindrica										
Panicum repens										
Triadica sebifera										
Typha latifolia										
Total Exotic Cover by Plot OR										
Estimate Proportion of Entire Site Occupied by Exotics (Use whichever method results in the highest value for percent cover)						0				

Assessment Team: WS
Project: North Rail
Date: 9/25/01
Size of the Wetland Assessment Area (WAA): 0.15 (ha)

Sample variables 1-5 using aerial photos, digital ortho-photo quadrangle imagery, etc., at a scale of (1:4800) (1 inch = 400 feet) (color infrared or true color preferred), using GIS or other means.

1. V_{SIZE} **Wetland Patch Size (ha)** 4
Calculate the area (in hectares) of the contiguous tidal fringe wetland within which the WAA is located. In some situations, the WAA may encompass the entire wetland patch and the WAA size and wetland patch size will be equal.

2. $V_{LANDUSE}$ **Adjacent land use**
Determine the proportion of the WAA perimeter (expressed as a percentage, rounded to the nearest 5 percent) that is bounded by each of the following land use types.

Land Use Category	Description	Proportion of WAA Perimeter
Undeveloped naturally vegetated areas or open water	a) Open water: Shoreline is at least 100 m from navigation channel, if present. b) Terrestrial: > 75% of total area is naturally vegetated forested or grassy uplands or wetlands.	✓
Mostly agricultural	More than 50% of the total area is occupied by cropland.	
Mostly developed	a) Open water: Harbors, ports, and marinas b) Terrestrial: More than 40% of the total area is developed (i.e., residential, commercial, or industrial areas; also includes point sources such as golf courses, wastewater treatment plant outfalls, feedlots, etc.)	
Mixed	a) Open water: areas where the shoreline is within 100 m of a navigation channel. b) Terrestrial: Does not fit any of the above categories, may include low-density rural residential, unpaved roads, etc.	

3. V_{WIDTH} **Mean Marsh Width** 25 (m)
Establish the appropriate number of transects according to the baseline length and record the length of each transect (in meters) in the boxes below, then calculate the average.

T1 35	T2 36	T3 32	T4	T5
T6	T7	T8	T9	T10

Assessment Team: WS
Project: North Rail
Date: 2/25/21

4. V_{EXPOSE} **Wave Energy Exposure**

Circle the exposure condition that most closely corresponds to the site condition described in the table below.

Note: Sites with no exposed shorelines are not assessed for this function.

Site Description	Exposure
Geomorphic Setting: Low-Energy Interior Marsh These sites have one or more shorelines located along the edges of protected coves or embayments (concave shoreline) OR along the edge of a small tidal creek not used by commercial boat traffic.	(Low)
Geomorphic Setting: Moderate-Energy Interior Marsh These sites have one or more shorelines located along the edges of large tidal creeks or rivers that are used by recreational and/or commercial boat traffic.	Moderate
Geomorphic Setting: Open Bay or Estuary These sites have one or more shorelines located directly along the edges of an estuary or bay (e.g., Mississippi Sound, Mobile Bay). Shoreline is generally linear, exposed to relatively high wind and wave energy, with long fetch distances, or adjacent to navigation channel that is frequently used by recreational or commercial boat traffic.	High
Geomorphic Setting: Zero-Energy Interior Marsh These sites have no shorelines exposed to wind or wave energy present.	None

5. V_{EDGE} **Aquatic Edge**

Circle the qualitative or quantitative measure that most closely corresponds to the site condition described in the table below. See pictorial key in Appendix E (Figures E1-E11) for specific examples. *Note: Unvegetated shorelines (i.e. sandy beaches) are not included as edge.*

Site Description	Qualitative Measure	Quantitative Measure
1) Well-developed tidal drainage network present (Figures E-1 and E-2). OR 2) Very narrow fringe marsh that lacks tidal creeks. One lengthwise shoreline that represents at least 40% of the total perimeter is exposed to tidal waters (e.g., Daphne Bayfront Park). 3) Other geomorphic configuration with a large amount of shoreline relative to total area (i.e., small island or narrow peninsula) (Figures E-3 and E-4).	High	≥ 225 m/ha
Simple tidal drainage network (may consist of one or more small channels) that are well-distributed across the total WAA area (Figures E-5 and E-6).	(Moderate-High)	175-224 m/ha
Tidal creeks may be lacking, or if present, drain only a small proportion of the total WAA area (Figures E-7, E-8, and E-9).	Moderate-Low	100-175 m/ha
Shoreline is generally linear or smooth curvilinear without embayments or convolutions. Tidal creeks typically absent. The area of marsh is large relative to shoreline length (Figure E-10).	Low	1-100 m/ha
No vegetated marsh-water interface present in WAA (Figure E-11).	Absent	0 m/ha

Assessment Team: WS
Project: North Pail
Date: 2/25/21

Sample variables 6-8 based on a walking reconnaissance of the WAA.

6. V_{HYDRO} **Hydrologic regime**

Place a check in the box that most closely fits site conditions.

Site Description	V_{HYDRO}
Site is open to free exchange of tidal waters. Lower edges of vegetated marsh surface are flooded on a regular basis as evidenced by wrack lines, watermarks, etc. No obvious hydrologic alteration, fill, or restrictions present.	✓
Minor hydrologic alteration or restriction present (i.e., presence of low-elevation berm, which is frequently overtopped by high-tide events or has multiple breaches or large culverts; presence of some fill that raises a small portion (<20 percent of marsh area) of marsh surface above normal tidal flooding zone).	
Moderate hydrologic alteration present (i.e., presence of high-elevation berm, which is infrequently overtopped by high-tide events or has a single opening, breach, or small culvert; greater extent of fill (>20 percent) that raises portions of marsh surface elevation above normal tidal flooding zone).	
Severe hydrologic alteration; site receives tidal floodwaters only during extreme tide events (i.e., surface elevation of marsh is above normal tidal flooding zone; blocked culvert, etc.).	
Site is isolated from tidal exchange. The principal source of flooding is water sources other than tidal action (i.e., precipitation or groundwater). *Note: If this condition exists, use of another wetland assessment model should be strongly considered unless the site was a tidal wetland prior to hydrologic modification.*	

7. V_{NHD} **Nekton Habitat Diversity**

Check the habitats present within the WAA	
Low marsh (daily tidal flooding)	
High marsh (irregular tidal flooding)	✓
Subtidal channels	✓
Intertidal channels (exposed at low tide)	✓
Shallow (< 1 m) sand or mud flats	✓
Ponds or depressions (temporary or permanent)	✓
Check the habitats present within 30 m of WAA perimeter	
Submerged aquatic vegetation	
Oyster reef	
Total number of nekton habitat types present	5

Assessment Team: WS
Project: North Rail
Date: 2/25/21

8. V_{WHD} **Wildlife Habitat Diversity**

Check the habitats present within the WAA or adjacent to the WAA perimeter.

Wildlife Habitat Type	Check if present
Large patches of tall, robust herbaceous vegetation within the WAA that is at least irregularly flooded (*S. alterniflora, J. roemerianus, Typha* spp., *Schoenoplectus* spp.) Does tall robust herbaceous vegetation occupy at least 50 percent of the total WAA area? ✓ YES ____ NO If tall robust herbaceous vegetation occurs in a narrow fringe, is this fringe greater than 10 m wide? ____ YES ____ NO	✓
Short herbaceous vegetation within the WAA that is infrequently flooded (*S. patens, Distichlis spicata, Borrichia frutescens, Batis maritima*)	
Intertidal creeks and mudflats within the WAA that are exposed at low tide	✓
Naturally vegetated upland buffer adjacent to WAA with a minimum width of 30 m (forested, shrub-scrub, or dense herbaceous)	✓

Assessment Team: WS
Project: North Knit
Date: 2/25/21

Plant Community Field Data Sheet Page 1 Record the BB cover class midpoint () for each species. Braun-Blanquet Cover Indices: 1 = 1-5% (2.5%); 2 = 6-25% (15.5%); 3 = 26-50% (37.5); 4 = 51-75% (67.5%); 5 = >75% (87.5%)										
Herbaceous Wetland Species	**Plot 1**	**Plot 2**	**Plot 3**	**Plot 4**	**Plot 5**	**Plot 6**	**Plot 7**	**Plot 8**	**Plot 9**	**Plot 10**
I. Tall, Robust Species[1]										
Spartina alterniflora										
Spartina cynosuroides										
Juncus roemerianus	1									
Schoenoplectus americanus										
Schoenoplectus robustus										
Cladium jamaicense	5									
Typha angustifolia	1									
Zizaniopsis miliacea										
Phragmites australis										
[1]Height (cm) for each plot										
II. Low-Growing Species										
Batis maritima										
Crinum americanum										
Distichlis spicata										
Eleocharis spp										
Ipomoea sagittata										
Pontederia cordata										
Sagittaria spp.										
Spartina patens										
Salicornia spp.										
Symphyotrichum tenuifolium										
Total Cover by Plot	65									
[2]Height (cm) for each plot	110									
[1]Height is only measured for Group I species, if present. [2]Height is measured for species in Group II only if none of the species in Group I is present onsite.										

Assessment Team: WS
Project: North Rail
Date: 9/26/21

Plant Community Field Data Sheet Page 2
Record the BB cover class midpoint () for each species.
Braun-Blanquet Cover Indices: 1 = 1-5% (2.5%); 2 = 6-25% (15.5%); 3 = 26-50% (37.5); 4 = 51-75% (67.5%); 5 = >75% (87.5%)

Woody Species	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10
Acer rubrum										
Baccharis halimifolia										
Ilex vomitoria										
Ilex decidua										
Morella cerifera										
Iva frutescens										
Nyssa spp.										
Taxodium distichum										
Estimate Proportion of Entire Site Occupied by Woody Vegetation										
FAC/FACU Species										
Baccharis halimifolia										
Ilex vomitoria										
Morella cerifera										
Panicum virgatum										
Total FAC Cover by Plot OR										
Estimate Proportion of Entire Site Occupied by FAC/FACU Species (Use whichever method results in the highest value for percent cover)										
Exotic or Invasive Species										
Alternanthera philoxeroides										
Phragmites australis										
Cuscuta spp.										
Imperata cylindrica										
Panicum repens										
Triadica sebifera										
Typha latifolia										
Total Exotic Cover by Plot OR										
Estimate Proportion of Entire Site Occupied by Exotics (Use whichever method results in the highest value for percent cover)										

MISSISSIPPI DEPARTMENT OF MARINE RESOURCES

COASTAL ZONE CONSISTENCY

CORRESPONDENCE

STATE OF MISSISSIPPI
Tate Reeves
Governor

MISSISSIPPI DEPARTMENT OF MARINE RESOURCES
Joe Spraggins, Executive Director

NOTICE OF ADVISORY COMMISSION ON MARINE RESOURCES ORDER
TO CONDUCT REGULATED ACTIVITIES

Certification Number:	DMR20-000346; USACE File: SAM-2021-00025-RCV
Date:	September 16, 2021
Issued to:	Jackson County Port Authority Attn: Michael Smith P.O. Box 70 Pascagoula, MS 39568-0070
Project Description:	Coastal Wetland Fill
Project Location:	Wetlands adjacent to the Escatawpa River Immediately East of the Highway 63 bridge Moss Point, Jackson County, Mississippi
DMR Project Manager:	Greg Christodoulou 228-523-4109 greg.christodoulou@dmr.ms.gov

NOTICE: Read this document carefully. Failure to follow the listed conditions can result in substantial fines and penalties.

This document serves as certification that the subject activity has been reviewed by the Mississippi Department of Marine Resources (MDMR). The application was presented to the Mississippi Advisory Commission on Marine Resources (MCMR) and recommended for approval on July 20, 2021 and approved by the MDMR Executive Director.

This document will substitute for and supersede DMR-190178, issued on May 18, 2020.

In accordance with the provisions of the Mississippi Coastal Wetlands Protection Act and the

findings made in compliance with the Mississippi Coastal Program (MCP), a Permit to conduct Regulated Activities is issued to you this day by the Executive Director. The activities herein authorized shall be conducted in a manner resulting in the least damaging impacts to wetlands and the coastal environment. **This certification does not relieve you of other federal, state, or local authorizations that may be required.**

The following activities and impacts are authorized by this certification as indicated on the attached approved diagram:

1. Permanent fill of approximately 0.90 acre of Coastal Wetlands and tidally-influenced wetlands occupied by emergent tidal marsh vegetation (primarily *Juncus roemerianus* and *Cladium jamaicense*) for the construction of railroad line

2. Variances to Miss. Admin. Code Title 22, Part 23 (The MS Coastal Program): Chapter 8, Section 114.01; Chapter 8, Section 114.03; Chapter 8, Section 105.01; and Chapter 8 Section 105.03 of the MCP

The applicant must abide by specific conditions as listed below.

Any deviations beyond the above-authorized dimensions, the project footprint as shown on the attached approved diagram, or the specific conditions as set forth below will be considered a violation and may result in the revocation of the permit. Violations of these conditions may be subject to fines, project modifications, and/or site restoration. Both the permittee and the contractor may be held liable for such violations or for conducting unauthorized work. A modification to the project dimensions or footprint or to these conditions may be requested by submitting a written request along with a revised project diagram to the MDMR. *Proposed modifications to project dimensions, footprint, or conditions must be approved in writing prior to commencement of work.*

The specific conditions of this certification are as follows:

1. Permanent fill of emergent, tidal and tidally-influenced wetlands authorized above must:
   a. Be mitigated by the creation of 1.0 acres of emergent tidal wetlands and tidally-influenced wetlands as described in the attached Mitigation Plan

2. All authorized activities must:
   a. Use Best Management Practices (BMPs) at all times during construction, including, but not limited to, the use of staked hay bales; staked filter cloth; sodding, seeding, and mulching; staged construction; and the installation of turbidity screens around the immediate project site
   b. Be conducted in a manner that minimizes the discharge of turbid waters into Waters of the State
   c. Not result in construction debris, sewage, oil, refuse, other pollutants, or unauthorized fill material entering Coastal Wetlands or Waters of the State
   d. Not impact wetlands, submerged aquatic vegetation, or shellfish beds unless specifically authorized above

Work authorized by this certification must be completed on or before: September 16, 2026.

This certification is contingent on clearance from the Mississippi Department of Environmental Quality (MDEQ) and the Mississippi Department of Archives and History (MDAH). The Permittee shall maintain all standards, regulations, and restrictions as set forth by the MDEQ and the MDAH under MS state law with regards to protection of water quality and cultural resources and conservation of water resources.

Issuance of this certification by MDMR does not release the applicant from other legal requirements including but not limited to other applicable federal, state, or local laws, ordinances, zoning codes, or other regulations, including a possible Tidelands Lease from the MS Secretary of State's Office, required City or County construction setbacks, or building permits from the City or County where the project is located. A list of contacts has been provided for your assistance in determining whether any further certifications are required.

This certification conveys no title to land and water, does not constitute authority for reclamation of coastal wetlands and does not authorize invasion of private property or rights in property.

It is the responsibility of the applicant or property owner and their contractors and authorized agents to construct all authorized structures in a manner that does not impede access to riparian/littoral zones of adjacent property owners or other property owners in the vicinity (see MS Code Annotated § 49-15-9, enclosed). Failure to adhere to this could result in legal action by the affected parties. The MDMR does not make property or riparian/littoral boundary determinations.

The MDMR has also coordinated a review of your project through the Coastal Program review procedures and determined that the project referenced above is consistent with the Mississippi Coastal Program, provided that you comply with the noted conditions and reviewing Coastal Program Agencies do not disagree with said plans. By copy of this certification, we are notifying the U.S. Army Corps of Engineers of this determination.

Please notify this Department upon completion of the permitted project so that compliance checks may be conducted by MDMR staff.

THIS CERTIFICATION IS EFFECTIVE IMMEDIATELY.

Joe Spraggins (Sep 29, 2021 16:23 CDT)

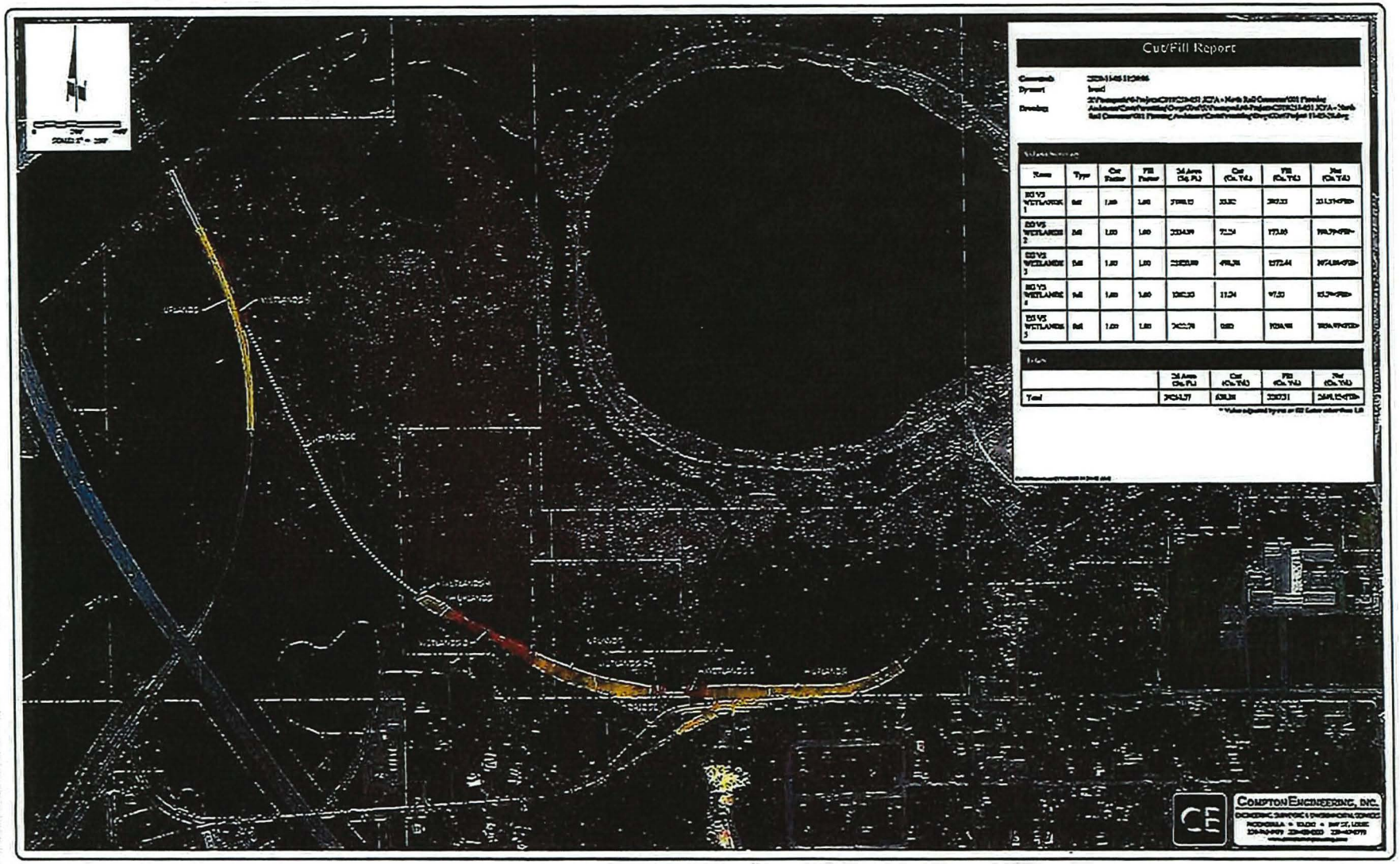
Joe Spraggins
Executive Director
MS Department of Marine Resources

JS/gsc

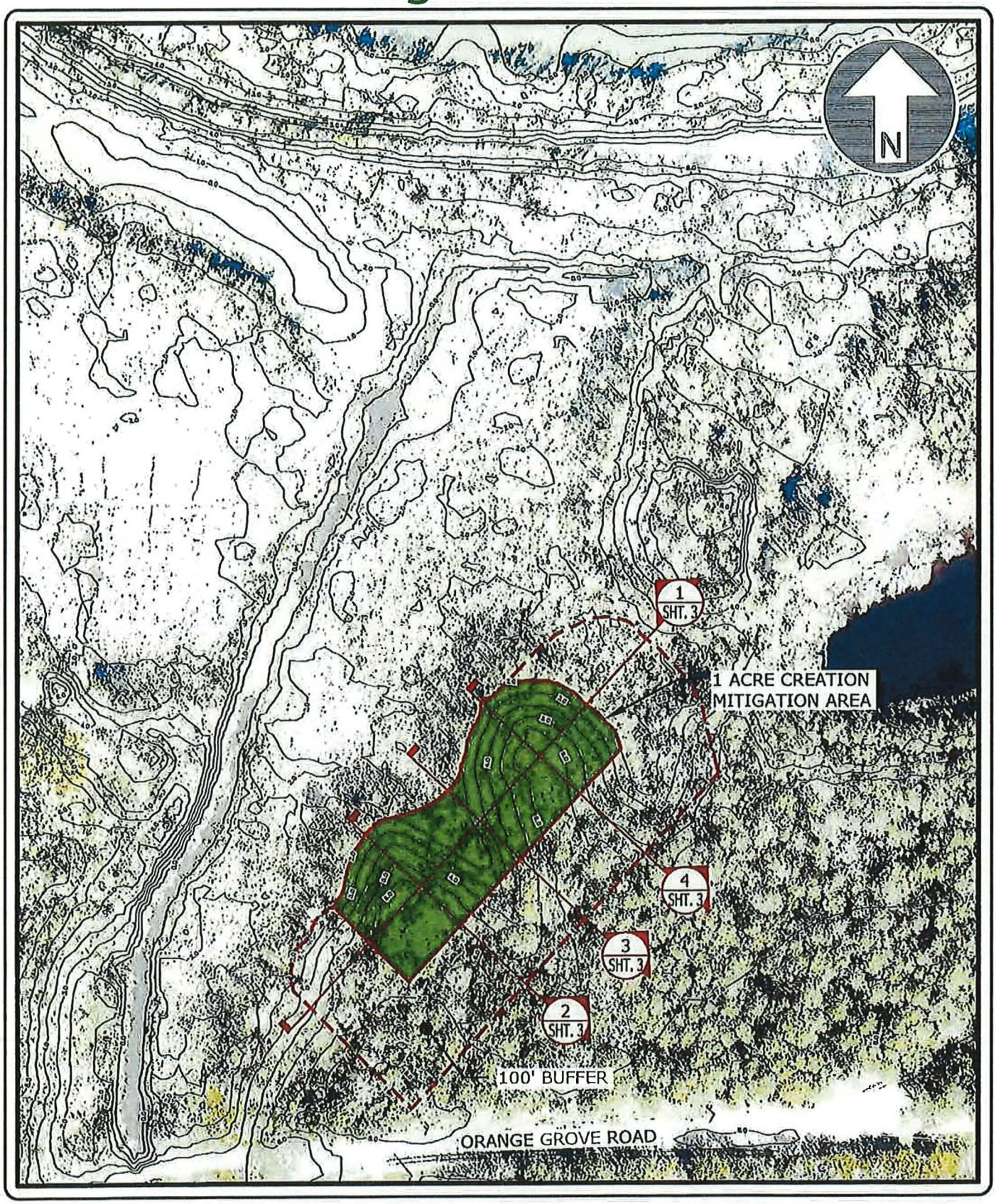
Attachments: Approved Diagram
Mitigation Plan
MS Code Annotated § 49-27-61
MS Code Annotated § 49-15-9

cc: Mr. Rudolph Villarreal, USACE
Ms. Florance Bass, OPC
Mr. Raymond Carter, SOS
Ms. Lisa Morrison, Compton Engineering

Wetland fill areas = 0.9 acre



Mitigation Area



COMPTON ENGINEERING, INC.
ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES
PASCAGOULA • BILOXI • BAY ST. LOUIS
228-762-3970 228-432-2133 228-467-2770
www.comptonengineering.com

218-051
JACKSON COUNTY PORT AUTHORITY (JCPA),
NORTH RAIL CONNECTOR,
PROPOSED PERMITTED RESPONSIBLE,
MITIGATION AREA,
SHEET 2
SCALE: NTS
DRN. BY: JDL

Miss. Code Ann. § 49-27-61

Copy Citation

§ 49-27-61. Charges for materials removed under permit; alternative for dredge material disposal.

(1)

(a) The commission shall charge Fifty Cents (50¢) per cubic yard for any sand or gravel removed from wetlands and Twenty-five Cents (25¢) per cubic yard for any other materials removed from coastal wetlands by a permittee or his agent under the terms of any permit issued.

(b) There shall be no charge levied by the commission for the removal of one hundred (100) cubic yards or less of any material removed from wetlands by a permittee or his agent under the terms of any permit issued.

(c) The commission may waive these charges on any project of a governmental agency or any project wherein expenditures are made as the result of a governmental grant or governmental bond proceeds.

(d) Any party participating in the beneficial use of dredge materials programs under subsection (2) shall be exempt from these charges.

(2) The department shall require any party permitted to conduct dredging activities of over two thousand five hundred (2,500) cubic yards to participate in the department programs involving beneficial use of dredge materials, provided the material is suitable and a beneficial use site is available. If approved by the executive director, or his designee, a party may deposit acceptable dredge materials in a designated location for a fee not to exceed fifty percent (50%) of the fair

market cost to transport and dispose of the material in an approved upland site. The department shall consider in-kind services for offsetting depositional charges.

History

Laws, 1973, ch. 385, § 11; Laws, 1988, ch. 408, § 3; Laws, 1994, ch. 578, § 46; Laws, 2005, ch. 371, § 2; Laws, 2010, ch. 412, § 1, eff from and after July 1, 2010.

Content Type:

Terms:

Narrow By: -None-

Date and Time: Sep 16, 2021 03:01:03 p.m. EDT

Miss. Code Ann. § 49-15-9

Copy Citation

Current through the 2019 Regular Session.

§ 49-15-9. Rights of riparian owners on Gulf Coast defined.

The sole right of planting, cultivating in racks or other structures, and gathering oysters and erecting bathhouses and other structures in front of any land bordering on the Gulf of Mexico or Mississippi Sound or waters tributary thereto belongs to the riparian owner and extends not more than seven hundred fifty (750) yards from the shore, measuring from the average low water mark, but where the distance from shore to shore is less than fifteen hundred (1500) yards, the owners of either shore may plant and gather to a line equidistant between the two (2) shores, but no person shall plant in any natural channel so as to interfere with navigation, and such riparian rights shall not include any reef or natural oyster bed and does not extend beyond any channel. A riparian owner shall comply with the Coastal Wetlands Protection Act in exercising the use of these riparian rights. Stakes of such frail materials as will not injure any watercraft may be set up to designate the bounds of the plantation, but navigation shall not be impeded thereby. The riparian owner shall clearly mark such cultivation racks and other structures. The commission may adopt regulations to require that the racks are adequately marked to ensure the safety of users of public waters. Any oysters planted by such riparian owner are the private property of such riparian owner, subject to the right of the commission to adopt reasonable rules and regulations as to the planting and gathering of such oysters. All bathhouses, piers, wharfs, docks and pavilions, or other structures owned by riparian owner are likewise the private property of such owner, who shall be entitled to the exclusive use, occupancy and possession thereof, and may abate any private or public nuisance committed by any person or persons in the area of his riparian ownership and may, for such purposes, resort to any remedial action authorized by law. The governing authorities of any municipality and the board of supervisors of any county are authorized to adopt reasonable rules and regulations to protect riparian owners in the enjoyment of their riparian rights, and for such purposes may regulate the use of beaches, landings, and riparian areas abutting or fronting on roads, streets or highways.

History

Codes, 1942, § 6047-10; Laws, 1960, ch. 173, § 10; Laws, 1962, ch. 193, § 10; Laws, 1991, ch. 438 § 1, eff from and after passage (approved March 21, 1991).

Content Type:

DMR21-000346_Exclusion

Final Audit Report 2021-09-17

Created:	2021-09-16
By:	Willa Brantley (willa.brantley@dmr.ms.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAgIWO7tgZ0p1wnFMKL15BOcXxBkHW4x49

"DMR21-000346_Exclusion" History

Document created by Willa Brantley (willa.brantley@dmr.ms.gov)
2021-09-16 - 9:43:25 PM GMT- IP address: 69.60.32.16

Document emailed to Joe Spraggins (joe.spraggins@dmr.ms.gov) for signature
2021-09-16 - 9:43:49 PM GMT

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2021-09-17 - 1:32:36 PM GMT

Document e-signed by Joe Spraggins (joe.spraggins@dmr.ms.gov)
Signature Date: 2021-09-17 - 1:32:52 PM GMT - Time Source: server

Agreement completed.
2021-09-17 - 1:32:52 PM GMT

Lisa D. Morrison

From: Greg Christodoulou <Greg.Christodoulou@dmr.ms.gov>
Sent: Tuesday, November 24, 2020 3:02 PM
To: Lisa D. Morrison; CESAM-RD@sam.usace.army.mil; Villarreal, Rudolph C CIV USARMY CESAM (USA)
Cc: Sandy Feathers; Joey Duggan
Subject: RE: Permit Modification Request SAM-2018-01204-RCV , DMR190178

Received and is being entered into the system.

Greg Christodoulou
Biological Program Coordinator-Wetlands Permitting | Office of Coastal Resources Mgmt.
Mississippi Department of Marine Resources | dmr.ms.gov
1141 Bayview Avenue | Biloxi, MS 39530
Office: 228-523-4109 | Fax: 228-374-5008

From: Lisa D. Morrison <lmorrison@comptonengineering.com>
Sent: Wednesday, November 11, 2020 10:27 AM
To: CESAM-RD@sam.usace.army.mil; Greg Christodoulou <Greg.Christodoulou@dmr.ms.gov>; Villarreal, Rudolph C CIV USARMY CESAM (USA) <Rudolph.C.Villarreal@usace.army.mil>
Cc: Sandy Feathers <sfeathers@portofpascagoula.com>; Joey Duggan <joey@comptonengineering.com>
Subject: Permit Modification Request SAM-2018-01204-RCV , DMR190178

Attached please find a request to modify the above referenced permits for the Jackson County Port Authority - North Rail Connector in Moss Point, Mississippi.

The attached letter and Environmental Assessment provide the purpose for the modification and details of the revised rail footprint and design. Please contact me with any questions or need for additional information.

Thank you.

Lisa D. Morrison, RPG
Senior Geologist

COMPTON ENGINEERING, INC.
156 Nixon Street, Biloxi, MS
P: 228.432-2133 F: 228.432-8149 C:760-0643

COMPTON ENGINEERING, INC.

ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES

156 Nixon Street
Biloxi, MS 39530

Phone: 228.432.2133
Fax: 228.432.8149

comptonengineering.com

November 10, 2020

Mr. Rudolph Villareal
Department of the Army
Mobile District, Corps of Engineers
P.O. Box 2288
Mobile, AL 36628-0001

Mr. Greg Christodoulou
Mississippi Department of Marine Resources
1141 Bayview Avenue, Suite 101
Biloxi, MS 39530

Re: Modification – SAM-2018-01204-RCV, DMR190178
Jackson County Port Authority – North Rail Connector Rail Line, Moss Point, MS

Dear Mr. Villareal and Mr. Christodoulou:

The Jackson County Port Authority (JCPA) received authorization from the U.S. Army Corps of Engineers, and the Mississippi Department of Marine Resources and Water Quality Certification from the Mississippi Department of Environmental Quality to construct a railroad connector between the existing MSE rail over the Escatawpa River and an exchange yard located in the Moss Point Industrial and Technology Center (MPITC). The permitted rail was to be constructed on fill within a footprint that crosses over marsh and forested wetlands and forested uplands. The footprint crossed over 3,576 linear feet of emergent marsh vegetation and 1,115 feet of forested wetlands. The initial cost estimate for a railroad on fill versus an elevated rail line indicated that the fill construction method would be the most cost effective. A permit to construct the North Rail Connector was received by JCPA on October 14, 2020.

Ongoing evaluation of geotechnical borings conducted within the proposed rail footprint through the marsh indicate that it would require several layers of fill within a footprint that would be much wider than proposed and result in a much more expensive project. The original cost estimate for a rail line on fill as initially estimated was approximately $8 million. Based on the recent geotechnical evaluation, the construction cost is estimated at approximately $30 million. In an effort to reduce construction costs, the JCPA has evaluated other construction methods and rail line footprints. The evaluation has resulted in proposed use of an elevated rail crossing over a shorter section of marsh, crossing over a longer section of forested uplands and joining to existing rail at a different location. The cost estimate for this revised layout and construction method is approximately $15.5 million.

The modified footprint crosses over approximately 2,852 feet of marsh wetlands and 807 feet of uplands. By using elevated construction methods, the impact to the marsh wetland is greatly reduced with fill going in only at the abutments to the elevated sections and a short section of marsh (approximately 413 linear feet). The total impact for the revised footprint is approximately 39,261 square feet (0.90 acres) and will require approximately 2,649 net cubic yards of fill.

PASCAGOULA

BILOXI

BAY ST. LOUIS

COMPARISON OF PERMITTED AND PROPOSED MODIFICATION

	Linear Feet of Marsh	Linear Feet of Forested Wetlands	Uplands	Square Feet of Impact to Wetlands	Acres of Impact to Wetlands	Cubic Yards of Fill in Wetlands
Permitted	3,576	1,115	107	113,440	4.89	20,589
Proposed Modification	2,852	0	807	39,261	0.90	2,649

The JCPA is submitting a request for a permit modification based on constructability and cost. Attached please find drawings that show the proposed modified layout and an Environmental Assessment for the new proposed footprint.

Please review and let me know if you have any questions.

Sincerely,

COMPTON ENGINEERING, INC.

Lisa D. Morrison

Lisa D. Morrison, R.P.G.

LDM/cf

Attachments

S:\Pascagoula\0-Projects\2018\218-051 JCPA - North Rail Connector\EnvirPermitting\Reports\modification request\Letter Permit Modification.doc

ENVIRONMENTAL ASSESSMENT

for

NORTH RAIL CONNECTOR
MODIFIED FOOTPRINT

On behalf of

Jackson County Port Authority
P.O. Box 70
Pascagoula, MS 39568-0070

by

COMPTON ENGINEERING, INC.
Engineering, Surveying, and Environmental Services

156 Nixon Street
Biloxi, MS 39530
(228) 432-2133

NOVEMBER 2020

TABLE OF CONTENTS

FIGURES

APPENDICES

A Wetland Delineation for Modified Footprint

Environmental Assessment
Jackson County Port Authority North Rail Connector
Modified Footprint
Moss Point, Mississippi
November 2020

1.0 Project Description

The Jackson County Port Authority has received a permit to construct a North Rail Connector in Moss Point, Mississippi. The permitted project includes construction of a rail line on fill, similar to the existing Mississippi Export Railroad structures that cross nearby marsh and to which the North Rail Connector will extend from. This permitted footprint requires filling 3.73 acres of coastal tidal wetlands, 1.16 acres of non-tidal wetlands with mitigation by creation of 3.8 acres of emergent tidal wetlands and purchase of 3.48 mitigation credits. The cost estimate for construction of the rail was based on constructing the rail on fill similar to the MSE rail line. Ongoing geotechnical evaluation indicates that using fill would require at least two levels of fill with a much wider footprint that originally designed. Using this method, there is no guarantee that the line would not subside over time requiring expensive repairs. Therefore, the JCPA has modified the footprint in order to cross over a shorter section of marsh so that it is economically feasible to construct an elevated rail that will not require fill. The modified footprint extends further south than the original permitted footprint, uses straighter curves and ties into existing rail near Orange Grove Road. This layout requires JCPA to purchase privately owned parcels of land. The approximate center point of the proposed modified rail is at 30.415546 degrees latitude and -88.514452 degrees longitude. The new rail begins at approximately 30.251207/-88.310005 on the north and extends to 30.413308/-88.508269 where it joins existing rail.

JCPA has evaluated the impacts associated with the revised footprint and determined that the revised footprint impacts 0.90 acres of marsh wetland and 0.27 acres (807 linear feet by 15 feet wide) of uplands.

The subject property is located in Section 19, Township 7 South, and Range 5 West of Jackson County, MS. A map showing the permitted project footprint and the proposed modified project footprint is shown on Figure 1.

2.0 Project Purpose and Need

There are no changes to the project's purpose and need associated with this footprint modification.

3.0 Project Area Description and Project Impacts

The permitted project footprint is situated partially in an upland area and partially in estuarine and forested wetlands. The length of the permitted rail line through estuarine wetlands is approximately 3,576 linear feet and through forested wetlands is approximately 1,115 linear feet. The modified footprint crosses over 2,852 feet of estuarine wetlands and 807 feet of uplands. No forested wetlands are within the modified footprint. Since the modified footprint will be

constructed using rail constructed on elevated pilings, the impacts are associated with fill at the abutments and one section of marsh (21,820 square feet) and the total acreage of impact is 0.90 acres. A layout map for the modified footprint is shown on Figure 2.

The estuarine vegetation in the modified footprint is similar to that in the permitted footprint and consists mainly of black needle rush (*Juncus roemerianus*) and sawgrass (*Caladium jamaicense*).

The upland forested areas in the modified footprint are dominated by pines, oaks and magnolia. The entire forested area is heavily infested with exotic invasive plant species including Chinese tallow (*Triadica sebifera*) and Chinese privet (*Ligustrum sinense*). This footprint eliminates impacts to forested wetlands.

The permitted footprint required approximately 20,589 cubic yards of fill material to be used during construction of the rail through the estuarine wetlands and forested wetlands. The modified footprint will require approximately 2,649 cubic yards of fill.

The estuarine wetland area is already crossed by high power electrical transmission lines and an existing rail line operated by Mississippi Export Railroad. The area is downstream from the former International Paper Mill facility (now the MPITC) and west of the former Aeration Stabilization Basin which previously discharged to the Escatawpa River.

3.1 Impacts to the Human Environment

The impacts to the human environment associated with the modified footprint are similar to those of the permitted footprint. The information below is reproduced from the Environmental Assessment for the permitted footprint.

3.1.1 Air Quality

The project will result in improvements to air quality in and around Moss Point and Pascagoula. Various data sources indicate that freight transport by rail and water vessels generate significantly less environmental impacts and costs than truck transport. Based on the ton-mile, rail and water transportation are significantly more efficient than truck transportation. As reported in the Mississippi State Rail Plan produced by the Mississippi Department of Transportation, 2011, the fine particle matter (PM2.5) impact per million ton-miles of rail and water transport is approximately one-tenth of truck transport (0.0158 and 0.0128 versus 0.1126, respectively). Similarly, the nitrogen oxide (NOX) emission tons per ton-mile traveled for rail and water transport are approximately one fifth of truck transport (0.5954 and 0.5171 versus 2.8549, respectively).

Combined, PM2.5 and NOX emissions generate environmental damages per million ton-miles of $41,480 for truck transport, which is several times greater than rail ($6,710) or water ($5,610) transport damages. Further manmade greenhouse gases include CO2 (the dominant emission), methane, nitrous oxide and fluorinated gases. Similar to the PM2.5 and NOX emissions, the impact of both rail and water freight transport for these gases is a fraction of truck transport. According to the Association of American Railroads (AAR) white paper, *PUTTING*

TECHNOLOGY TO WORK HOW FREIGHT RAIL DELIVERS THE 21ST CENTURY, May 2018, moving freight by rail instead of truck reduces greenhouse gas emissions by 75%.

The AAR also stated that one gallon of diesel fuel moved a ton of freight by rail 479 miles – four times the efficiency of trucks. The U.S. Environmental Protection Agency estimates that for every ton-mile, a typical truck emits three times more nitrogen oxides and particulates than a train. Related studies suggest that trucks emit six to 12 times more pollutants per ton-mile than railroads, depending on the pollutant measured.

The American Society of Mechanical Engineers found that 2.5 million fewer tons of carbon dioxide would be emitted into the air annually if 10 percent of intercity freight now moving by highway were shifted to rail. If 10 percent of truck traffic went by rail – via intermodal movements involving both railroads and trucks – the cumulative estimated GHG reductions from 2017 to 2030 would be 210 million tons.

Rail traffic through areas of vehicular traffic congestion increases vehicle idling time. An hour of automobile idling burns approximately one-fifth of a gallon of gas and releases nearly 4 pounds of CO2 into the air. Excessive amounts of CO2 in the atmosphere can contribute to diminished air quality. Relocation of the main line to a less populated and congested location will reduce congestion and idling time and thereby reduce emissions of CO2 and NOX into the atmosphere.

3.1.2 Noise

The project will result in reduced train noise in Moss Point and Pascagoula. Noise from train horns and general train traffic can have a significant effect on the livability of a community. Communities can establish quiet zones but must implement rail crossing upgrades in order to reduce horn noise. Relocating the main line will eliminate much downtown train horn noise and the need for crossing upgrades.

3.1.3 Traffic Congestion

The project will result in a reduction in traffic congestion, idling time and backups at the rail crossings. Local rail traffic is expected to increase due to anticipated construction of new industry in northern Jackson and George Counties. Some of the trains, known as unit trains, may be up to a mile long including 65-75 freight cars each. These unit trains must travel at reduced speeds to maneuver through sharp turns and through communities. By relocating the main line to the proposed route, the number of railroad crossings will be reduced from 22 to seven, thereby reducing traffic congestion at rail road crossings significantly. Rail speeds can be maintained on the proposed new rail line, which will also help in reducing congestion and idling time.

3.1.4 Traffic Safety

The project will result in improved traffic safety. The rail mode is one of the safest transportation modes. According to the MSRP each year more 30,000 deaths and 2 million injuries from highway collisions are reported by the National Highway Traffic Safety Administration. In 2008 more than 700 highway-related deaths were recorded in Mississippi. The economic cost of these

collisions to the U.S. economy is more than $200 billion – more than 2 percent of the U.S. gross domestic product. Much of this cost is borne by the public at large either through public expenditures (law enforcement, medical, disability payments, etc.) or insurance premiums.

Freight rail transportation is also very safe and, as reported by the Federal Railroad Administration, the multi-year trend is positive with all reportable accidents (derailments, fatalities, injuries, etc., on the national rail system) declining by almost 32% between 2007 and 2017.

The rail safety area most visible to the general public and for which the public is most exposed to potential harm is grade crossings. There are 4,209 highway-rail crossings in Mississippi, with 2,282 located on public roadways, 1,911 crossings on private roads, and 16 pedestrian crossings. Reducing rail crossings will reduce the potential for accidents and injuries at these crossings.

3.1.5 Economic

The project will result in reduced operation and maintenance costs for the local communities. It will also provide communities with the ability to increase jobs by providing manufactures that may locate along the rail line the ability to efficiently transport goods for shipment.

According to the MSRP freight rail plays a prominent role in the livability and sustainability of a community. The ability to efficiently transport goods and create access to economic centers is critical to the overall success of a region's economy. Time wasted due to transportation inefficiency and congestion has significant impacts on profitability and the ability to attract new business to a region.

The efficiency of rail freight is especially important in rural areas where agriculture, local industries and communities rely on freight shipping. Many communities have seen a loss or reduction in rail freight services in recent years. Improving, expanding and preserving the rail network can improve the competitive stature of local industries, agriculture and communities. A revitalized rail line can lower shipping costs, provide pricing power for local industries and agriculture vis-à-vis trucking, provide redundancy in the transportation network, and shield local industries and agriculture from predicted increases in the cost of fossil fuel.

The freight transport unit costs per ton multiplied by the large shipment volumes result in huge cost savings compared to truck. For example, it takes 70 large truck semi-trailers to carry the same amount of dry cargo as 16 rail cars (approximately 4.5 trucks per rail car),

The Port of Pascagoula conducted a cost/benefit evaluation for planned improvements to the Port and MSE rail system that provides rail access to the Port. The following is a brief summary of the savings projected for each cost category:

Track Maintenance – The new track would actually reduce the rail route distance from Lucedale to the Port of Pascagoula by four miles and result in annual maintenance savings of more than $46,000.

Crossing Maintenance – Reducing the number of railroad-highway grade crossings on the route by 16 would lower crossing maintenance costs by nearly $6,000 per year.

Highway Maintenance – Shifting product transport from trucks to trains would eliminate the potential damage that would otherwise be done to state highways by $37,000 in the first year and by more than $50,000 in the fifth and subsequent years.

Transportation Operations – Shifting from trucks to trains would lower operating costs for shipping products from Lucedale to the Port of Pascagoula by almost $4.7 million in the first year and by more $7.0 million in the sixth and subsequent years.

Emissions – The shift from trucks to trains would reduce the estimated value of mobile-source pollutants emitted by vehicles transporting goods from $73,000 to $86,000 per year.

Carbon Output – The shipping mode shift would reduce the discounted (at three percent per annum) social cost of carbon output by vehicles transporting goods by $25,000 to $73,000 per year.

Discounted Net Benefits would peak at $4.873 million in the sixth year and then fall off little by little to $1.405 million in the last year of the 25-year cycle. The aggregate value of savings over 25 years would be $79.622 million.

State of Good Repair. The US Department of Transportations' National Rail Plan states that, "the performance of the freight system can be greatly improved by enhancing the connections between individual modes of transportation in order to make the best use of the inherent efficiency of each mode." By more efficiently connecting rail to the Port of Pascagoula, connections between these modes are significantly strengthened and thus creating an efficient and reliable transportation network.

3.1.6 Livability

The project will result in improved livability in the area. The removal of trains from the most densely developed sections of the Pascagoula-Moss Point Urbanized Area will significantly enhance opportunities for upgrading public infrastructure in both residential and commercial areas to accommodate pedestrians, bicyclists and residents or visitors engaged in recreational pursuits. Relocation of train operations to the eastern periphery of both cities will make it possible to create cleaner, safer, quieter and more aesthetically pleasing central business districts and to improve the visual character and appeal of nearby residential neighborhoods in less affluent sections of Pascagoula and Moss Point

3.1.7 Cultural Resources

The project is to be conducted within estuarine and forested wetlands and on uplands. Construction will include using fill material to build up the rail line base to an appropriate elevation for construction. Cultural resources are not likely to exist in the marsh and other wetland areas. The upland area was part of the former International Paper Company mill and was

prior impacted with industrial development. As such, historical architectural, archeological or Native American resources are not expected to be encountered during the construction process. During development of the permit for the permitted rail layout, the JCPA requested input from the Mississippi Department of Archives and History (MDAH) in a letter dated November 8, 2018. MDAH responded in a letter dated November 21, 2018 that they had no objections to the project but would like to review the location of the placement of fill material and the source of the fill material. A map showing the modified layout of the rail line will be provided to MDAH.

Requests for comments on the project were provided to the Choctaw Indian Tribe of Oklahoma and the Mississippi Band of Choctaw Indians. As of this date, neither has responded.

3.2 Impacts to the Natural Environment

The impacts to the natural environment associated with the modified footprint are similar to those of the permitted footprint. The information below is reproduced from the Environmental Assessment for the permitted footprint and modified where appropriate.

3.2.1 Essential Fish Habitat

The project is located within an area identified as essential fish habitat. The National Marine Fisheries Service provided input on the project and worked with JCPA to develop a mitigation plan for impacts to the estuarine habitat. The modified footprint and elevated rail reduces the impacts to the environment. JCPA will request input from NMFS regarding the modified footprint.

3.2.2 Shellfish

The area is not identified as a commercial oyster fishery and no known oyster beds are reported in the area.

3.2.3 Submerged Aquatic Vegetation

The project area is dominated by estuarine and forested wetlands. Submerged aquatic vegetation requires shallow open water with low turbidity. Since the area is densely vegetated and no open water areas are found within the project footprint, SAV is not present.

3.2.4 Endangered Species

Federally listed threatened or endangered species thought to occur within Jackson County are:

Group	Scientific Name	Common Name	Federal Status
Amphibians	*Lithobates sevosa*	dusky gopher frog	endangered
Birds	*Ammodramus maritimus*	Seaside Sparrow	imperiled
Birds	*Ammodramus nelson*	Nelson's sharp tailed sparrow	imperiled
Birds	*Charadrius melodus*	piping plover	endangered
Birds	*Grus canadensis pulla*	Mississippi sandhill crane	endangered
Birds	Haliaeetus leucocephalus	Bald Eagle	imperiled
Birds	*Picoides borealis*	Red-cockaded woodpecker	endangered
Ferns and Allies	*Isoetes louisianensis*	Louisiana quillwort	endangered
Fishes	*Acipenser oxyrinchus desotoi*	gulf sturgeon	threatened
Fishes	*Percina aurora*	pearl darter	candidate
Fishes	*Atractosteus spatula*	Alligator Gar	imperiled
Mammals	*Trichechus manatus*	West Indian manatee	endangered
Mammals	*Ursus americanus luteolus*	Louisiana black bear	threatened
Reptiles	*Chelonia mydas*	green sea turtle	threatened
Reptiles	*Dermochelys coriacea*	leatherback sea turtle	endangered
Reptiles	*Eretmochelys imbricata*	hawksbill sea turtle	endangered
Reptiles	*Gopherus polyphemus*	gopher tortoise	threatened
Reptiles	*Graptemys flavimaculata*	yellow-blotched map turtle	threatened
Reptiles	*Lepidochelys kempii*	Kemp's ridley sea turtle	endangered

Reptiles	*Pituophis melanoleucus lodingi*	black pine snake	candidate
Reptiles	*Pseudemys alabamensis*	Alabama red-belly turtle	endangered

Endangered species that may occur in the area include several terrestrial and aquatic species. The terrestrial species are identified as the Red cockaded woodpecker, the Mississippi sandhill crane, the piping plover, two sparrows, the Louisiana black bear, the black pine snake, and the gopher tortoise. The Red-cockaded woodpecker and Mississippi sandhill crane are not known to nest in the area and can avoid the area during construction activities. The optimal habitat of the seaside sparrow is found in unaltered marshes with expanses of medium-high cordgrass with a turf of clumped, residual stems. Especially suitable are spots not subject to extreme flooding that have open muddy areas for feeding. Dense vegetation such as salt meadow grass is little used and high marshes provide marginal sparrow habitat. Therefore, it does not appear that the project area is suitable for the seaside sparrow. The Louisiana black bear is not likely to be present due to the separation of the construction area by water bodies.

The gopher tortoise digs its burrow in dry habitats. Based on the proximity to the estuary and the Escatawpa River, it is not likely that the gopher tortoise is present in the area.

The black pine snake lives in upland, open longleaf pine forests with sandy, well-drained soils and dense grassy or herbaceous groundcover. These snakes may also be found within stream or river corridors and in or near pitcher plant bogs located within or adjacent to longleaf pine forests. They require large tracts of undisturbed land, from 135 to 385 acres, to conduct seasonal and daily activities such as eating, mating and hibernation. Based on the habitat requirements of the black pine snake it is not likely to be found in the project area.

A letter was sent to the US Fish and Wildlife Service (USFWS) and the Mississippi Department of Wildlife Fisheries and Parks (MDWFP) for comment on the potential effects of the project on endangered species. The USFWS responded that the Alabama red bellied turtle *(Pseudemys alabamensis*) and the wood stork (*Mycteria Americana*) could potentially be present in the project area. The USFWS requested that a biological survey be conducted to identify the presence of these species and to evaluate the effect, if any, the project would have on these species. A visual survey of the project area was conducted for indications of the Alabama red-bellied turtles and the wood stork. There are no areas of deep open water that is the preference of the turtles during the winter months. The survey was conducted on warm sunny days and no turtles were observed in potential basking areas *USFWS was concerned about the culverts being constructed beneath the rail line to allow passage of tidal flow to the east and west sides of the rail. USFWS was concerned that there be enough free board in the culverts so that the turtles would not drown when crossing through these culverts. The modified layout includes an elevated rail that will not require culverts, therefore, the requirement involving the culverts does not apply to the modified footprint.* No wood storks have been identified in the project area. The MDWFP indicated that best management practices should be implemented, monitored and maintained for compliance, in particular measures that will prevent suspended silt and contaminants from affecting water quality and habitat conditions in nearby streams and waterbodies. Best management practices will be implemented during construction. The practices will be identified in a Stormwater Pollution Prevention Plan.

The remaining species that may be present are aquatic. The Gulf Sturgeon, West Indian Manatee and the Leatherback, Hawksbill, Kemps Ridley and Green sea turtles are not likely to be found in

the project area due to the dense vegetation, water quality, and water depth. The area is not mapped as Gulf Sturgeon critical habitat. It is not likely that gulf sturgeon would be found in the project area since it is entirely shallow estuarine and forested wetlands with no open water areas. The sea turtles would also not likely be found in the project area based on the dense marsh vegetation and water quality considerations.

3.2.5 Wetlands

A wetland delineation was completed in the modified project area to identify the types and amount of wetlands that are present in the modified project area. Approximately 3.5 acres (based on a width of 45 feet) of tidally influenced estuarine wetlands are present in the proposed project area. An additional 3.0 acres of uplands are present within the project footprint and approximately 0.27 acres of upland will be impacted by construction of the rail. A copy of the wetland delineation is included in Appendix B. Marsh habitats can provide habitat for fish nurseries, amphibians, aquatic reptiles, wading birds, waterfowl, and song birds. Riparian woodland can provide foraging, roosting, and nesting habitat for a variety of birds and provide cover and refuge sites for small mammals, amphibians, and reptiles. These wetlands will be impacted by construction activities associated with driving the pilings for the rail line. Temporary impacts will occur from construction activities that may require a barge to access portion of the rail line. A Permittee Responsible Mitigation Plan was prepared and approved by the National Marine Fisheries Service, DMR and the US Corps of Engineers. JCPA will work with these agencies to evaluate potentially reducing the size of the PRM marsh creation area. In addition, the JCPA has already purchased credits for impacts to forested wetlands and these impacts are reduced or eliminated from the project.

3.2.6 Water Quality

The project location is located adjacent to the Escatawpa River Segment 3 which is described as the river from Interstate 10 to the mouth of the Pascagoula River. The Escatawpa River Segment 3 has been listed as an impaired water body since 1996. Total maximum daily loads (TMDLs) were established for biological oxygen demand (BOD), chlorine, fecal coliform, pH and toxicity in 2001. The water quality standards for other listed contaminants (mercury, nutrients, priority organic compounds, suspended solids and turbidity) were attained in 2005 based on monitoring data or lack of numeric criteria for the category. The fill material used to build the rail line will be from a clean source of material that will be free of pollutants, and is not expected to adversely impact the TMDLs in the Escatawpa River or the surrounding environment. Best management practices will be implemented to prevent sediment from leaving the construction area and to prevent increases in turbidity outside of the construction zone.

The modified footprint rail line will be elevated by construction on piling and will allow continued tidal flushing of the area.

Stormwater best management practices (bmp's) will be used during construction to protect all waters downstream and down gradient of work areas. Erosion and sedimentation will be minimized by limiting the size of the work area, installing sediment control structures, and stabilizing disturbed soils (in upland areas) as soon as installation is complete by seeding and covering with erosion control blankets. A Small Construction Notice of Intent will be prepared and a stormwater pollution prevention plan (SWPPP) will be completed and utilized to ensure that adjacent waterbodies are protected.

3.2.7 Floodplain

The project area is located within the floodplain. A letter was sent to the Mississippi Emergency Management Agency (MEMA) for comment on potential impacts to the floodplain. MEMA responded that the project was in a Special Flood Hazard Area as shown on the Flood Insurance Rate Map (FIRM) 28059C0342G dated March 16, 2009.

3.3 Indirect and Cumulative Impacts

The JCPA evaluated indirect and cumulative impacts associated with the project. Indirect effects are caused by an action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts were identified as:

- Construction of the rail line will have ongoing impacts to the tidal marsh and forested wetlands. Water circulation patterns could be altered which could result in changes to the areas adjacent to the rail line footprint. The fill portion of the rail line is modified to be elevated and cross over a shorter section of tidal marsh, therefore that will be minimal impacts to tidal flow in the area.
- The project will cross over .98 acres of tidal marsh habitat. The marsh habitats can provide habitat for fish nurseries, amphibians, aquatic reptiles, wading birds, waterfowl, and song birds. Riparian woodland can provide foraging, roosting, and nesting habitat for a variety of birds and provide cover and refuge sites for small mammals, amphibians, and reptiles. Because the rail will be elevated, minimal impact to this habitat will occur. .
- Removal of the invasive species within the rail line footprint will remove inferior habitat and help to prevent spread of the species into nearby areas.
- Improvements to rail transportation in Jackson County supports improvements to the MSE in George County where new manufacturing facilities are planned or underway. This supports new jobs, improvements to other infrastructure and economic development in general. Having direct rail access to the Port of Pascagoula is an incentive for businesses to locate along the rail footprint.

Cumulative impacts are impacts on the environment that result from the incremental impact of an action when added to other past, present and reasonably foreseeable future actions. If a project would not result in a direct or indirect impact on a resource, then it will not contribute to a cumulative impact on that resource. The impact used in the cumulative impact analysis is the net impact (i.e., chosen alternative impact minus proposed minimization and/or mitigation measures). For resource areas where the impact would be fully offset by the proposed minimization and/or mitigation measures, there is no contribution to cumulative impacts from the project. The environmental analysis conducted for the project has determined that the project would not result in a net impact on any resource, with the exception of wetlands.

Cumulative impacts were identified as:

- The filling of the estuarine and forested wetlands can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of

migration corridors, changes in water quality, and introduction or promotion of predators. The impacts from fill are reduced with the modified footprint. These impacts will be mitigated by replacement or preservation of similar habitat within the same watershed.

- The project can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, air quality and employment. The community impacts associated with the project are positive.

- JCPA researched past, present, and reasonably foreseeable future projects and actions that could result in impacts that would coincide in time and space with impacts from the proposed rail line. JCPA determined that the relevant projects included 1) railroad improvements at the Port of Pascagoula with wetland impacts, 2) construction of a manufacturing facility and addition of rail line in George County that connects to the Mississippi Export Railroad rail line. The impacts at the Port of Pascagoula have been permitted by the USCOE and mitigated for by purchase of mitigation credits. The development projects that are ongoing in George County will also require USCOE permits and mitigation if there are any wetland impacts. The development in George County is expected to provide up to 200 jobs and will be a positive impact on the community.

4.0 Project Alternatives Considered

4.1 Other Alignments

Other alignments for the new rail line were considered.

1) An alignment was considered that would cross south of the proposed alignment. This alignment was several hundred feet longer, crossed a larger area of forested wetland and would require purchase of private residentially developed property. Therefore, this alignment was not chosen. The alternative alignments are shown in Appendix D.

2) Utilizing the existing rail line that crosses under Highway 63 and joins the main line at the rail yard also includes a tight curve that would not be safe for unit trains to travel. Use of this section of rail has been discontinued due to safety considerations. The planned rail traffic will need to travel at approximately 20-25 miles per hour in order to make rail use economically advantageous.

3) Two alternate alignments were considered that established an acceptable radius that would allow the trains to maintain the optimal speed. This alignment required the rail to be added south of the existing MSE rail line and impacted several single family residential properties. In addition, this alignment would pass under a portion of the Highway 63 bridge which would not provide enough vertical clearance for the trains to pass underneath. An acceptable vertical clearance for a main line rail is 22 feet. The two alignments considered only provided 21'7" and 20'7" of clearance. The layout of these alternatives are shown in Appendix D.

4) The permitted alignment includes approximately 3,576 linear feet and through forested wetlands is approximately 1,115 linear feet. The rail will cross over 107 feet of uplands.

5) The proposed modified alignment includes approximately 2,852 linear feet of elevated rail line over marsh (0.90 acres if impact from fill at the abutments and a small marsh area) and 807 feet of rail on uplands.

4.2 Construction Methods

Based on constructability and cost, JCPA looked at elevated the rail rather than construction on fill.

1) Construction of a railroad bridge was considered. This alternative would reduce the amount of fill discharged into the alignment but would require that a sidewalk be constructed attached to the rail line for maintenance purposes. This would result in an approximately 15 foot wide footprint. This width of shaded area would prevent continued growth of the estuarine and forested wetland vegetation resulting in a similar reduction in wetland habitat. In addition, the method for building a rail road bridge would require construction from barges adjacent to the rail road alignment resulting in additional destruction of the wetland habitat. The area was previously impacted by construction of power lines that cross the area and continues to be impacted by power line maintenance activities and it does not appear that the marsh vegetation has recovered. Estimated costs for rail road bridge construction were estimated to be $33 million.

2) An alternative construction method utilizing sheet pile was considered. This would involve driving sheet pile along the layout, filling in between the sheet pile and constructing the rail line on top of the fill. This allows a narrower footprint, however, it is a more expensive than filling and involves additional heavy equipment to drive the sheet piles that would damage additional wetlands outside of the rail footprint. Based on the cost and damage from heavy equipment, this option was not selected.

3) The construction method for the permitted rail line was to fill the alignment from the south end working towards the north and using the previously filled area to access further along the alignment, so the areas outside of the fill area will not be impacted. Silt fence will be placed along the project footprint to prevent fill from moving outside of the project area. This resulted in a total impact of 4.89 acres of tidal and non-tidal wetlands. Ongoing geotechnical evaluation indicates that constructing the rail on fill is not technically sound and would likely result in a rail that needed ongoing repairs.

4) Combination of elevated rail line, fill, and a modified footprint resulted in an estimated cost of approximately $15.5 million.

4.3 No Action

With the No Action alternative, the main rail line would not be relocated and rail traffic would continue through downtown Pascagoula and Moss Point. Traffic congestion would increase as the expected rail traffic increases and the train length increases to as much as 60 to 70 cars for some trains. Air quality would continue to be negatively impacted by idling cars.

5.0 Mitigation

JCPA has already purchased 3.48 credits from Wetland Solutions mitigation bank for mitigation for impacts to forested non-tidal wetlands (1.16 acres) associated with the permitted alignment. JCPA would like to use these credits for a future project.

Impacts associated with the permitted footprint included impacts to tidal estuarine wetlands (3.73 acres). A Permittee Responsible Mitigation plan that included creation of tidal wetlands by grading an upland forested area within the MPITC to restore/create tidal flow and planting appropriate marsh vegetation species. The PRM plan was approved and JCPA purchased a Performance Bond for $50,000 to be used if the PRM failed to achieve success within five years. The JCPA proposes to work with the agencies to evaluate reduction in the area to be created or to be able to use the excess created wetlands for mitigation for future projects.

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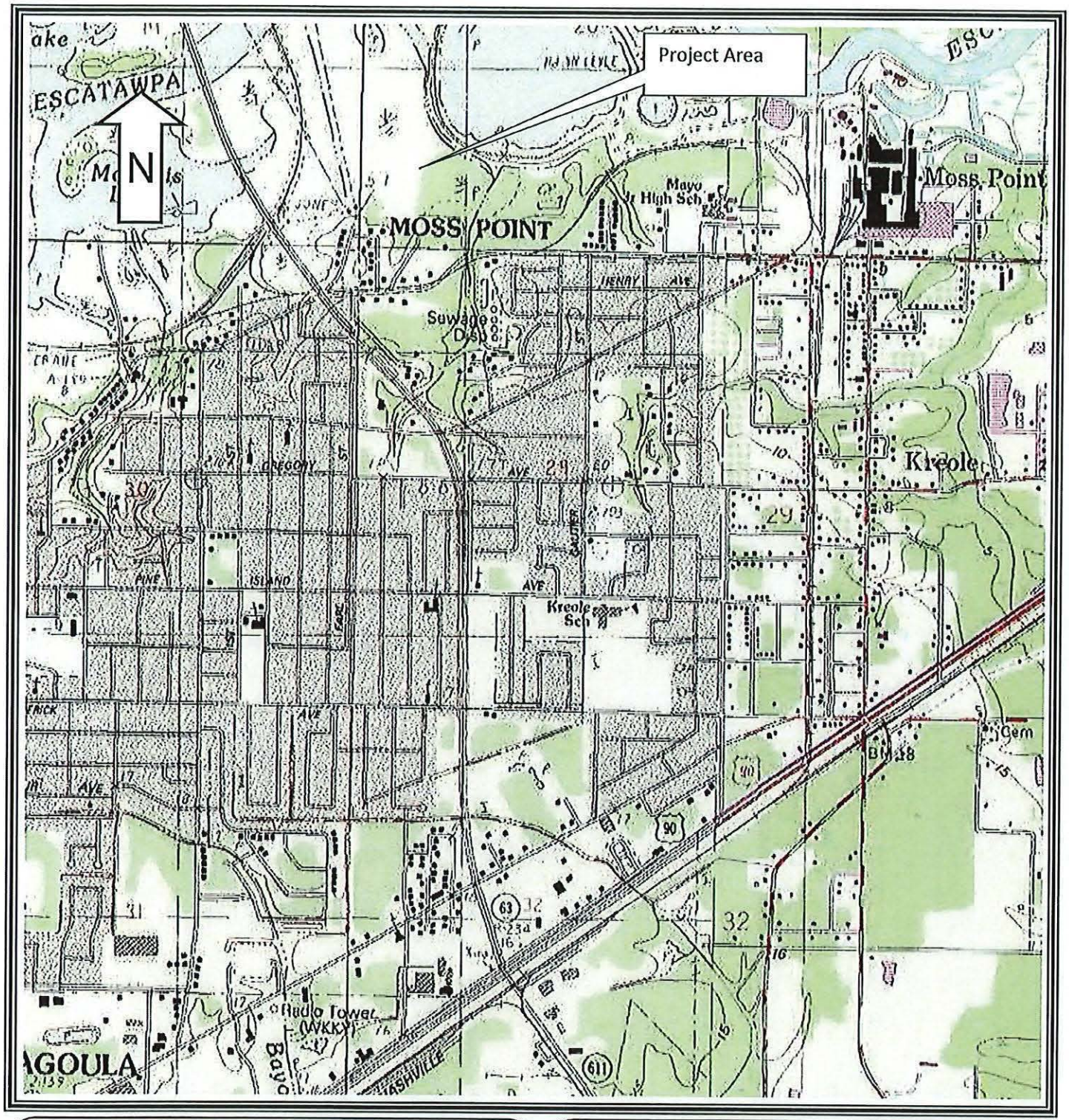

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Biloxi, Mississippi 39530
Phone: (228) 432-2133 Fax: (228) 432-8149
E-mail: compton@comptonengineering.com

Site: North Rail Connector - Project Area
Moss Point, Jackson County, MS

Figure Title: **Topographic Map – Project Area** (Map Source: MyTopo Map Pass. USGS 7.5 Minute Series, Pascagoula North Quadrangle, 1982)

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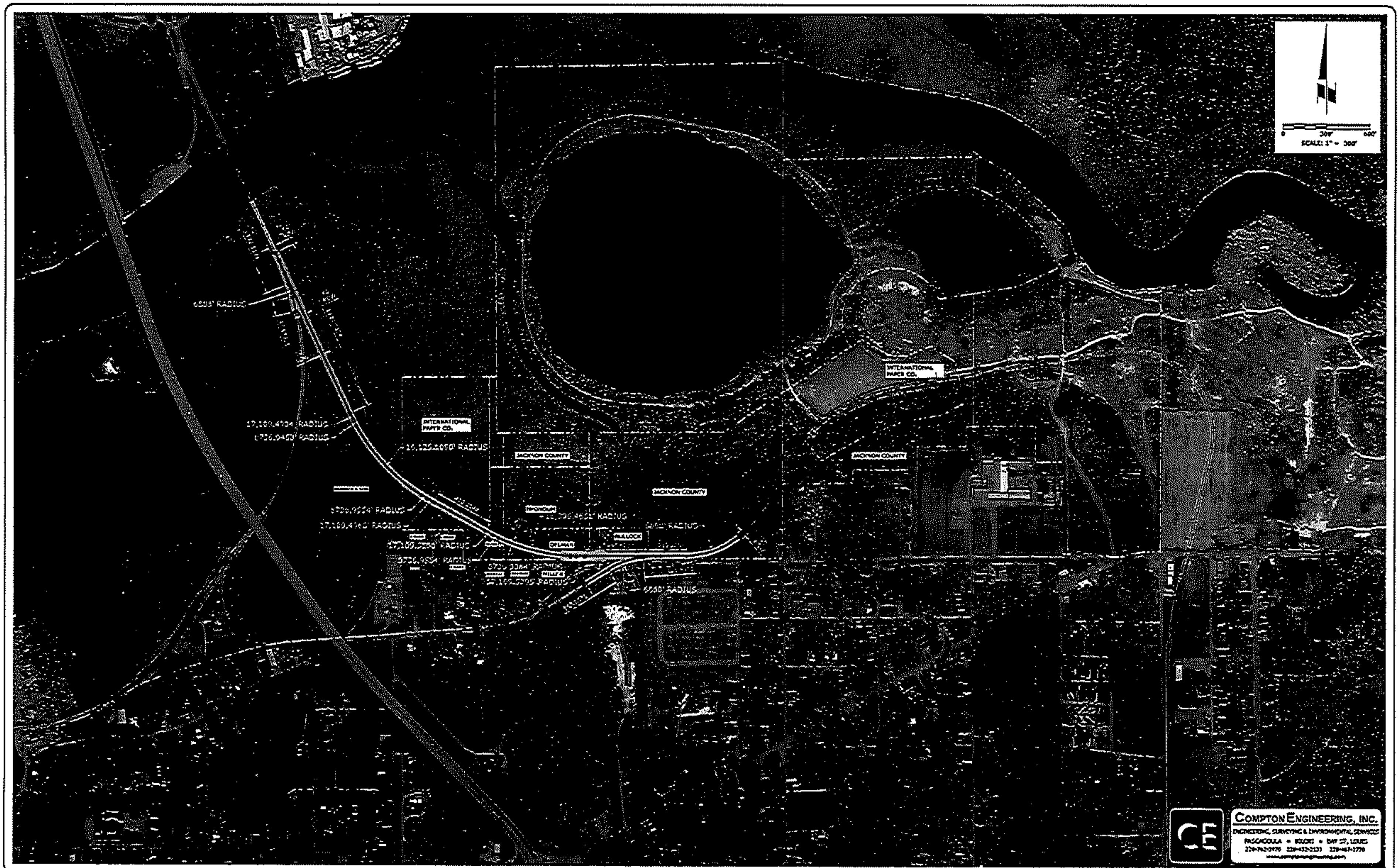
6505' RADIUS
INTERNATIONAL PAPER CO.
JACKSON COUNTY
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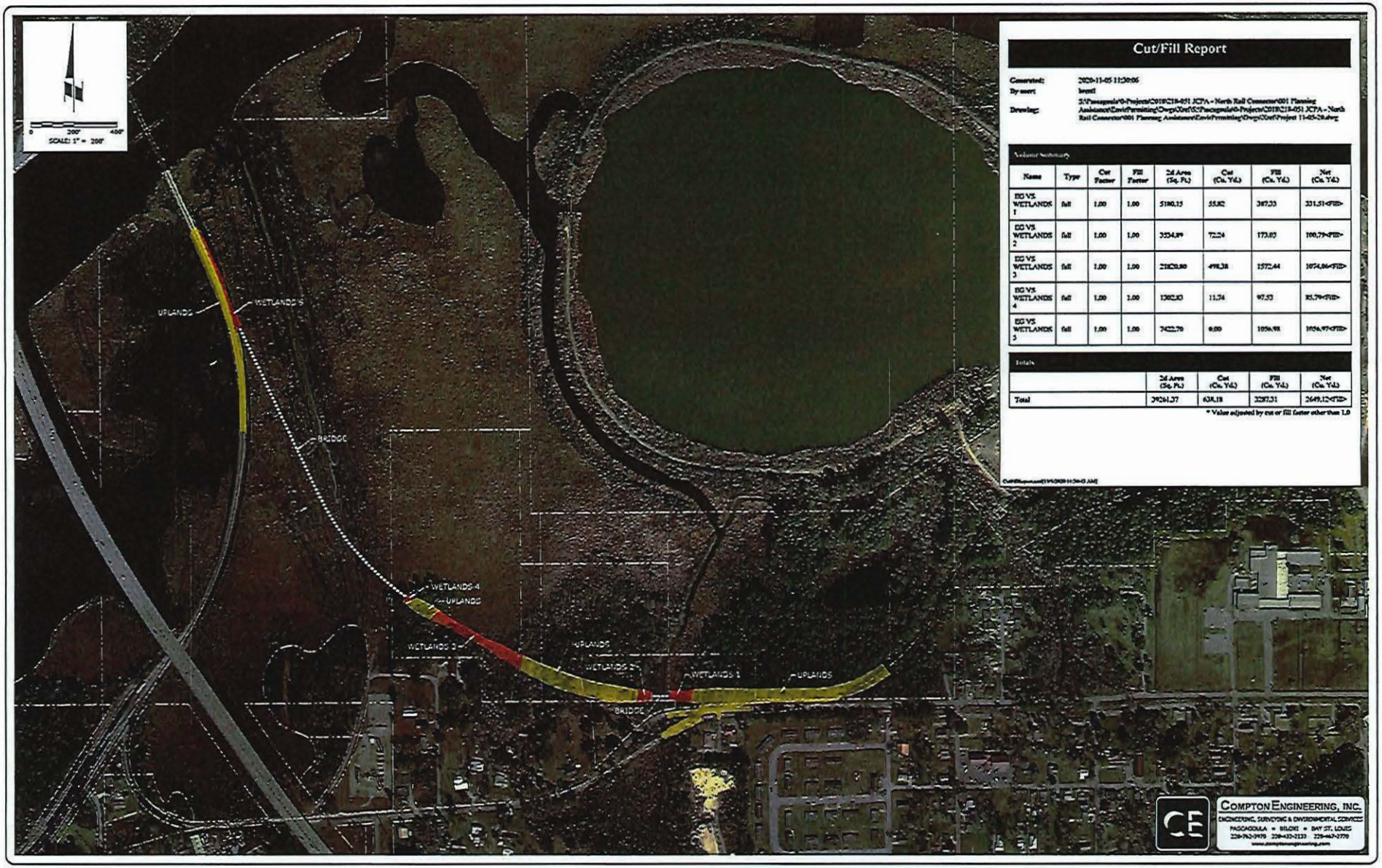
JACKSON COUNTY
INTERNATIONAL PAPER CO.
PULLOCK
6550' RADIUS
SCALE: 1" = 300'
COMPTON ENGINEERING, INC.



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Volume Summary

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A Wetland Delineation


Site
Wildwood Rd
Saracennia Rd
Highway 613
Highway 90
Grierson St
Dantzler St
Griffin St
Martin Luther King Blvd
Moss Point
2nd St
Kreole Ave
River Rd
Shortcut Rd
Telephone Rd
Industrial Rd
Old Mobile Hwy
Denny Ave
Pascagoula
Pascagoula St
Market St
14th St
Chicot St
Ingalls Ave
Washington Ave
Singing River Island
Grand Bay National Wildlife Refuge
Valley Forge Rd
Forts Lake Rd
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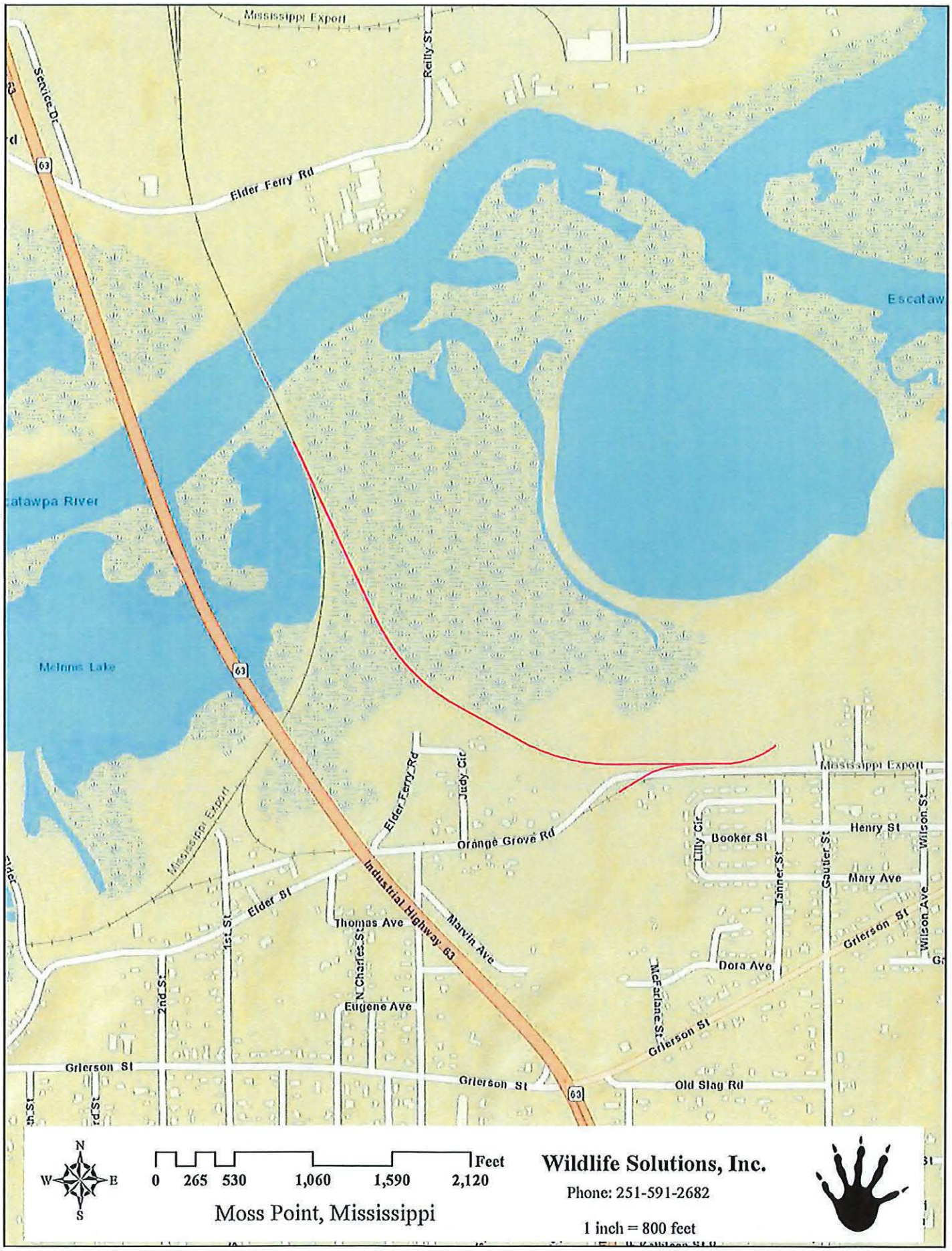
Miles
Moss Point, Mississippi
Wildlife Solutions, Inc.
Phone: 251-591-2682
1 inch = 2 miles


Mississippi Export
Service Dr
Reilly St
Elder Ferry Rd
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Escataw
atawpa River
Melnns Lake
Elder Ferry Rd
Judy Cir
Orange Grove Rd
Mississippi Export
Elder St
Industrial Highway 63
Thomas Ave
Marvin Ave
1st St
2nd St
N Charles St
Eugene Ave
Grierson St
Grierson St
Grierson St
Grierson St
Old Slag Rd
Lilly Cir
Booker St
Henry St
Tanner St
Gautier St
Mary Ave
Wilson St
Wilson Ave
Dora Ave
McFarland St
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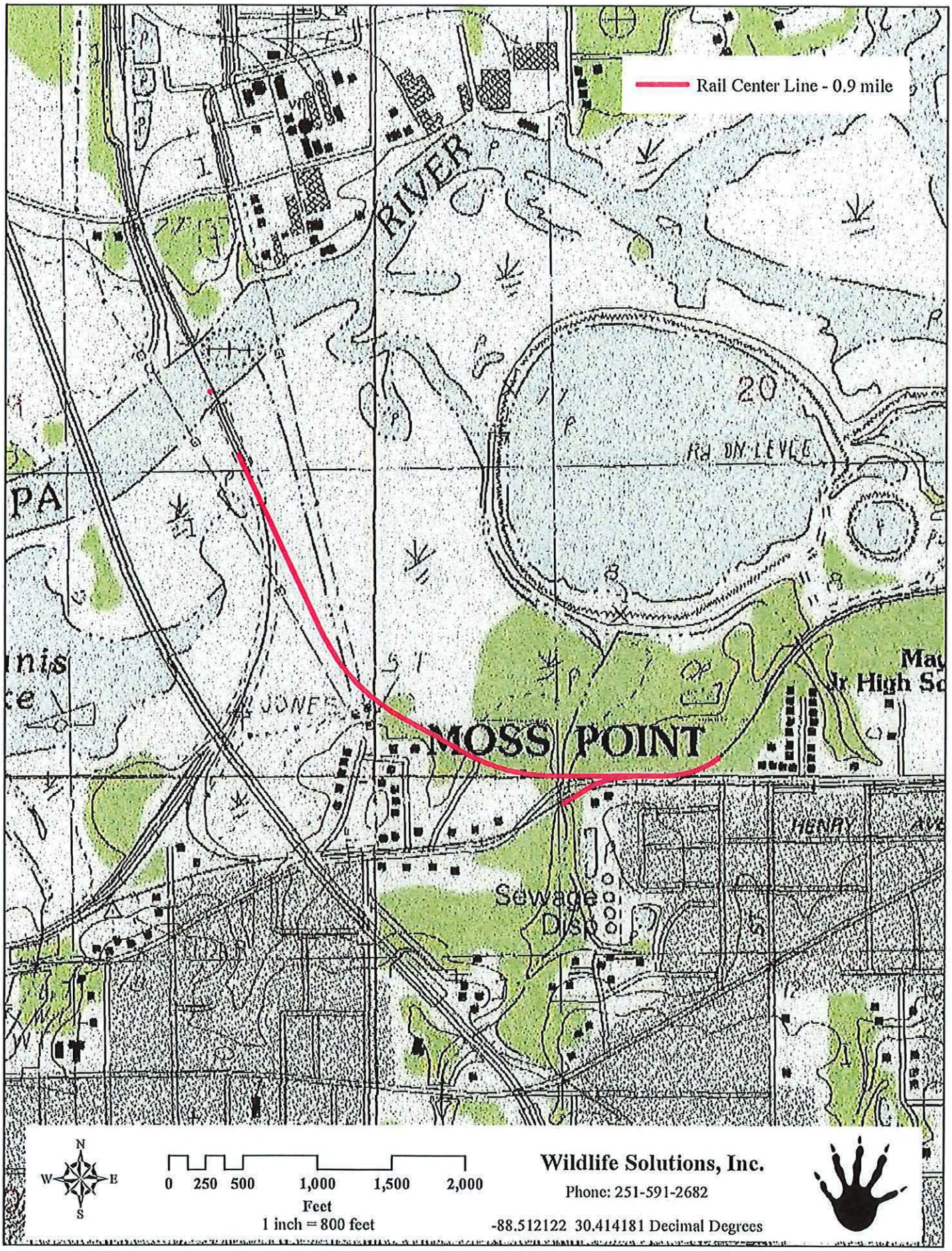
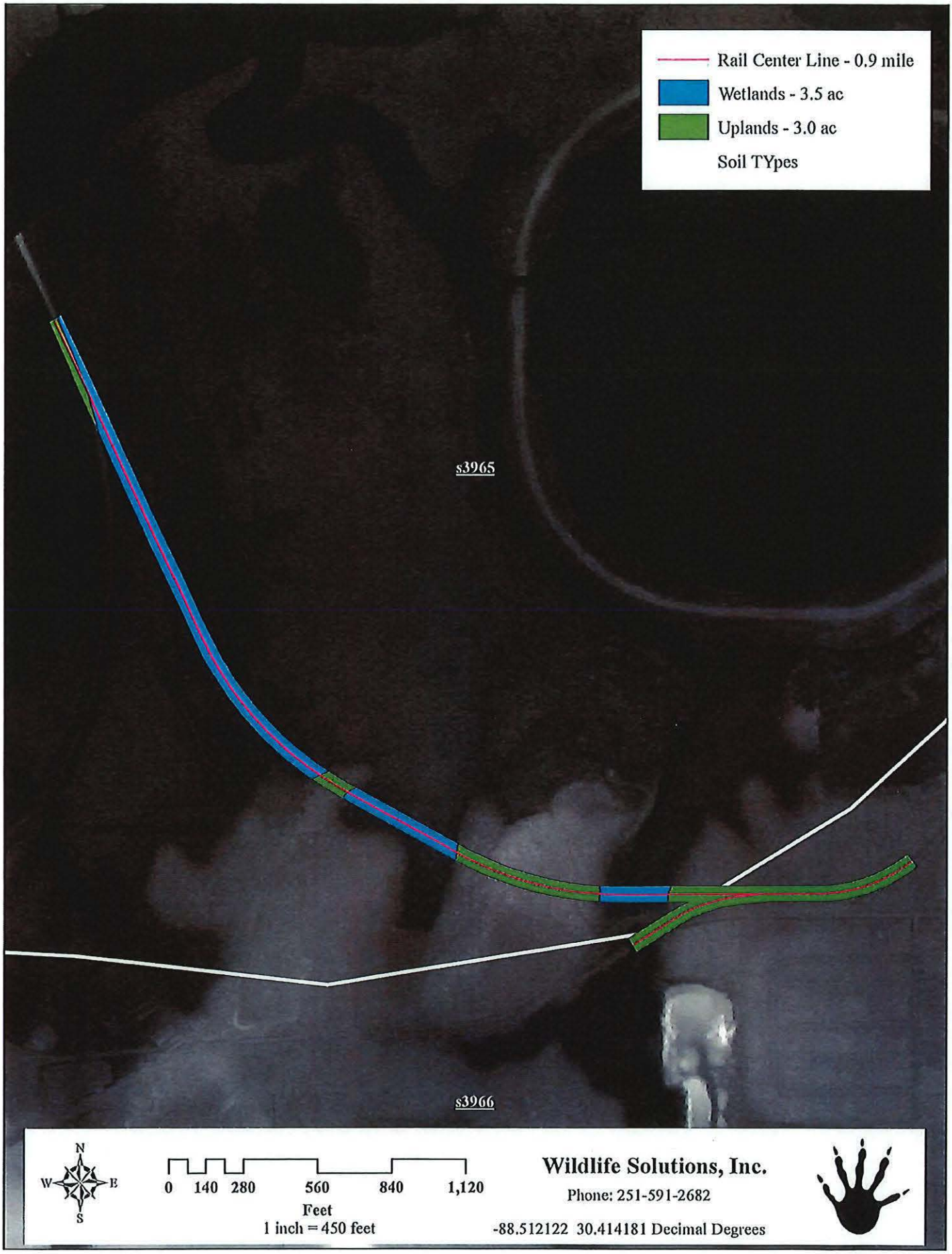
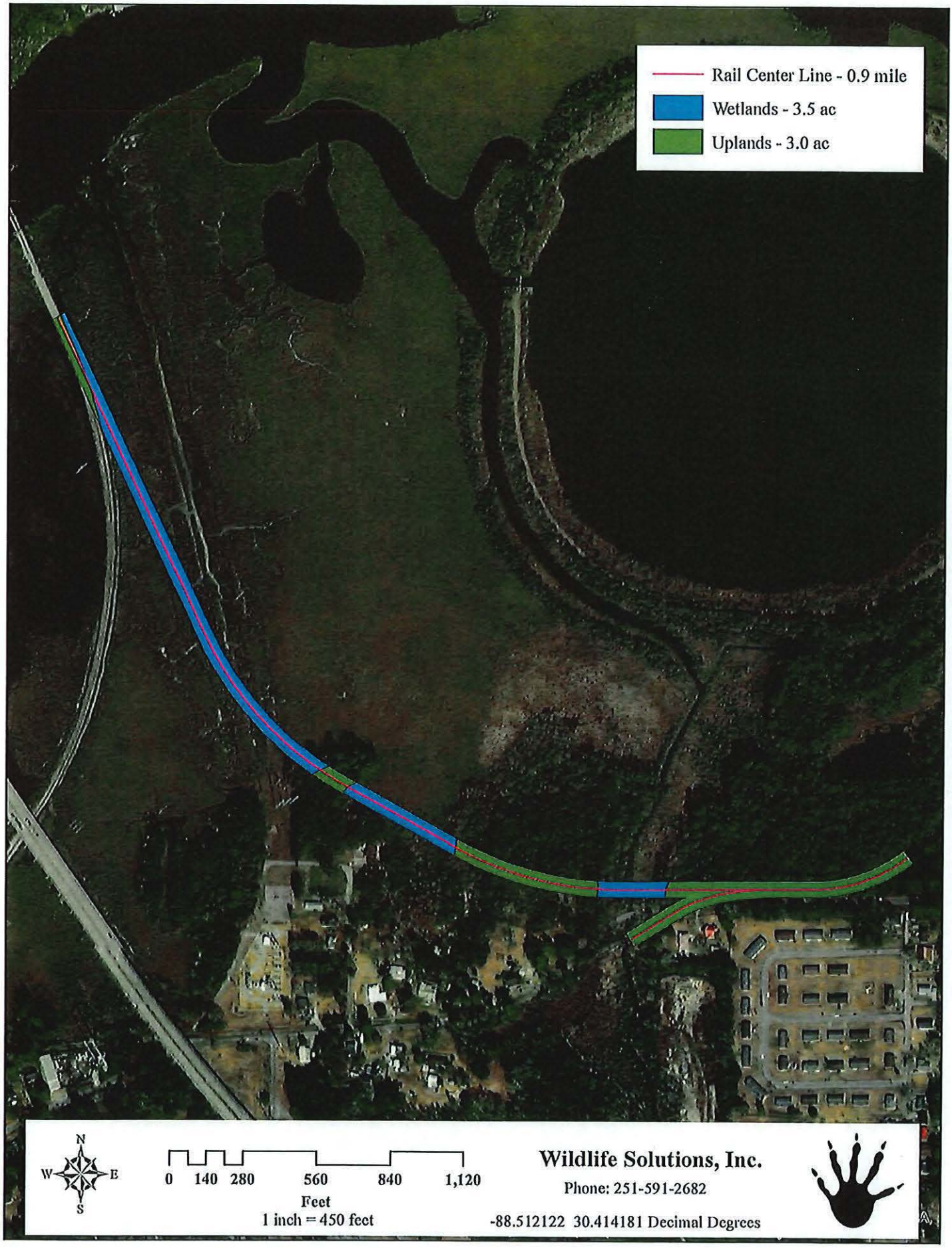
Feet
Moss Point, Mississippi
Wildlife Solutions, Inc.
Phone: 251-591-2682
1 inch = 800 feet


Rail Center Line - 0.9 mile
RIVER
MOSS POINT
Sewage Disp
HENRY
N
W
E
S
0 250 500 1,000 1,500 2,000
Feet
1 inch = 800 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees


Rail Center Line - 0.9 mile
Wetlands - 3.5 ac
Uplands - 3.0 ac
Soil TYpes
s3965
s3966
N
W
E
S
0 140 280 560 840 1,120
Feet
1 inch = 450 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees


Rail Center Line - 0.9 mile
Wetlands - 3.5 ac
Uplands - 3.0 ac
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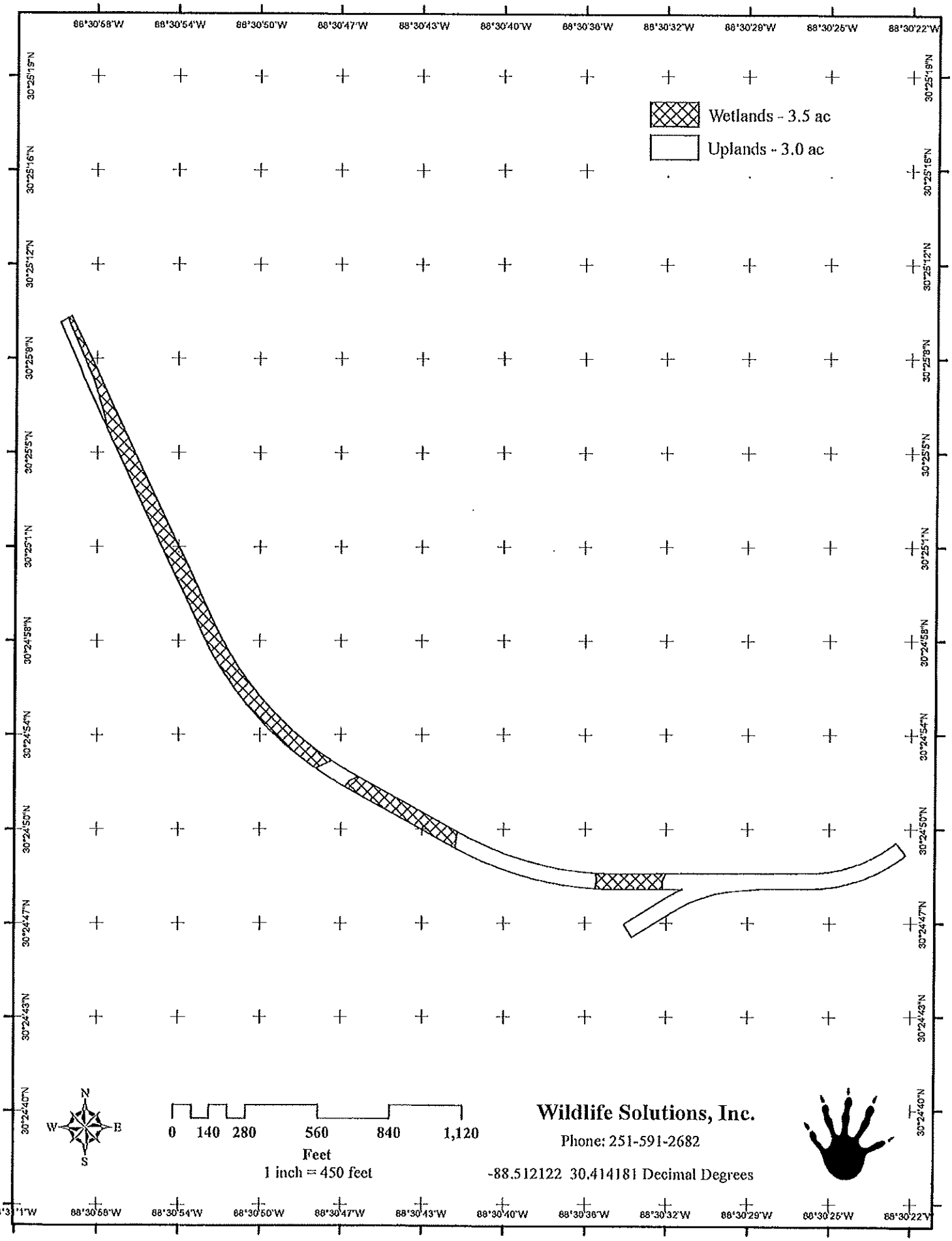
Feet
1 inch = 450 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees


88°30'58"W
88°30'54"W
88°30'50"W
88°30'47"W
88°30'43"W
88°30'40"W
88°30'36"W
88°30'32"W
88°30'29"W
88°30'25"W
88°30'22"W
30°25'19"N
30°25'16"N
30°25'12"N
30°25'8"N
30°25'5"N
30°25'1"N
30°24'58"N
30°24'54"N
30°24'50"N
30°24'47"N
30°24'43"N
30°24'40"N
Wetlands - 3.5 ac
Uplands - 3.0 ac
N
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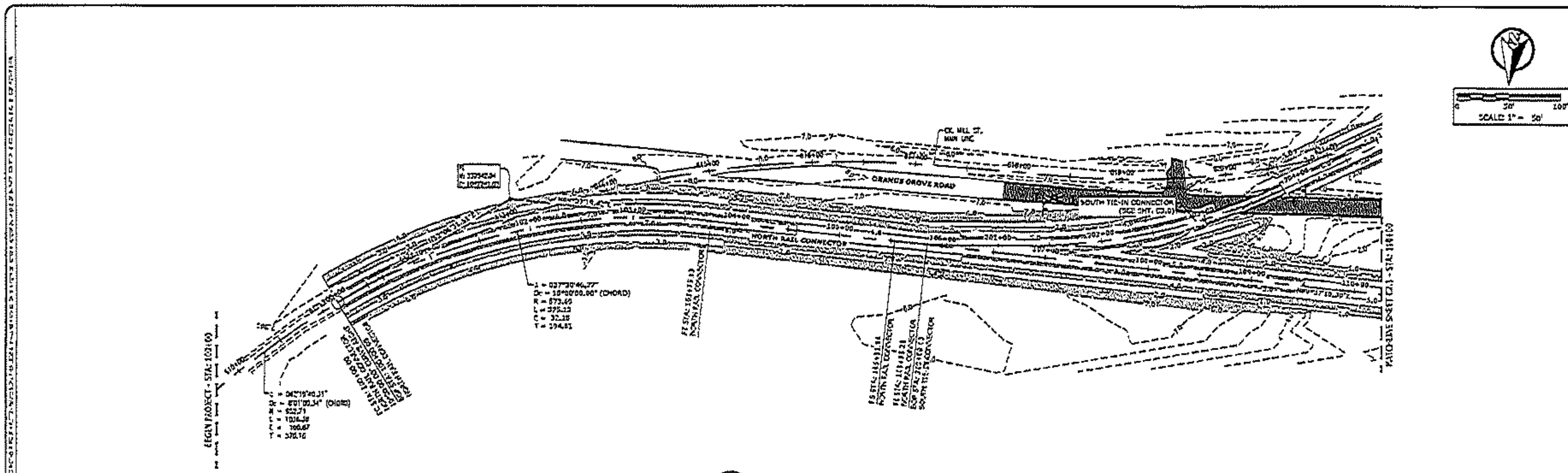
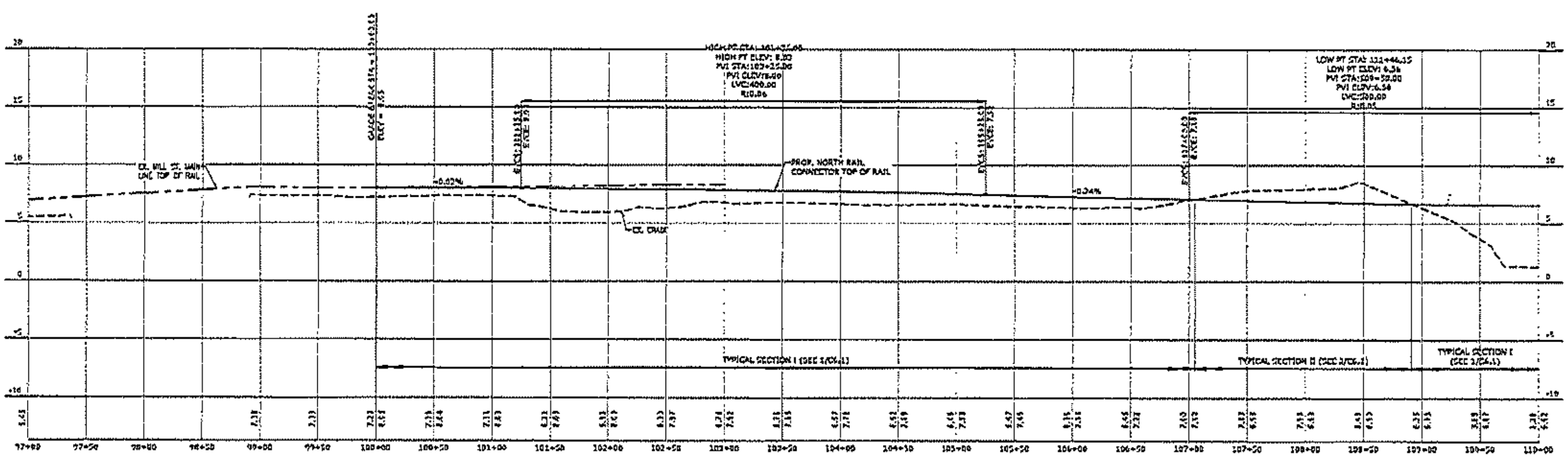
0 140 280 560 840 1,120
Feet
1 inch = 450 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees



1 PROPOSED PLAN
C2.0 SCALE: 1" = 50'



2 PROFILE
C2.0 SCALE: H: 1" = 50' V: 1" = 5'

COMPTON ENGINEERING, INC.
ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES
PASCAGOULA • BILOXI • BAY ST. LOUIS

PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

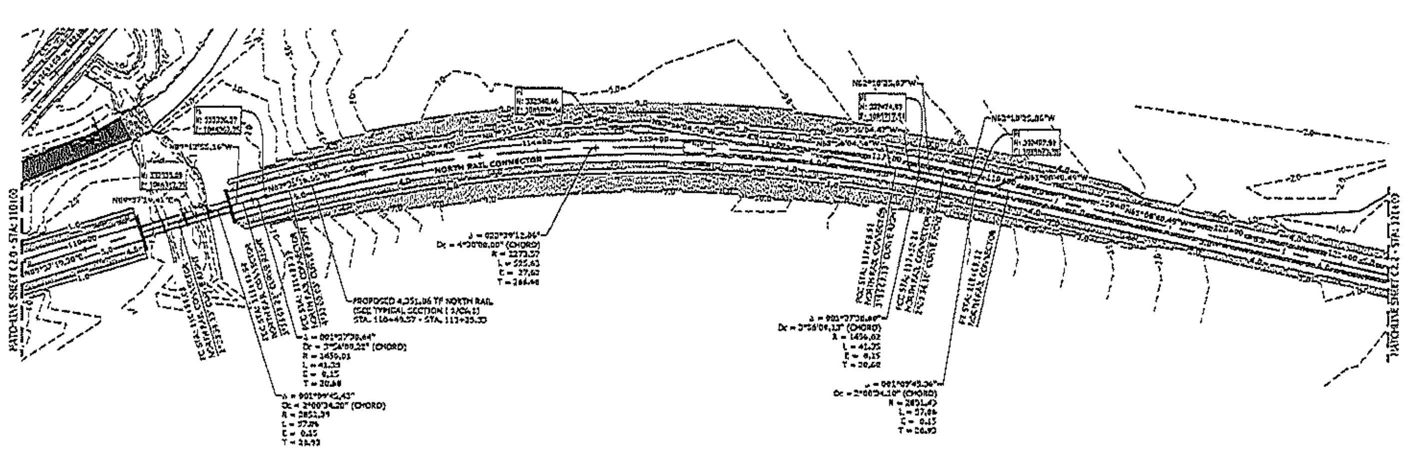
NORTH RAIL CONNECTOR - PLAN & PROFILE
STA: 100+00 - STA: 110+00

SCALE:	AS NOTED
JOB NO.:	218.051
DATE:	--
DSGN.:	J. STUDSTILL
DWG. BY:	B. LADNER
CHK.:	--
APVD.:	

C2.0

ISSUED FOR XOPA REVIEW

PRELIM. ENG. DWGS - NOT FOR CONSTRUCTION



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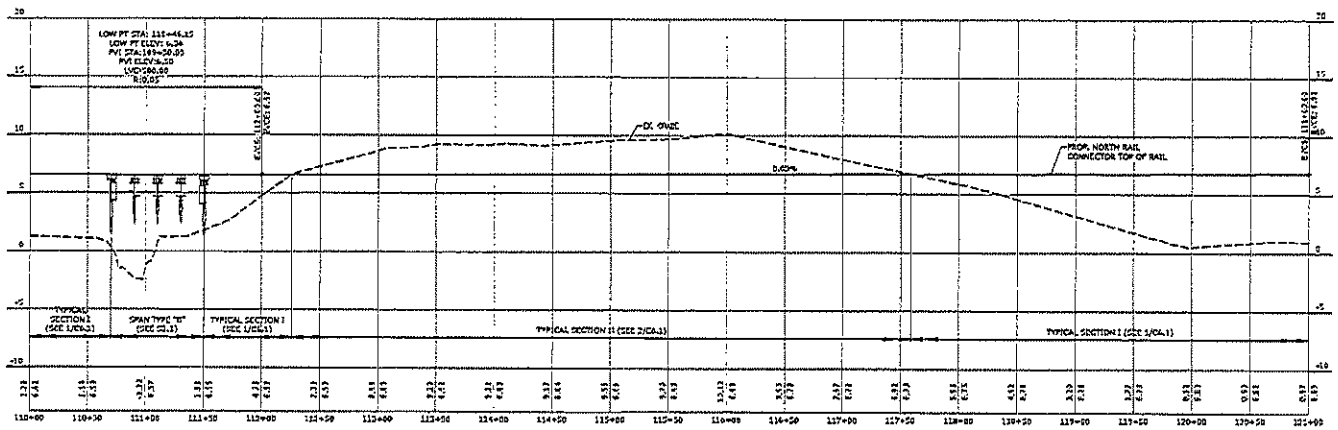
C2.1 SCALE: 1" = 50'



2 PROFILE
C2.1 SCALE: H: 1" = 50' V: 1" = 5'

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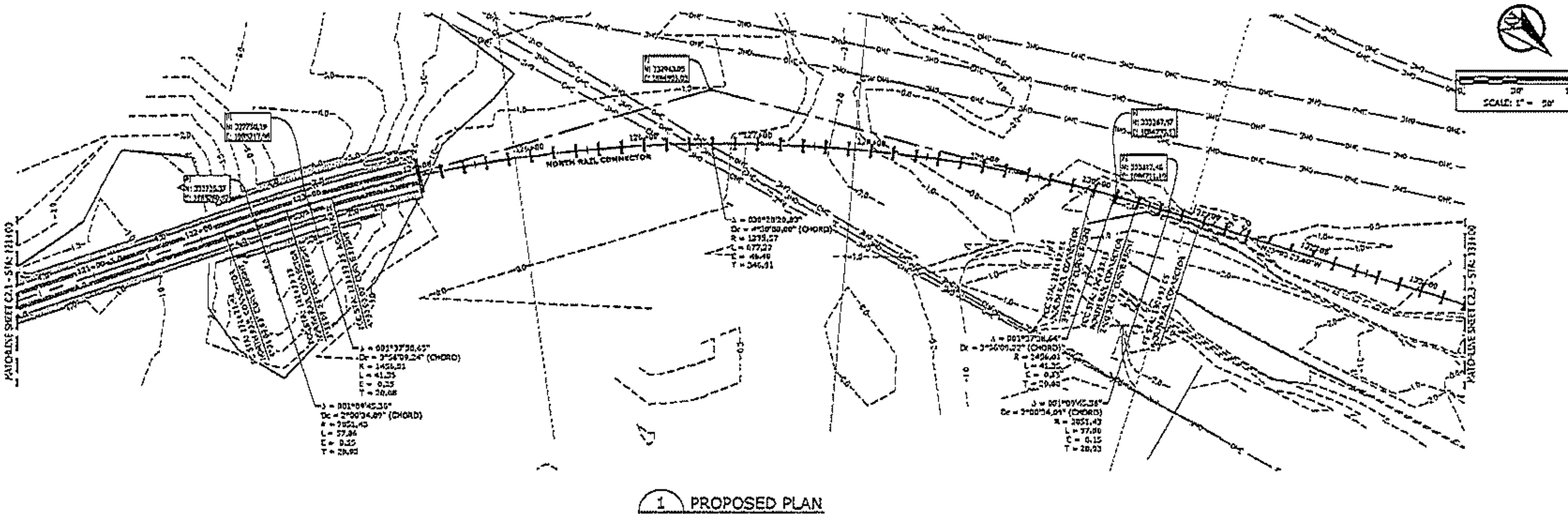
PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

NORTH RAIL CONNECTOR - PLAN & PROFILE
STA: 110+00 - STA: 121+00

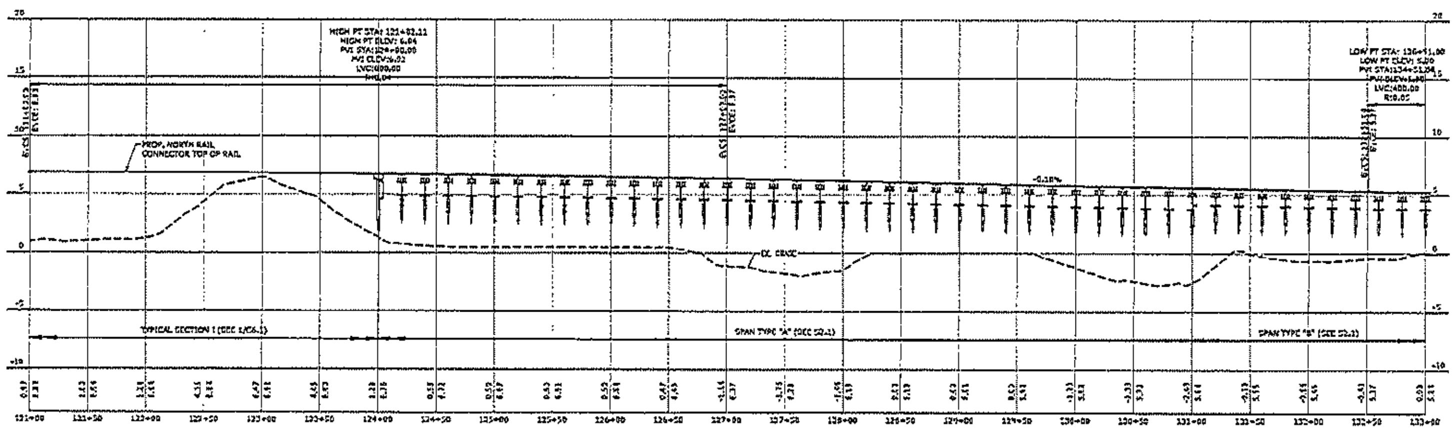
SCALE: AS NOTED
JOB NO.: 218-051

C2.1

ISSUED FOR JCPA REVIEW
ISSUED FOR JCPA REVIEW
PRELIM. ENG. DWGS - NOT FOR CONSTRUCTION



1 PROPOSED PLAN
C2.2 SCALE: 1" = 50'



2 PROFILE
C2.2 SCALE: H: 1" = 50' V: 1" = 5'

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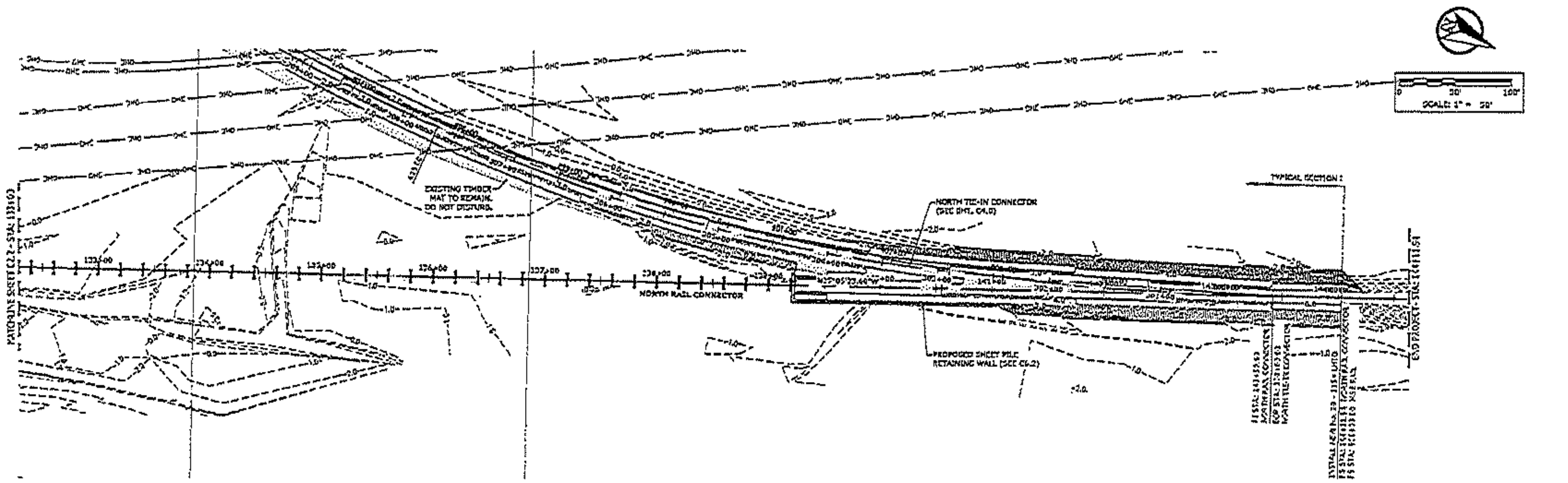
PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

NORTH RAIL CONNECTOR - PLAN & PROFILE
STA: 121+00 - STA: 133+00

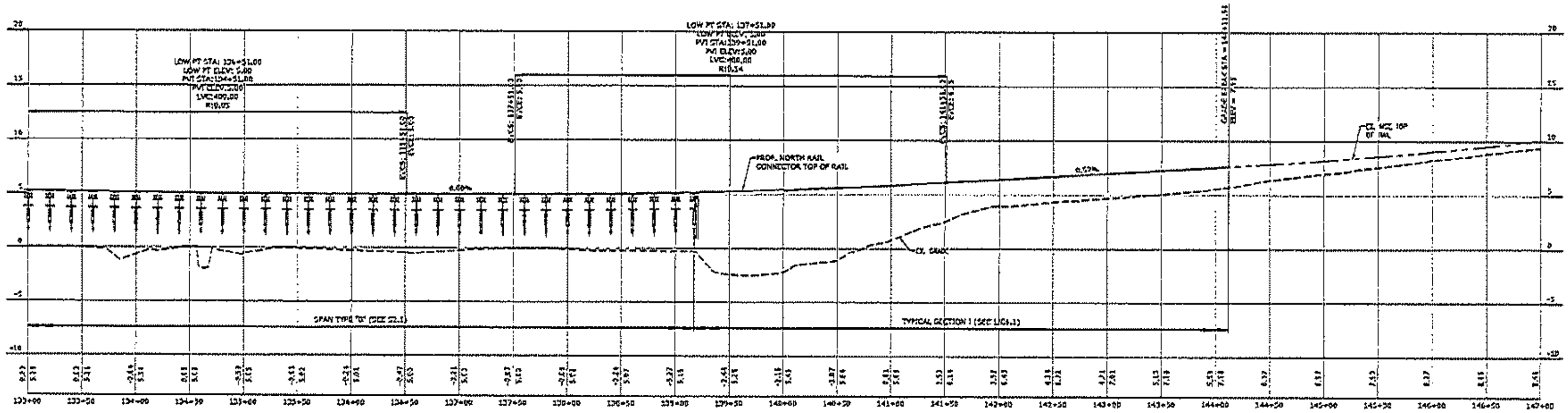
SCALE: AS NOTED
JOB NO.: 218-051
DSGN.: J. STUDSTILL
DWG. BY: B. LADNER

C2.2

04-30-20 PRELIM. ENGR. DWGS - NOT FOR CONSTRUCTION



1 C2.3 PROPOSED PLAN
SCALE: 1" = 50'



2 C2.3 PROFILE
SCALE: H: 1" = 50' V: 1" = 5'

COMPTON ENGINEERING, INC.
ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES
PASCAGOULA • BILOXI • BAY ST. LOUIS

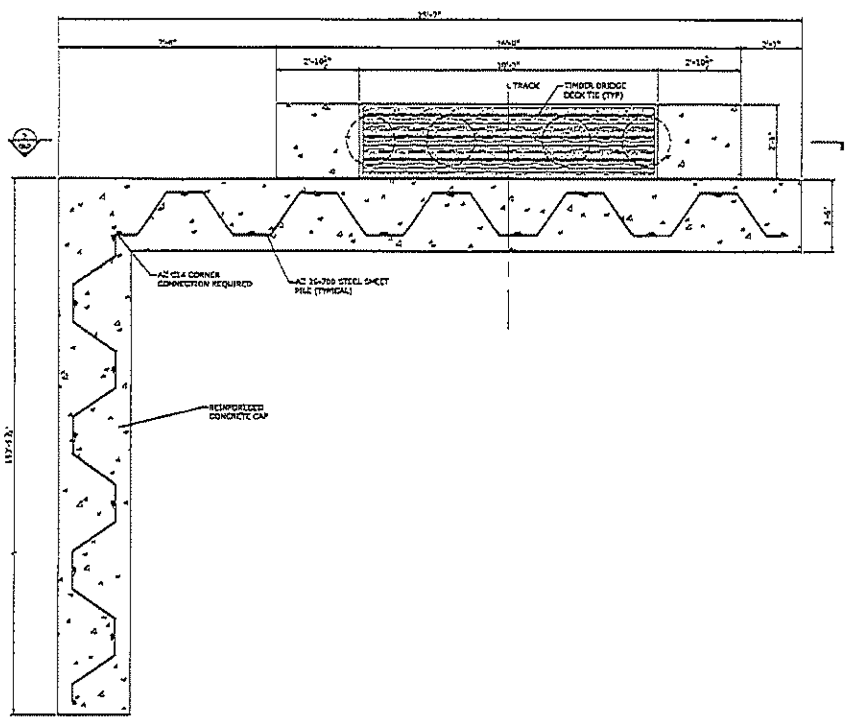
PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

NORTH RAIL CONNECTOR - PLAN & PROFILE
STA: 133+00 - STA: 144+11.94

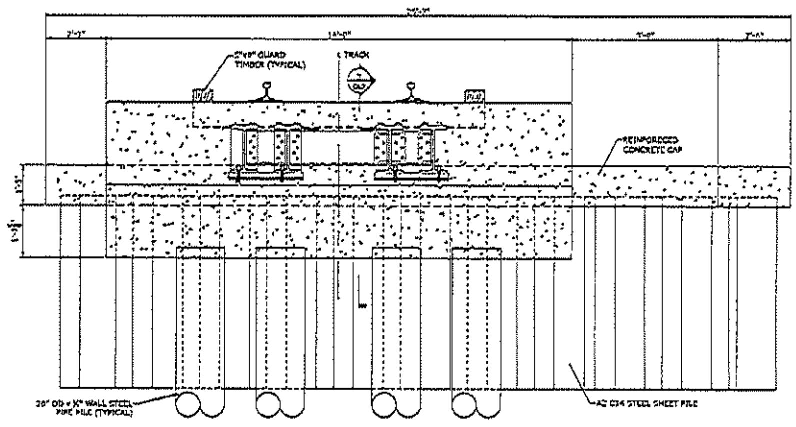
SCALE: AS NOTED

C2.3

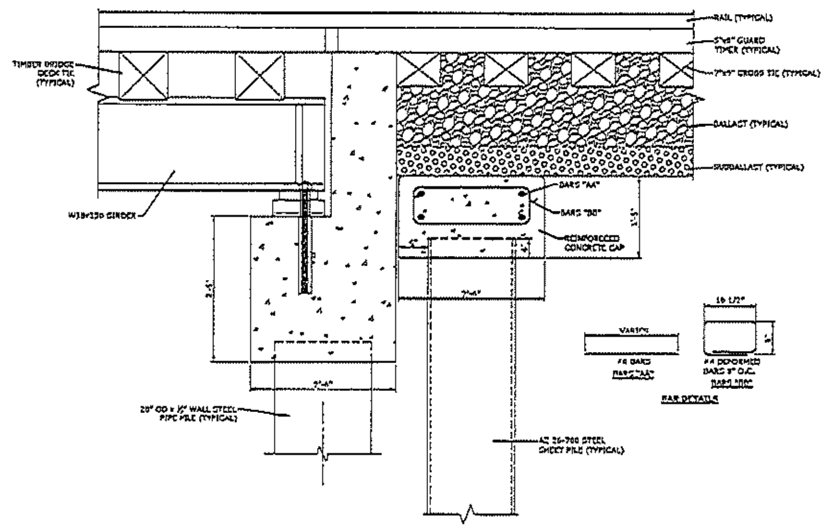
PRELIM. ENG. DWGS - NOT FOR CONSTRUCTION



1 SHEETPILE ABUTMENT - PLAN
C6.2 SCALE: 1/2" = 1'-0"



2 SHEETPILE ABUTMENT - SECTION
C6.2 SCALE: 1/2" = 1'-0"



3 SHEETPILE ABUTMENT - SECTION
C6.2 SCALE: 1/2" = 1'-0"

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ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES
PASCAGOULA • BILOXI • BAY ST. LOUIS

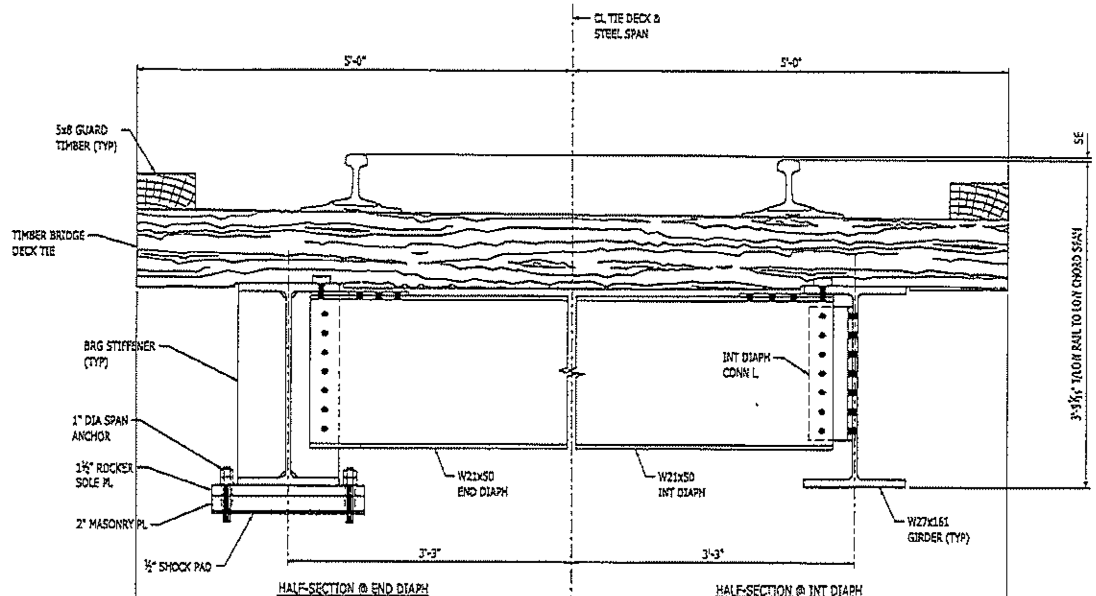
PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

SHEETPILE ABUTMENT PLAN & SECTIONS

SCALE: AS NOTED
JOB NO.: 218-051
DSGN.: J. STUDSTILL
DWG. BY: B. LADNER

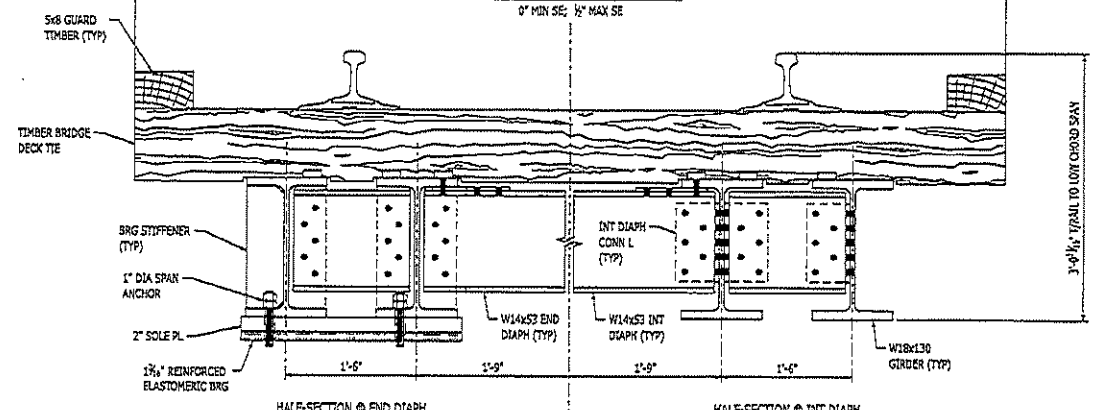
C6.2

ISSUED FOR JCPA REVIEW
ISSUED FOR JCPA REVIEW
PRELIM. ENG. DWGS - NOT FOR CONSTRUCTION



TYPICAL SECTION - SPAN TYPE "A"

0" MIN SE; ½" MAX SE



TYPICAL SECTION - SPAN TYPE "B"

DESIGN DATA:

DEAD LOAD:	PER AREMA MANUAL.
LIVE LOAD:	COOPER E-80 OR ALTERNATE LIVE LOAD ON 4 AXLES, PER AREMA MANUAL.
IMPACT LOAD:	PER AREMA MANUAL.
CENTRIFUGAL FORCE:	PER AREMA MANUAL, BASED ON: DESIGN SPEED = 25 MPH CURVATURE = 4°30' (CHORD DEFN)
TRACK ECCENTRICITY:	1½" MAX.
OTHER LOADS:	PER AREMA MANUAL, AS APPLICABLE.
DEFLECTIONS:	LIMITING LIVE LOAD DEFLECTION OF L/640 PER AREMA MANUAL.

NOTE:

TENSION ZONES OF GIRDERS SHALL CONFORM TO "FC" REQUIREMENTS OF THE AREMA MANUAL.

G&A CONSULTING ENGINEERS PLLC
2325 OLD ORCHARD DRIVE
MARIETTA, GA 30068
PH (678) 634-8919
MS COA No.: 25549

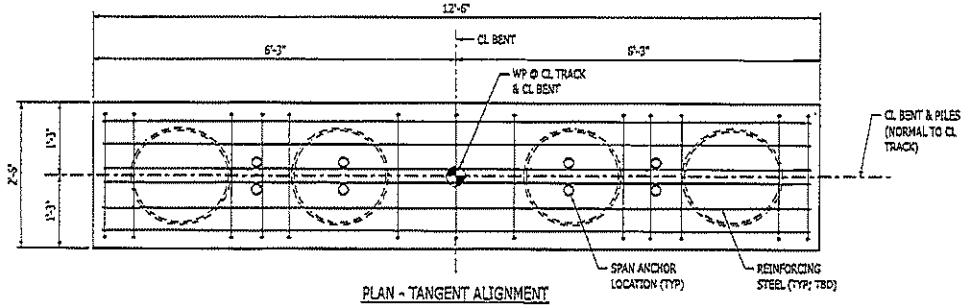
COMPTON ENGINEERING, INC.
ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES

PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

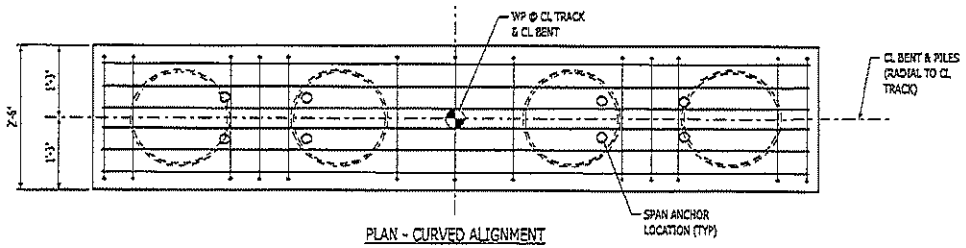
BRIDGE DESIGN DATA & TYPICAL SECTIONS

SCALE: ¾" = 1'-0"

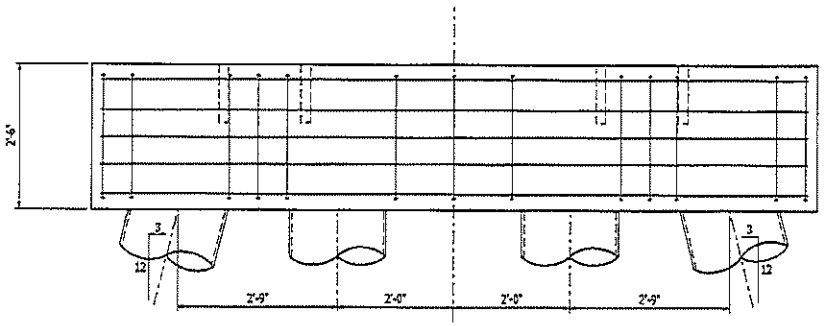
S2.1



PLAN - TANGENT ALIGNMENT

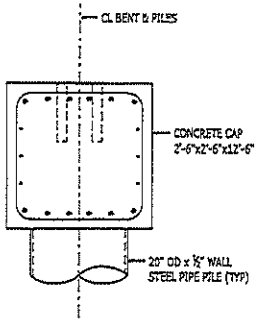


PLAN - CURVED ALIGNMENT



FRONT ELEVATION

CURVED ALIGNMENT CAP SHOWN; TANGENT ALIGNMENT CAP SIMILAR



END VIEW

G&A CONSULTING ENGINEERS PLLC
2325 Old Orchard Drive
Marietta, GA 30060
PH (678) 634-8919
MS COA No.: 25549

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228-762-3970 228-432-2133 228-467-2270
www.comptonengineering.com

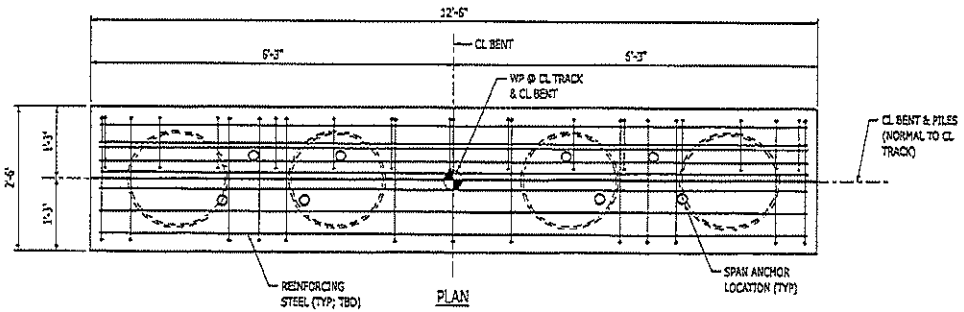
PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

TYPICAL TRESTLE BENT DETAILS

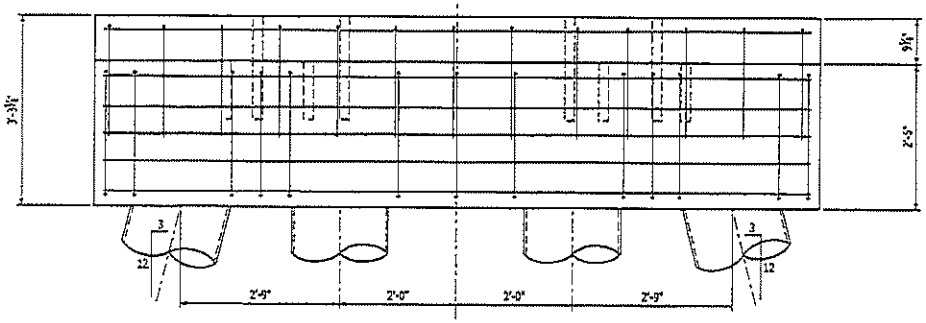
SCALE:	½" = 1'-0"
JOB NO.:	218-051
DATE:	05-22-20
DESIGN BY:	H. GREENLEE
DRWG. BY:	H. GREENLEE
CHK'D:	J. STUDSTILL
APP'D:	

NO.	DESCRIPTION	DATE
1	PRELIM. ENG. SUBMIT. - NOT FOR CONSTRUCTION	06-10-20

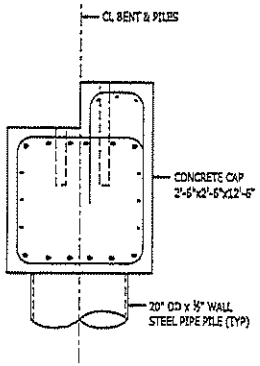
S2.9



PLAN



FRONT ELEVATION



END VIEW

G&A CONSULTING ENGINEERS PLLC
2325 OLD ORCHARD DRIVE
MARIETTA, GA 30062
PH (678) 634-0919
MS COA NO.: 25549

COMPTON ENGINEERING, INC.
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PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

TRESTLE TRANSITION BENT DETAILS

SCALE:	½" = 1'-0"
JOB NO.:	218-051
DATE:	06-30-20
DSGN.:	TL GREENLEE
DWG. BY:	TL GREENLEE
CHK'D:	K. STUDSTILL
APVD.:	

S2.10

US FISH AND WILDLIFE SERVICE CORRESPONDENCE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mississippi Ecological Services Field Office
6578 Dogwood View Parkway, Suite A
Jackson, Mississippi 39213
Phone: (601)965-4900 Fax: (601)965-4340

March 2, 2021

IN REPLY REFER TO:
2020-I-0837

Mr. Michael Johnsen
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Mr. Johnsen:

The Fish and Wildlife Service (Service) has reviewed the information in your letter dated February 23, 2021, regarding the proposed Jackson County Port Authority – North Rail Connector Rail Line Project in Jackson County, Mississippi. Our comments are submitted in accordance with the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Based on the information provided in your letter, the Service concurs with your determination that the proposed project "may affect, but is not likely to adversely affect" the Alabama red-bellied turtle. Although there will be minor impacts to foraging habitat associated with bridge pilings and abutments, the effects of the action on this species are expected to be insignificant. No further consultation under the ESA is required with this office unless there are changes in the scope or location of the proposed project.

If you have any questions, please contact David Felder of our office, telephone: (601) 321-1131.

Sincerely,

Stephen M. Ricks
Field Supervisor
Mississippi Field Office

Lisa D. Morrison

From: Murphy, Amanda (FRA) <amanda.murphy2@dot.gov>
Sent: Wednesday, February 24, 2021 7:56 AM
To: david_felder@fws.gov
Cc: Sandy Feathers; Dixon, Marc (FRA); Lisa D. Morrison
Subject: North Rail Connector Section 7 consultation
Attachments: Habitat Map North Rail Realignment Delineation-2.pdf; Topo map from North Rail Realignment Delineation.pdf; USFWS Summary north_rail_connector_2020.s.pdf; Species List_ Mississippi Ecological Services Field Office.pdf; aerial C2.0 - C2.3-C2.3.pdf; aerial C2.0 - C2.3-C2.1.pdf; aerial C2.0 - C2.3-C2.2.pdf; aerial C2.0 - C2.3-C2.3.pdf; North Rail Connector USFWS Consult 022421.pdf

Dear Mr. Felder,
Attached is a Section 7 consultation letter for the Jackson County Port Authority's North Rail Connector Project in Moss Point, MS. The last attachment is the cover letter which explains FRA's not likely to adversely affect determination for the Alabama Red Bellied Turtle. Please let me know if you have any questions during your review. We look forward to your response within the next 30 days.

Thank you,

Amanda Murphy
Environmental Protection Specialist
Federal Railroad Administration
202-339-7231 (cell)
Amanda.murphy2@dot.gov

U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

February 23, 2021

Mr. David Felder
U.S. Fish and Wildlife Service
6578 Dogwood View Parkway, Suite A
Jackson, MS 39213

Re: Project Review Request – Section 7, Endangered Species Act
Jackson County Port Authority – North Rail Connector Rail Line, Moss Point, Mississippi

Dear Mr. Felder:

The Federal Rail Administration (FRA) chose Jackson County Port Authority (JCPA) to receive grant funding for the North Rail Connector Project in Jackson County, Mississippi (the Proposed Project). The FRA is preparing an Environmental Assessment for the Proposed Project in accordance with the National Environmental Policy Act (NEPA). Pursuant to 16 U.S.C Section 1536 (Section 7 of the Endangered Species Act) and its implementing regulation (50 Code of Federal Regulation [CFR] part 17) "Endangered and Threatened Wildlife and Plants," this letter is being transmitted to present project findings. FRA finds the Proposed Project would ***not likely adversely affect*** the Alabama Red Bellied Turtle (*Pseudemys alabamensis)* and requests concurrence from the US Fish and Wildlife Service (USFWS).

Project Background

JCPA proposes to construct the North Rail Connector, a rail line that would connect an existing rail owned by Mississippi Export Railroad (MSE) that crosses over the Escatawpa River in Moss Point, Mississippi to an existing JCPA-owned rail line that crosses through the Moss Point Industrial and Technology Complex and provides access to the Port of Pascagoula, Bayou Casotte Harbor.

The location of the Proposed Project would be in Section 19, Township 7 South, and Range 5 West of Jackson County, MS. The approximate center point of the proposed rail is at 30.415546 degrees latitude and -88.514452 degrees longitude. The new rail would extend from mile post 2.89 (30.251207/-88.310005) on the north and extend to mile post 2.05 (30.413308/-88.508269) on the east where it would join existing rail. A topographic map, a Habitat Map/Wetland Map and preliminary site plans are provided for your information (Figure 1, Figure 2 and Attachment 1(Figures 2.0-2.3).

The Proposed Project would be approximately 3,659 linear feet with 2,852 feet of elevated rail and 807 feet of rail constructed on fill or existing uplands. There would be approximately 2,649 cubic

yards of fill at the pile abutments for the elevated rail and in an area of estuarine wetlands. Approximately 0.90 acres of wetlands will be filled associated with the project. An existing grade crossing on Orange Grove Road would be relocated approximately 50 feet to the west to allow for the curve needed to accommodate the train lengths and speed. The existing MSE rail at the west end would need to be adjusted to allow insertion of a turn out to join with the new elevated rail line. For construction, a laydown yard would be established within the MPITC in an area that was recently used for the same purpose. The laydown yard would be approximately 1 acre in size, and not located within a wetland.

The Proposed Project is a modification of a previously permitted rail connector that was proposed to be constructed on fill crossing over the marsh. Based on constructability and costs, and desire to minimize environmental impacts, the layout was changed to cross over a shorter footprint of marsh and uplands. JCPA previously corresponded with USFWS Mississippi Ecological Services Field Office. The previous correspondence indicated that the Alabama Red Bellied Turtle could be in the project area. Based on a visual survey for the Alabama Red Bellied Turtle the USFWS concluded that the project was *not likely to adversely effect* the Alabama Red Bellied Turtle. A copy of the correspondence from USFWS for the previous project footprint is attached (Attachment 2).

Project Purpose and Need

The purpose of the Proposed Project is to provide additional railroad capacity and connectivity between existing infrastructure to support the growing needs of the Port of Pascagoula, Bayou Casotte Harbor. Currently, freight trains that travel from the north on the MSE line must pass through downtown Moss Point and Pascagoula to the Pascagoula Interchange to join CSX rail. This operation regularly blocks vehicular traffic and creates delays at four major roadway intersections. Also, the curve alignment from the existing MSE line entering into the MPITC is too tight for the expected length of train to travel through that area safely. The Proposed Project is needed to remove operational conflicts between railroads, reduce congestion, and accommodate the proposed restoration of passenger rail service.

Project Investigation

The USFWS Information and Planning Consultation (IPaC) Tool was used to determine the potential for any federal threatened and endangered species that may occur in the proposed project location, and/or may be affected by the proposed activities. Attachment 3 contains the IPaC Species List generated for the project area. No critical habitats were identified, however, thirteen endangered, threatened or candidate species were listed as potentially within the project area. Review of this list indicated that only the Alabama Red Bellied Turtle (*Pseudemys alabamensis)* could potentially be present within the project area.

Alabama Red Bellied Turtle – The Alabama Red Bellied Turtle is a large (2O to 25 centimeters carapace length) freshwater and brackish water turtle found in waters with submerged and emergent vegetation, typically in channels with little current bordered by extensive marshes comprised principally of black needle rush (Juncus roemerianus) and sawgrass (Cladium spp.). The turtle normally has an orange to reddish plastron and a prominent notch at the tip of the upper

jaw, bordered on either side by a toothlike cusp. The elongated carapace is highly arched and elevated along the midline; its highest point is often anterior to the midbody where the carapace is widest. The carapace is brown to olive, with yellow, orange, or reddish streaks and mottling that form distinct, light vertical bars on the pleural scutes. The skin is olive to black with yellow to light orange stripes. The Alabama red-bellied turtle seems to feed almost entirely on aquatic plants. They can be found in varied ecosystems, including brackish marshes, cypress swamps, oxbows, lakes, ponds, bayous, rivers, cattail swamps, and tidally influenced streams and channels. The primary requirement for the species appears to be the existence of suitable foraging habitat, which is typically associated with submergent and emergent vegetation such as watermilfoil (*Myriophyllum spp.*), pondweed (*Potamogeton spp.*), or eelgrass (*Vallisneria spp.*) bordering the waterbodies. When it was designated the state reptile, the Alabama red-bellied turtle was thought to be endemic, meaning found nowhere else in the world. In recent years, however, a population was discovered in the Pascagoula River of southeastern Mississippi.

Females lay eggs between May 14 and August 1 on land bordering coastal rivers and marshes, typically in loamy sand and heavier siltier substrate typically within 600 feet of the shoreline or marsh. Nesting habitat includes open, patchy forest of maritime live oak or longleaf pine, usually within the dripline of large trees, and sometimes at the base of the tree trunk. Most nest sites appear to receive less than 50 percent sunlight.

The Alabama red-bellied turtle was placed on the USFWS Endangered Species List in 1987 and is of the highest conservation concern. It is also protected under the Nongame Species Regulation by the Alabama Department of Conservation and Natural Resources.

Potential measures to protect the ARBT include;

1. Avoid placing "hard" structures (bulkheads, etc.) at the water's edge that may prevent turtle migration to nesting sites. Applicants may also consider natural/nature-based features, when appropriate, that do not prevent turtle migration to nesting sites (e.g. living shorelines).
2. Land disturbing activities within 600 feet of the shoreline (potential nesting habitat) should occur during the non-nesting season (November 1st - April 30th).
3. Impacts to turtle nests may be minimized during nesting season (May 1st – October 31st) by conducting construction activities from the water (e.g. docks, piers, and other similar structures).
4. Removal of in-stream woody debris (basking material) and submerged and emergent vegetation should be avoided to the maximum extent practicable.
5. Avoid dredging projects that contribute to salt water intrusion into turtle habitat (< 5ppt salinity).

The Proposed Project area does include marsh vegetation including black needle rush and saw grass. The proposed rail will be constructed over the marsh on elevated pilings and will only impact marsh at the pilings and abutments. There will be minimal impediments to foraging, swimming and sunning caused by the elevated rail. In addition, the turtles may avoid the area during construction which will be constructed either from land or from existing rail. A portion of the rail will be constructed on uplands and on a small area of marsh that will be filled. This impact will be offset by creation of suitable marsh habitat. A Permittee Responsible Mitigation Plan is

being prepared for the Project. A draft copy of the PRM Plan will be provided under separate cover. Therefore, it does not appear, that the project will have an adverse effect on the Alabama Red Bellied Turtle.

Other Species - Based on review of the IPaC Official Species list, other species on the list *do not appear to have the potential to be affected by the project*. Information regarding these additional species is provided below.

Wood Stork – (from https://www.fws.gov/northflorida/Species-Accounts/Wood-stork-2005.htm) Wood storks are large, long-legged wading birds, about 45 inches tall, with a wingspan of 60 to 65 inches. The plumage is white except for black primaries and secondaries and a short black tail. The head and neck are largely unfeathered and dark gray in color. The bill is black, thick at the base, and slightly decurved. Immature birds have dingy gray feathers on their head and a yellowish bill. The wood stork is a highly colonial species usually nesting in large rookeries and feeding in flocks. Nesting has been restricted to Florida, Georgia, and South Carolina but storks move northward after breeding. Birds from the southeastern United States population moving as far north as North Carolina on the Atlantic coast and into Alabama and eastern Mississippi along the Gulf coast. There have been occasional sightings in all States along and east of the Mississippi River, and sporadic sightings in some States west of the Mississippi and in Ontario.

The current population of adult birds is difficult to estimate, since not all nest each year. Presently, the wood stork breeding population is believed to be greater than 8,000 nesting pairs (16,000 breeding adults).

Storks are birds of freshwater and estuarine wetlands, primarily nesting in cypress or mangrove swamps. They feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools. Particularly attractive feeding sites are depressions in marshes or swamps where fish become concentrated during periods of falling water levels. Since the project area is not nesting habitat for the wood stork, and may only be used for foraging, the wood stork is likely to avoid the area during construction and may return after construction activities are complete. Therefore, it does not appear that the proposed Project will have an adverse effect on the wood stork.

Sea Turtles
Sea turtles including the Green Sea Turtle (*Chelonia mydas*), the Hawksbill Sea Turtle (*Erectmochelys imbricata),* the Kemp's Ridley Sea Turtle (*Lepidochelys kempii)*, the Leatherback Sea Turtle (*Dermochelyls coriacea)*, and the Loggerhead Sea Turtle (*Caretta caretta)* are listed as potentially within the Project area. Review of the preferred habitat for these species, indicate that it is not likely that they are present. The Project area is located approximately 10 miles upstream from the confluence of the Pascagoula River and the Mississippi Sound. They are not known to be present in the Escatawpa River and would not be present in the shallow marsh habitat in the project area.

Black Rail
The Eastern Black Rail is not known to be in the project area and would not nest in the marsh habitat due to the tidal range that would flood nests in the marsh. Adults could avoid the area during construction activities.

Mississippi Sand Hill Crane
The Mississippi Sandhill Crane may forage in the shallow marsh but could avoid the area during construction. The area does not provide suitable nesting habitat for the Mississippi Sandhill Crane.

Dusky Gopher Frog
The Dusky Gopher Frog makes its home in several isolated ponds and would not be present in the project area.

Louisiana Quill Wort
The project area does not provide habitat for the Louisiana Quillwort that prefers shallow, slow moving, meandering streams.

Yellow-blotched Map Turtle
The Yellow -blotched Map Turtle prefers riverine habitat with open canopy allowing for several hours of sunshine per day. They prefer a moderate current, a sand or clay substrate, sand bars and beaches for nesting.

Findings

Since the Proposed Project is located within the same marsh area and similar uplands to the previously reviewed project (Attachment 2), it appears that the conclusions concerning the impacts would be similar. In addition, JCPA has reduced the proposed impacts by revising the rail layout and will mitigate for unavoidable impacts through the measures mentioned in this letter and by preparation and implementation of permittee responsible mitigation.

FRA requests USFWS concurrence on our finding of *not likely to adversely affect the Alabama Red Bellied Turtle* and no potential to affect for the other species for the Proposed Project within 30 days from the date on this letter. If you need any additional information, please contact Amanda Murphy, FRA Environmental Protection Specialist at Amanda.murphy2@dot.gov. Thank you for your cooperation on this important project.

Sincerely,

MICHAEL M JOHNSEN

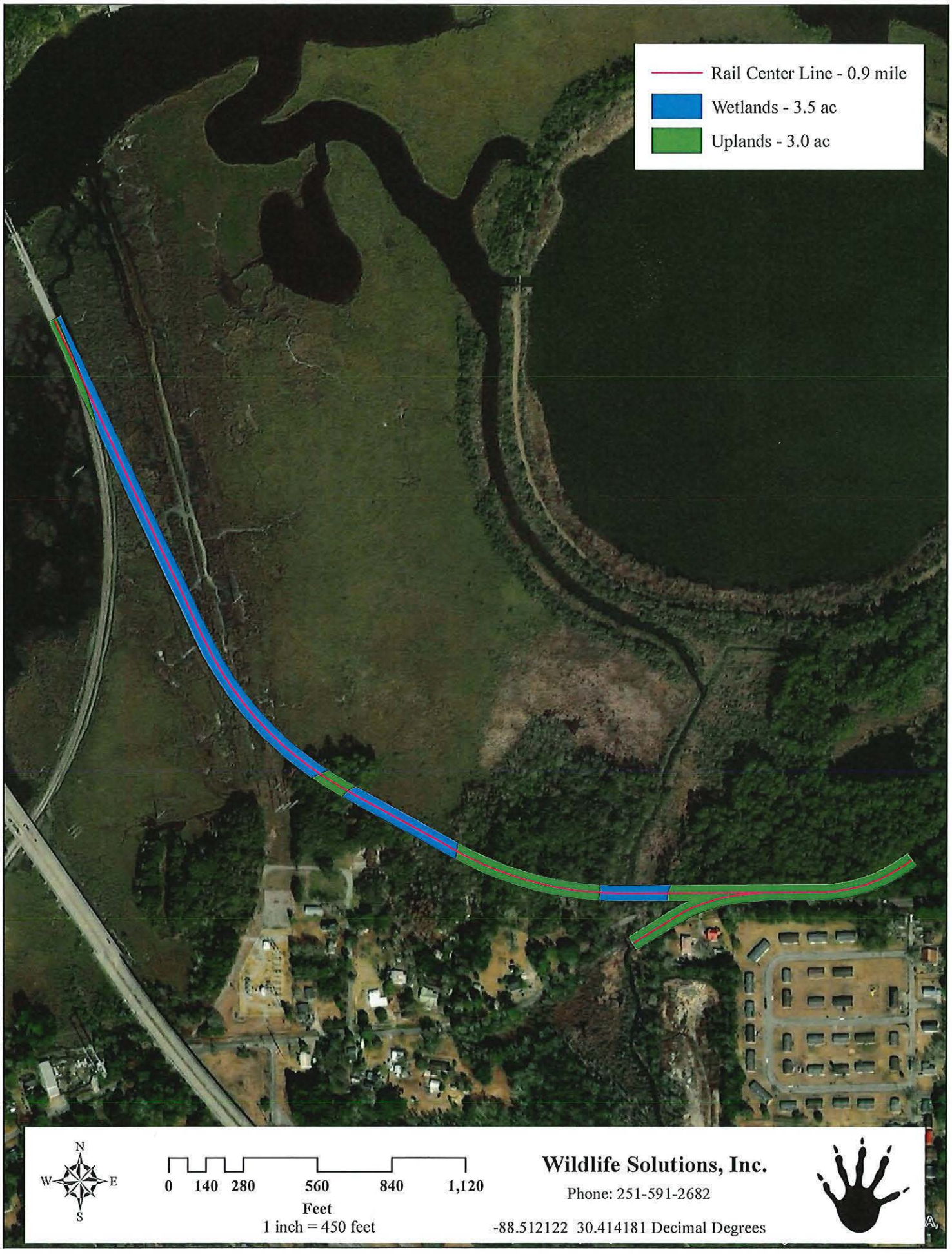
Digitally signed by MICHAEL M JOHNSEN
Date: 2021.02.23 15:52:00 -05'00'

Michael Johnsen
Supervisory Environmental Protection Specialist
Federal Railroad Administration

cc. Mark McAndrews, Jackson County Port Authority
Amanda Murphy, FRA

Figures
Figure 1 - Topographic Map
Figure 2 - Habitat Map/Wetland Map

Attachments
Attachment 1 – Preliminary Site Plans (C2.0- C2.3)
Attachment 2 – Correspondence for Previous Footprint
Attachment 3 – IPaC Species List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Feet
1 inch = 450 feet
Wildlife Solutions, Inc.
Phone: 251-591-2682
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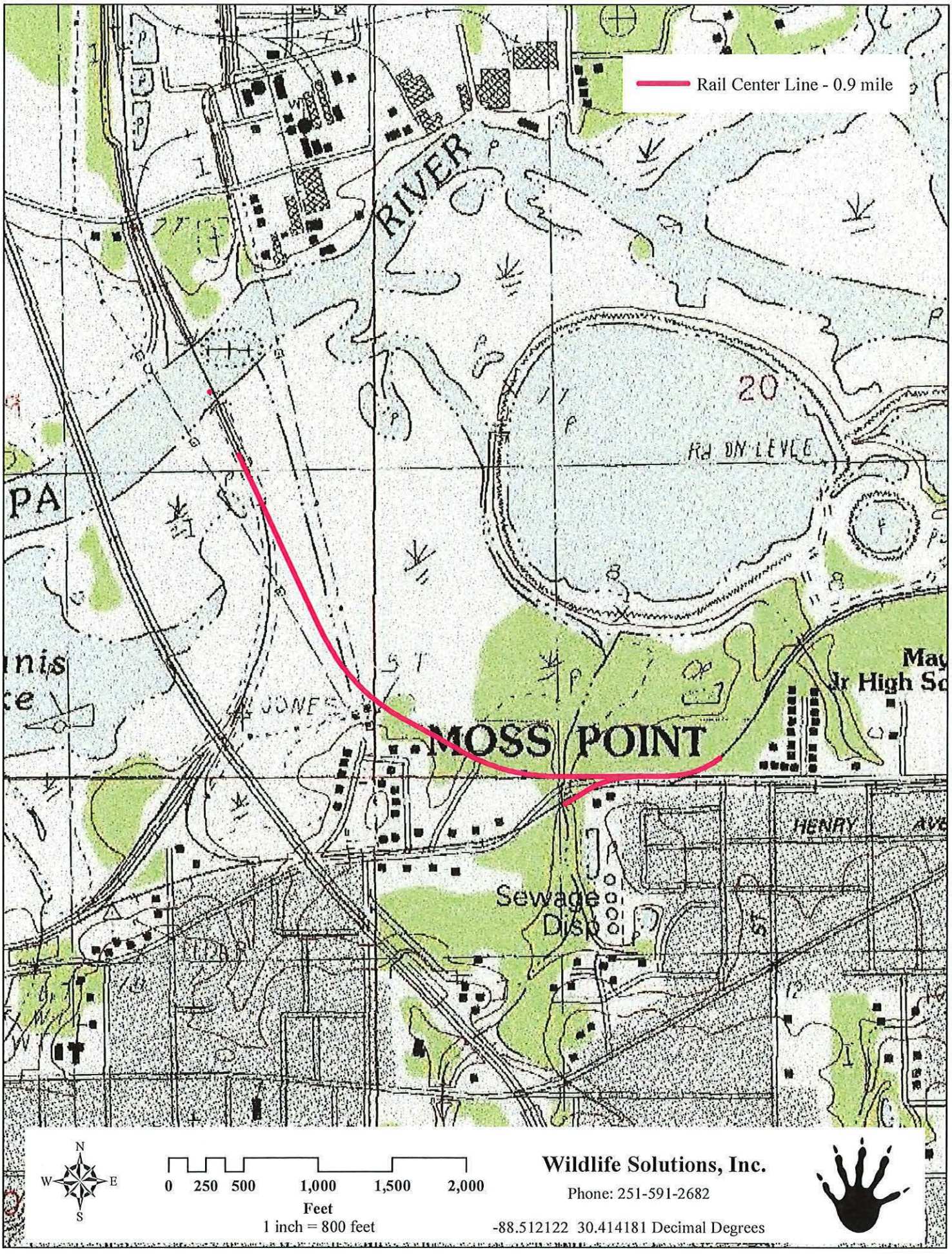
Rail Center Line - 0.9 mile
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Wildlife Solutions, Inc.
Phone: 251-591-2682
-88.512122 30.414181 Decimal Degrees

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mississippi Ecological Services Field Office
6578 Dogwood View Parkway, Suite A
Jackson, MS 39213-7856
Phone: (601) 965-4900 Fax: (601) 965-4340
http://www.fws.gov/mississippiES/endsp.html

In Reply Refer To:
Consultation Code: 04EM1000-2021-SLI-0498
Event Code: 04EM1000-2021-E-01125
Project Name: North Rail Connector

February 15, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. Submit consultation requests electronically to the following email: msfosection7consultation@fws.gov

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Mississippi Ecological Services Field Office
6578 Dogwood View Parkway, Suite A
Jackson, MS 39213-7856
(601) 965-4900

Project Summary

Consultation Code: 04EM1000-2021-SLI-0498
Event Code: 04EM1000-2021-E-01125
Project Name: North Rail Connector
Project Type: Federal Grant / Loan Related
Project Description: Construct an elevated rail line over estuarine marsh (brackish) with fill at pile abutments and a short length of rail on fill through wetlands. Total marsh impacts are 0.90 acres. Total length of elevated rail is 2,852 feet and rail on fill is 807 feet for total length of 3,659 linear feet. There will be approximately 2,549 cubic yards of fill.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@30.41555605,-88.51355341480986,14z

Counties: Jackson County, Mississippi

Endangered Species Act Species

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Mississippi Sandhill Crane *Grus canadensis pulla* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1222	Endangered
Wood Stork *Mycteria americana* Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8477	Threatened

Reptiles

NAME	STATUS
Alabama Red-bellied Turtle *Pseudemys alabamensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1494	Endangered
Gopher Tortoise *Gopherus polyphemus* Population: West of Mobile and Tombigbee Rivers No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6994	Threatened
Green Sea Turtle *Chelonia mydas* Population: North Atlantic DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Hawksbill Sea Turtle *Eretmochelys imbricata* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3656	Endangered
Kemp's Ridley Sea Turtle *Lepidochelys kempii* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle *Dermochelys coriacea* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle *Caretta caretta* Population: Northwest Atlantic Ocean DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened
Yellow-blotched Map Turtle *Graptemys flavimaculata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7730	Threatened

Amphibians

NAME	STATUS
Dusky Gopher Frog *Rana sevosa* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5600	Endangered

Ferns and Allies

NAME	STATUS
Louisiana Quillwort *Isoetes louisianensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7756	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel *Falco sparverius paulus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 1 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

NAME	BREEDING SEASON
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Clapper Rail *Rallus crepitans* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 10 to Oct 31
Least Tern *Sterna antillarum* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 20 to Sep 10
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler *Dendroica discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Seaside Sparrow *Ammodramus maritimus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 20
Swallow-tailed Kite *Elanoides forficatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938	Breeds Mar 10 to Jun 30
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project

activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▒)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

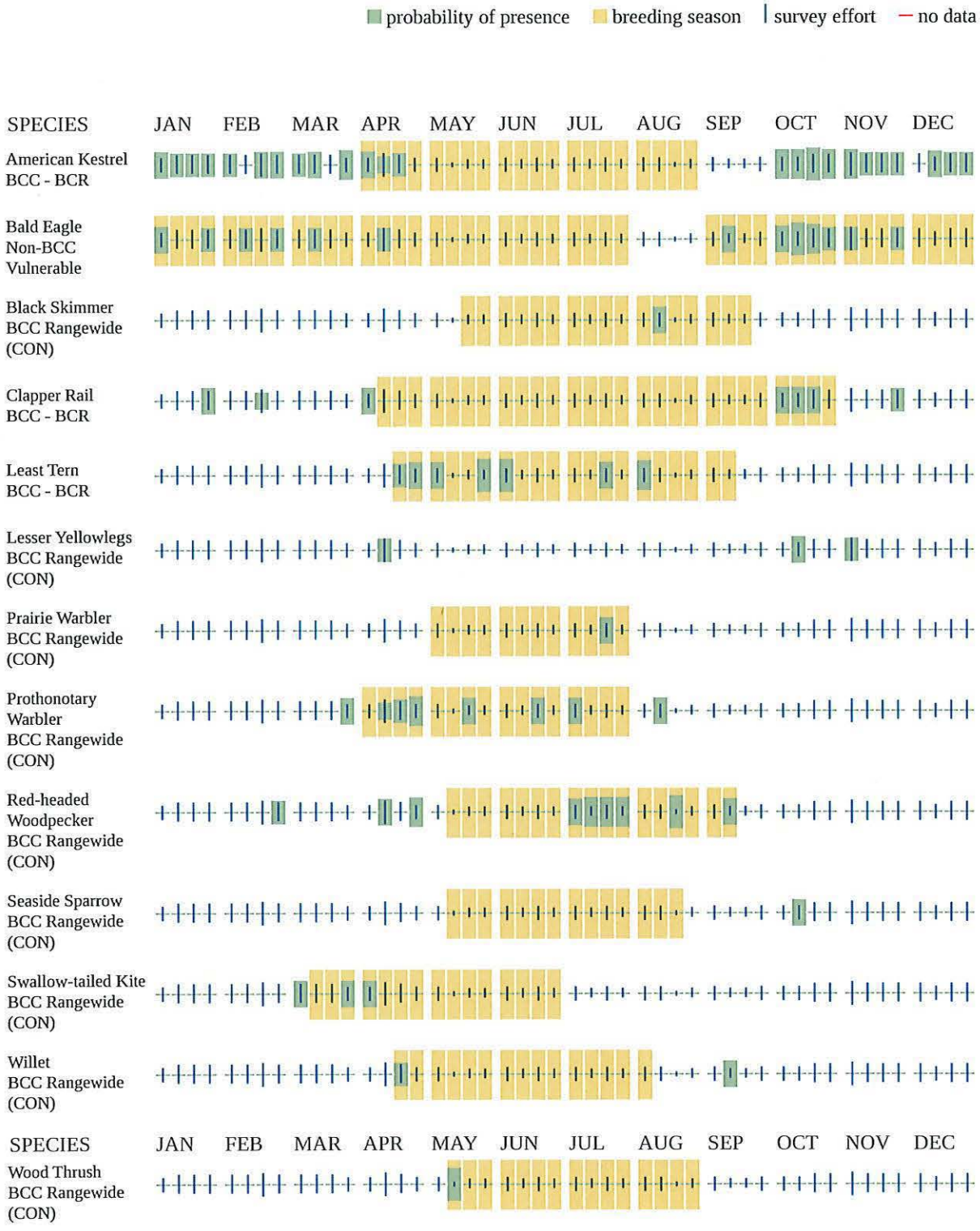
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (▒)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.


probability of presence
breeding season
survey effort
no data
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
American Kestrel BCC - BCR
Bald Eagle Non-BCC Vulnerable
Black Skimmer BCC Rangewide (CON)
Clapper Rail BCC - BCR
Least Tern BCC - BCR
Lesser Yellowlegs BCC Rangewide (CON)
Prairie Warbler BCC Rangewide (CON)
Prothonotary Warbler BCC Rangewide (CON)
Red-headed Woodpecker BCC Rangewide (CON)
Seaside Sparrow BCC Rangewide (CON)
Swallow-tailed Kite BCC Rangewide (CON)
Willet BCC Rangewide (CON)
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Wood Thrush BCC Rangewide (CON)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

ESTUARINE AND MARINE DEEPWATER

- E1UBLx
- E1UBL

ESTUARINE AND MARINE WETLAND

- E2EM1Nd
- E2EM1P
- E2EM1Pd

FRESHWATER EMERGENT WETLAND

- PEM1F

FRESHWATER FORESTED/SHRUB WETLAND

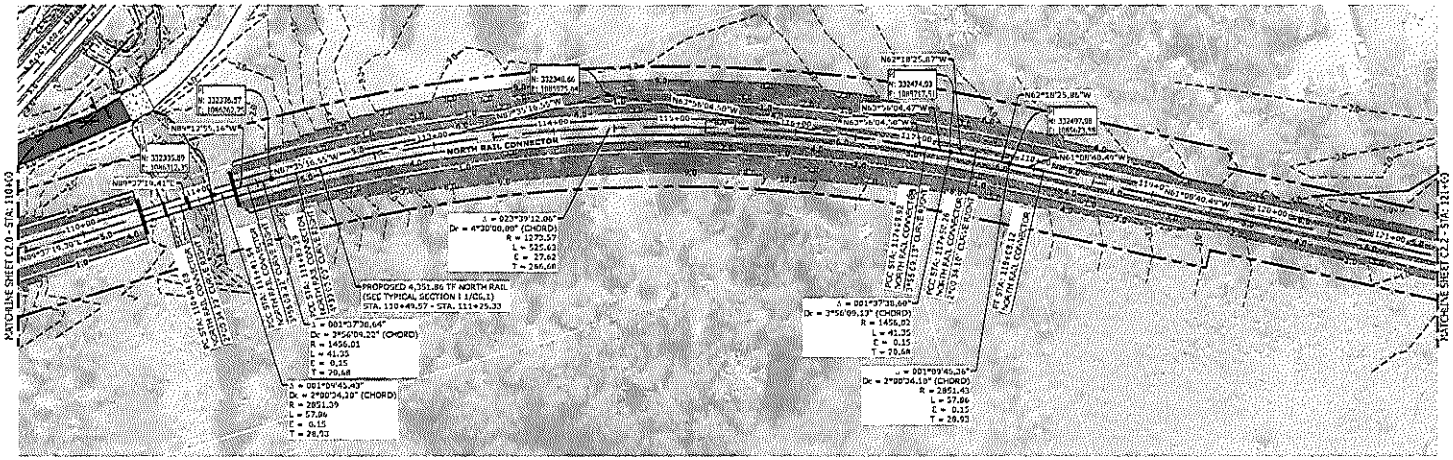
- PFO1/4Bd
- PFO1/4R
- PFO1/SS4B
- PFO4B
- PSS3/1Rd

FRESHWATER POND

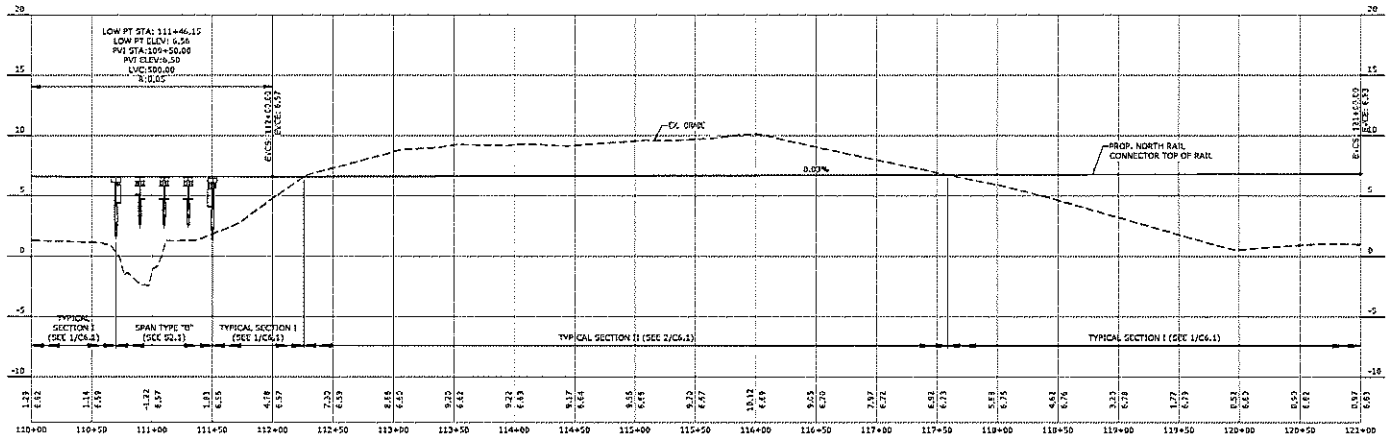
- PUBHx

RIVERINE

- R2UBH



1 C2.1 PROPOSED PLAN
SCALE: 1" = 50'



2 C2.1 PROFILE
SCALE: H: 1" = 50' V: 1" = 5'

05-09-19	ISSUED FOR JCPA REVIEW	TP	GC
05-16-19	ISSUED FOR JCPA REVIEW	BL	JB
06-28-20	PRELIM. ENG. CHNGS - NOT FOR CONSTRUCTION	BL	JG

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PORT OF PASCAGOULA RESTORE PROJECT
NORTH RAIL CONNECTOR PLANNING ASSISTANCE

NORTH RAIL CONNECTOR - PLAN & PROFILE
STA: 110+00 - STA: 121+00

SCALE:	AS NOTED
JOB NO.:	218-051
DATE:	--
DSGN.:	J. STUDSTILL
DWG. BY:	B. LADNER
CHK.:	--
APVD.:	--

C2.1